

Town of Topsfield Other Postemployment Benefits Plan

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2019

As of the Measurement Date:
June 30, 2020

For the Reporting Date:
June 30, 2020

Delivered September 29, 2020



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September 29, 2020

Personal and Confidential

Ms. Jacqueline Cuomo
Treasurer/Collector
Town of Topsfield
8 West Common Street
Topsfield, MA 01983

Dear Ms. Cuomo:

We have performed an actuarial valuation of the Town of Topsfield Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2020 with a Measurement Date of June 30, 2020 and a Valuation Date of July 1, 2019. The figures presented in this report reflect the adoption, by the Town of Topsfield, 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 29, 2020

ACTUARIAL CERTIFICATION

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

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

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

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

A handwritten signature in black ink, appearing to read 'P. Elmore', written over a horizontal line.

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

A handwritten signature in black ink, appearing to read 'Sarah F. Rothenberg', written over a horizontal line.

Sarah F. Rothenberg, ASA, MAAA
Consulting Actuary

EXECUTIVE SUMMARY

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

Plan Experience

For the year ending on the Measurement Date of June 30, 2020, the Plan saw an experience gain of \$1,686,106 or 11.07% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums for Medicare Supplement plans increasing 1% rather than the expected 10% increase and premiums for active plans decreasing 11% rather than the expected 15% increase. This was somewhat offset by an increase in the number of eligible participants.

Assumption Changes

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 5.25% to 6.75% decreasing the disclosed liability by \$2.3 million.
- ✓ 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 \$710 thousand.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$1.0 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 \$780 thousand.
- ✓ Assumption changes caused Service Cost to decrease by \$150 thousand.

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

Investment Experience

- ✓ During the period there was an investment loss of \$42,405 due to asset performance below the expected rate of return.

Changes in Benefits Terms

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

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 6.31 years.
- ✓ Differences between projected & actual earnings on OPEB plan investments are amortized into the net OPEB expense over 5.00 years
- ✓ Changes in benefit terms are to be recognized in full immediately

Events Subsequent to the Measurement Date

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

Discount Rate Determinants

- ✓ Employer Current and Future Benefit Payments
- ✓ Municipal Bond Rate – The municipal bond rate was 2.66% as of June 30, 2020.
- ✓ Current Asset Level – The Town had \$1,430,232 of OPEB assets as of June 30, 2020.
- ✓ Funding Policy - The Town is expected to contribute \$300,000 per year.
- ✓ Investment Policy - The Town is expected to earn 6.72% 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 69.24% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate - We currently assume medical costs increase at 4.50% per year for Active plans and 4.50% per year for Medicare supplement plans.
- ✓ Discount Rate (6.75%) – 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 retiree is 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 one retiree who is over the age of 65 and is enrolled in an Active medical plan rather than a Medicare Supplement (Senior) plan. You may wish to review the retiree's Medicare eligibility to see if the retiree is 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. If you are in this situation, we encourage you to talk to your healthcare consultant to see if this might be viable.

EXECUTIVE SUMMARY

Key Plan Metrics

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

Representative Plan Statistics		
Valuation Date	July 1, 2019	July 1, 2017
Measurement Date & Period Ending	June 30, 2020	June 30, 2019
Reporting Date/Fiscal Year End	June 30, 2020	June 30, 2019
Total OPEB Liability	12,262,133	15,233,636
Per Eligible Active Plan Participant	34,859	58,700
Per Retiree/Spouse Plan Participant	51,593	72,178
Total Annual Service Cost (Annual Benefit Accrual)	343,359	524,237
Per Eligible Active Plan Participant	1,846	3,382
Expected Employer Share of Retiree Costs	598,687	498,275
Per Retiree/Spouse Plan Participant	5,345	5,862
Net OPEB Liability as a % of Covered Payroll	82.30%	105.60%

EXECUTIVE SUMMARY

Liabilities & Benefit Payments in Today's Dollars

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

For the Period Ending on the Measurement Date of:	Number of Retirees, Spouses, & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums/Claims Including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims Including "Implicit Cost"
June 30, 2020	112	12,262,133	12,262,133	598,687	598,687
June 30, 2025	147	14,907,691	12,859,505	788,878	680,493
June 30, 2030	164	17,942,117	13,350,620	953,358	709,388
June 30, 2035	172	21,066,572	13,521,831	1,249,913	802,272
June 30, 2040	165	24,847,155	13,757,267	1,339,483	741,639
June 30, 2045	154	29,901,400	14,281,075	1,533,676	732,492
June 30, 2050	147	36,707,107	15,122,842	1,823,101	751,093

PRINCIPAL RESULTS OF THE VALUATION

Town of Topsfield

Assuming Funding - 6.75% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2019	July 1, 2017
For the Measurement Period ending on the Measurement Date of:	June 30, 2020	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2020	June 30, 2019
I. Total OPEB Liability		
A. Actives	6,483,712	9,098,524
B. Retirees/Disabled	<u>5,778,421</u>	<u>6,135,112</u>
C. Total	12,262,133	15,233,636
II. Fiduciary Net Position [Plan Assets]	1,430,232	1,089,507
III. Net OPEB Liability (Asset) [I. - II.]	10,831,901	14,144,129
IV. Funded Ratio [II. / I.]	11.66%	7.15%
V. Number of Eligible Participants		
A. Actives	186	155
B. Retirees/Disabled & Dependents	<u>112</u>	<u>85</u>
C. Total	298	240
VI. Service Cost	343,359	524,237
VII. Financial Statement Expense	325,118	1,074,754
VIII. Employer Contribution to the OPEB Trust	(300,000)	(300,000)
IX. Deferred Inflow of Resources	(3,611,154)	(838,685)
X. Deferred Outflow of Resources	34,269	460
XI. Money Weighted Rate of Return	3.29%	5.60%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.66%	2.79%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.72%	6.47%
XIV. Crossover Year	N/A	2059
XV. Discount Rate	6.75%	5.25%

PRINCIPAL RESULTS OF THE VALUATION

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

	General Government Employees and Retirees	Schools Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability						
A. Actives	807,473	4,816,860	658,084	77,289	124,006	6,483,712
B. Retirees/Disabled	<u>1,972,360</u>	<u>2,845,628</u>	<u>870,605</u>	<u>89,828</u>	<u>0</u>	<u>5,778,421</u>
C. Total	2,779,833	7,662,488	1,528,689	167,117	124,006	12,262,133
II. Fiduciary Net Position [Plan Assets]	288,703	902,869	180,125	19,691	38,844	1,430,232
III. Net OPEB Liability (Asset) [I. - II.]	2,491,130	6,759,619	1,348,564	147,426	85,162	10,831,901
IV. Number of Eligible Participants						
A. Actives	35	130	12	5	4	186
B. Retirees/Disabled	<u>42</u>	<u>56</u>	<u>13</u>	<u>1</u>	<u>0</u>	<u>112</u>
C. Total	77	186	25	6	4	298
For the Reporting Date and Fiscal Year Ending June 30, 2020						
V. Service Cost	55,711	233,827	33,787	16,340	3,694	343,359
VI. Financial Statement Expense	50,588	225,493	30,001	16,729	2,307	325,118
VII. Employer Share of Costs	(176,672)	(307,054)	(98,812)	(12,101)	(4,048)	(598,687)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(69,468)	(189,702)	(36,541)	(4,289)	(0)	(300,000)
IX. Total Employer Contribution [VII. + VIII.]	(246,140)	(496,756)	(135,353)	(16,390)	(4,048)	(898,687)

PRINCIPAL RESULTS OF THE VALUATION

Town of Topsfield
Assuming Funding - 6.75% discount rate
For the Period Ending on the June 30, 2020 Measurement Date

	Actives			Retirees/Disabled			Grand Total
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
Present Value of Future Benefits							
A. Participants	2,551,140	3,460,443	6,011,583	940,436	4,837,985	5,778,421	11,790,004
B. Spouses	<u>1,271,440</u>	<u>1,853,848</u>	<u>3,125,288</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3,125,288</u>
C. Total	3,822,580	5,314,291	9,136,871	940,436	4,837,985	5,778,421	14,915,292
Total OPEB Liability							
A. Participants	1,894,640	2,379,025	4,273,665	940,436	4,837,985	5,778,421	10,052,086
B. Spouses	<u>936,561</u>	<u>1,273,486</u>	<u>2,210,047</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2,210,047</u>
C. Total	2,831,201	3,652,511	6,483,712	940,436	4,837,985	5,778,421	12,262,133
Service Cost							
A. Participants	83,370	142,684	226,054	0	0	0	226,054
B. Spouses	<u>41,163</u>	<u>76,142</u>	<u>117,305</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>117,305</u>
C. Total	124,533	218,826	343,359	0	0	0	343,359

EXHIBIT A

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

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

1. OPEB Expense Development

Components of the Town's OPEB Expenses for the Fiscal Year Ending June 30, 2020	
Description	Amount
I. Service Cost	343,359
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	802,278
III. Deferred (Inflows)/Outflows from Plan Experience*	(376,881)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	(367,643)
V. Projected Earnings on OPEB Plan Investments	(83,131)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	7,136
VII. Financial Statement Expense Prior to Plan Design Changes [I. + II.+ III. + IV. + V. + VI.]	325,118
VIII. Expense Related to Change in Benefit Terms***	0
IX. Financial Statement Expense [VII. + VIII.]	325,118

* Amortized over 6.31 years

** Amortized over 5.00 years

*** Recognized Immediately

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

2. Changes in Net OPEB Liability

Changes in Net OPEB Liability			
		Increase (Decrease)	
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
I. Balances for June 30, 2019	15,233,636	1,089,506	14,144,130
II. Prior Period Adjustment	0	0	0
III. Balances for June 30, 2019 with Adjustment [I. + II.]	15,233,636	1,089,506	14,144,130
Changes for the year:			
IV. Service Cost	343,359	0	343,359
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	802,278	0	802,278
VI. Changes in Benefit Terms *	0	0	0
VII. Change in Assumptions **	(1,832,347)	0	(1,832,347)
VIII. Differences Between Actual and Expected Experience **	(1,686,106)	0	(1,686,106)
IX. Net Investment Income	0	40,726	(40,726)
X. Employer Contributions to Trust	0	898,687	(898,687)
XI. Benefit Payments Withdrawn from Trust	0	(598,687)	598,687
XII. Benefit Payments Excluding Implicit Cost	(449,786)	0	(449,786)
XIII. Implicit Cost Amount	(148,901)	0	(148,901)
XIV. Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(598,687)	0	(598,687)
XV. Administrative Expense	0	0	0
XVI. Other Charges	0	0	0
XVII. Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]	(2,971,503)	340,726	(3,312,229)
XVIII. Balances at June 30, 2020 [III.+XVII.]	12,262,133	1,430,232	10,831,901

* Recognized Immediately

** Amortized over 6.31 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Differences Between Expected & Actual Experience									
Fiscal	Differences Between Actual & Expected Experience	Recognition Period (Years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	(663,502)	6.05	(334,492)	(109,670)	(109,670)	(109,670)	(109,670)	(5,482)	
2019	0	6.05	0	0	0	0	0	0	0
2020	(1,686,106)	6.31	(1,418,895)	(267,211)	(267,211)	(267,211)	(267,211)	(267,211)	(267,211)
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(1,753,387)						
Net increase (decrease) in OPEB Expense				(376,881)	(376,881)	(376,881)	(376,881)	(272,693)	(267,211)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Changes in Assumptions									
Fiscal	Differences from Changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	0	6.05	0	0	0	0	0	0	
2019	(467,400)	6.05	(312,888)	(77,256)	(77,256)	(77,256)	(77,256)	(77,256)	(3,864)
2020	(1,832,347)	6.31	(1,541,960)	(290,387)	(290,387)	(290,387)	(290,387)	(290,387)	(290,387)
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(1,854,848)						
Net increase (decrease) in OPEB Expense				(367,643)	(367,643)	(367,643)	(367,643)	(367,643)	(294,251)

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of Differences Between Projected & Actual Earnings on OPEB Plan Investments									
Fiscal	Differences Between Actual & Expected Earnings	Recognition Period (years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	(7,299)	5.00	(2,919)	(1,460)	(1,460)	(1,459)			
2019	575	5.00	345	115	115	115	115		
2020	42,405	5.00	33,924	8,481	8,481	8,481	8,481	8,481	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			31,350						
Net increase (decrease) in OPEB Expense				7,136	7,136	7,137	8,596	8,481	0

EXHIBIT A

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

3. Changes in Net OPEB Expense (Continued)

Statement of Outflows & Inflows Arising from Current & Prior Reporting Periods for the Measurement Period Ending on June 30, 2020 to be Reported for the Fiscal Year Ending June 30, 2020			
	Deferred Outflows of Resources	Deferred Inflows of Resources	Total
I. Contributions made subsequent to the Measurement Date	0	0	0
II. Differences Between Actual & Expected Experience	0	(1,753,387)	(1,753,387)
III. Changes of Assumptions	0	(1,854,848)	(1,854,848)
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	<u>34,269</u>	<u>(2,919)</u>	<u>31,350</u>
V. Total [I.+II.+III.+IV.]	34,269	(3,611,154)	(3,576,885)

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Annual Amortization of Deferred (Inflows)/Outflows

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

Year ending June 30:

2021	(737,388)
2022	(737,387)
2023	(735,928)
2024	(631,855)
2025	(561,462)
Thereafter	(172,865)

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 6.75% as of June 30, 2020 and 5.25% as of June 30, 2019. The projection of cash flows used to determine the discount rate assumed that contributions will be made in accordance with the Town's funding policy. Based on these assumptions, the OPEB Plan's Fiduciary Net Position is projected to be sufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets was applied to all projected future benefits payments.

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

5. Funding Policy

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the period ending on the June 30, 2020 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$598,687. The Town also contributed \$300,000 to an OPEB Trust for a total contribution during the measurement period of \$898,687 to be reported on the financial statement for the fiscal year ending June 30, 2020.

6. Investment Policy

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

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return*
Domestic Equity - Large Cap	20.00%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	10.00%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	10.00%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	5.00%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	25.00%	Domestic Fixed Income	2.05%
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	100.00%		
		I. Real Rate of Return**	4.47%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	6.97%
		IV. Investment Expense	0.25%
		V. Net Investment Return [III.-IV.]	6.72%

* Based on 2019 Horizon Survey of Capital Market Assumptions

** Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

7. Schedule of The Town's Contributions

For the Fiscal Year Ending	Actuarial Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
June 30, 2020	1,140,629	(898,687)	241,942	13,154,640	6.83%
June 30, 2019	1,423,506	(798,275)	625,231	13,399,976	5.96%
June 30, 2018	1,492,382	(543,713)	948,669	12,941,235	4.20%
June 30, 2017	1,473,361	(568,827)	904,534	9,205,453	6.18%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

8. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	10,889,478	12,262,133	13,913,354
II. Fiduciary Net Position	<u>1,430,232</u>	<u>1,430,232</u>	<u>1,430,232</u>
III. Net OPEB Liability (Asset) [I.-II.]	9,459,246	10,831,901	12,483,122
IV. Service Cost	277,232	343,359	430,383

9. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	13,732,530	12,262,133	10,871,253
II. Fiduciary Net Position	<u>1,430,232</u>	<u>1,430,232</u>	<u>1,430,232</u>
III. Net OPEB Liability (Asset) [I.-II.]	12,302,298	10,831,901	9,441,021
IV. Service Cost	428,693	343,359	264,305

EXHIBIT A

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

10. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - June 30, 2019	1,089,506	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	300,000	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>	<u>0</u>	<u>0.0000</u>
II. Total net external cash flow	300,000		
III. Earnings and increase in fair value	40,726		
IV. Ending value - June 30, 2020 [I.+II.+III.]	1,430,232		
Money Weighted Rate of Return	3.29%		
Asset Value - June 30, 2020	1,430,232		

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

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2020					
	General Government Employees and Retirees	Schools Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2020	2,779,833	7,662,488	1,528,689	167,117	124,006	12,262,133
II. Fiduciary Net Position as of June 30, 2020	288,703	902,869	180,125	19,691	38,844	1,430,232
III. Net OPEB Liability (Asset) as of June 30, 2020 [I. - II.]	2,491,130	6,759,619	1,348,564	147,426	85,162	10,831,901
IV. Service Cost	55,711	233,827	33,787	16,340	3,694	343,359
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	178,975	504,939	98,579	11,588	8,197	802,278
VI. Projected Earnings on OPEB Plan Investments	(16,932)	(52,486)	(10,437)	(1,149)	(2,127)	(83,131)
VII. Net Recognition of Deferred (Inflows)/Outflows	(167,166)	(460,787)	(91,928)	(10,050)	(7,457)	(737,388)
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	50,588	225,493	30,001	16,729	2,307	325,118
X. Employer Share of Costs	(176,672)	(307,054)	(98,812)	(12,101)	(4,048)	(598,687)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(69,468)	(189,702)	(36,541)	(4,289)	(0)	(300,000)
XII. Total Employer Contribution [X. + XI.]	(246,140)	(496,756)	(135,353)	(16,390)	(4,048)	(898,687)
XIII. Net OPEB Expense [IX. + XII.]	(195,552)	(271,263)	(105,352)	339	(1,741)	(573,569)

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

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

Valuation Date	July 1, 2019
For the Measurement Period ending on the Measurement Date of:	June 30, 2020
For the Reporting Period & Fiscal Year ending on:	June 30, 2020
Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(1,753,387)
II. Deferred (Inflow)/Outflow from Investment Experience	31,350
III. Deferred (Inflow)/Outflow from Changes in Assumptions	(1,854,848)
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	460
II. Deferred Outflow created during the period	42,405
III. Deferred Outflow recognized during the period	8,596
IV. Change in Deferred Outflow (II. - III.)	33,809
V. Deferred Outflow at end of the period (I. + IV.)	34,269
VI. Deferred Inflow at the beginning of the period	(838,685)
VII. Deferred Inflow created during the period	(3,518,453)
VIII. Deferred Inflow recognized during the period	(745,984)
IX. Change in Deferred Inflow (VII. - VIII.)	(2,772,469)
X. Deferred Inflow at end of the period (VI. + IX.)	(3,611,154)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	14,144,130
II. Service Cost	343,359
III. Interest on Total OPEB Liability, Service Cost, and Payments	802,278
IV. Projected Investment Income	(83,131)
V. Total Employer Contributions	(898,687)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	163,819
VIII. Deferred Outflow created during the period	42,405
IX. Deferred Inflow created during the period	(3,518,453)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	10,831,901
Net OPEB Expense	
I. Service Cost	343,359
II. Interest on Total OPEB Liability, Service Cost, and Payments	802,278
III. Projected Investment Income	(83,131)
IV. Recognition of Deferred (Inflow)/Outflow	(737,388)
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	325,118
VII. Benefit Payments	(598,687)
VIII. Contributions to Trust	(300,000)
IX. Total Employer Payments (VII. + VIII.)	(898,687)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	(573,569)

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

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

Actuarially Determined Contribution - Deficiency / (Excess)				
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	For the Fiscal Year Ending:	
			<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	343,359	524,237	525,119	597,061
II. 30 Year Level Dollar Amortization of NOL	<u>797,270</u>	<u>899,269</u>	<u>967,263</u>	<u>876,300</u>
III. Actuarial Determined Contribution [I. + II.]	1,140,629	1,423,506	1,492,382	1,473,361
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(898,687)</u>	<u>(798,275)</u>	<u>(543,713)</u>	<u>(568,827)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>241,942</u>	<u>625,231</u>	<u>948,669</u>	<u>904,534</u>
Covered Employee Payroll	13,154,640	13,399,976	12,941,235	9,205,453
Contributions as a % of Covered Employee Payroll	6.83%	5.96%	4.20%	6.18%
Discount Rate	6.75%	5.25%	5.00%	4.75%
Money Weighted Rate of Return	3.29%	5.60%	5.32%	6.34%

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Schedule of Changes in the Town's Net OPEB Liability and Related Ratios				
Valuation Date	July 1, 2019	July 1, 2017	July 1, 2017	July 1, 2017
GASB 75 Measurement Date	June 30, 2019	June 30, 2019	June 30, 2018	June 30, 2017
For the Reporting Period & Fiscal Year Ending on:	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017
Total OPEB Liability	12,262,133	15,233,636	14,879,301	16,211,312
I. Service Cost	343,359	524,237	525,119	597,061
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	802,278	795,773	719,231	708,300
III. Changes in Benefit Terms	0	0	0	0
IV. Difference Between Expected & Actual Plan Experience	(1,686,106)	0	(2,132,648)	0
V. Changes of Assumptions	(1,832,347)	(467,400)	0	0
VI. Benefit Payments Excluding Implicit Cost	(449,786)	(427,975)	(381,990)	N/A
VII. Implicit Cost Amount	(148,901)	(70,300)	(61,723)	N/A
VIII. Total Benefit Payments Including Implicit Cost [VI.+VII.]	(598,687)	(498,275)	(443,713)	(468,827)
IX. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.]	(2,971,503)	354,335	(1,332,011)	836,534
X. Total OPEB Liability - Beginning of Period	15,233,636	14,879,301	16,211,312	15,374,778
XI. Prior Period Adjustment	0	0	0	0
XII. Total OPEB Liability - Beginning of Period with Adjustment	15,233,636	14,879,301	16,211,312	15,374,778
XIII. Total OPEB Liability - End of Period [IX.+XII.]	12,262,133	15,233,636	14,879,301	16,211,312
Plan Fiduciary Net Position	1,430,232	1,089,507	733,097	598,647
XIV. Earning from Plan Investments	40,726	56,410	34,450	40,148
XV. Employer Contribution to Trust	898,687	798,275	543,713	568,827
XVI. Benefit Payments from Trust, Including Refunds of Member Contributions	(598,687)	(498,275)	(443,713)	(468,827)
XVII. Administrative Expense	0	0	0	0
XVIII. Other	0	0	0	0
XIX. Net Change in Plan Fiduciary Net Position [XIV.+XV.+XVI.+XVII.+XVIII.]	340,726	356,410	134,450	140,148
XX. Plan Fiduciary Net Position - Beginning of Period	1,089,506	733,097	598,647	458,499
XXI. Prior Period Adjustment	0	0	0	0
XXII. Plan Fiduciary Net Position - Beginning of Period with Adjustment	1,089,506	733,097	598,647	458,499
XXIII. Plan Fiduciary Net Position - End of Period [XIX.+XXII.]	1,430,232	1,089,507	733,097	598,647
XXIV. Net OPEB Liability [XIII.-XXIII.]	10,831,901	14,144,129	14,146,204	15,612,665
XXV. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIII. / XIII.]	11.66%	7.15%	4.93%	3.69%
XXVI. Covered Employee Payroll	13,154,640	13,399,976	12,941,235	9,205,453
XXVII. Plan NOL as % of Covered Employee Payroll [XXIV. / XXVI.]	82.34%	105.55%	109.31%	169.60%
Single Discount Rate to calculate Plan Liabilities	6.75%	5.25%	5.00%	4.75%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Notes to Required Supplementary Information:

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

Actuarial Assumptions:

Investment Rate of Return:	6.72%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.66% as of June 30, 2020 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	6.75%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% as of June 30, 2020 and for future periods
Salary Increases:	3.00% annually as of June 30, 2020 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

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

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Plan Membership

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

Inactive employees or beneficiaries currently receiving benefits:	112
Active Employees:	<u>186</u>
Total:	298

Events Subsequent to the Measurement Date

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

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 5.25% to 6.75%
- ✓ 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/Withdrawals:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed beyond the pay-as-you-go cost \$300,000 for the period ending on the June 30, 2020 Measurement Date. For the year ending on the June 30, 2020 Measurement Date total Town premiums plus implicit costs for the retiree medical program were \$598,687. \$148,901 of the \$598,687 represents implicit cost.

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Census Data Manipulation:

In the absence of data, the following was assumed:

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

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 6.75% 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 6.72% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [II. / I.]	V. Service Cost	VI. Employer Share of Benefit Payments (With Implicit Cost)	VII. Trust Contributions Beyond Pay-as-you-go	VIII. Gross Trust Contributions [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]
2020	June 30, 2020	12,262,133	1,430,232	10,831,901	11.66%	343,359	598,687	300,000	898,687	598,687	0	300,000
2021	June 30, 2021	12,808,621	1,836,260	10,972,361	14.34%	356,201	640,197	300,000	940,197	640,197	0	300,000
2022	June 30, 2022	13,305,861	2,269,573	11,036,288	17.06%	368,193	671,853	300,000	971,853	671,853	0	300,000
2023	June 30, 2023	13,814,124	2,732,004	11,082,120	19.78%	379,911	743,872	300,000	1,043,872	743,872	0	300,000
2024	June 30, 2024	14,350,985	3,225,511	11,125,474	22.48%	393,409	760,095	300,000	1,060,095	760,095	0	300,000
2025	June 30, 2025	14,907,691	3,752,181	11,155,510	25.17%	407,382	788,878	300,000	1,088,878	788,878	0	300,000
2026	June 30, 2026	15,458,766	4,314,244	11,144,522	27.91%	420,169	846,650	300,000	1,146,650	846,650	0	300,000
2027	June 30, 2027	16,038,454	4,914,077	11,124,377	30.64%	435,044	867,498	300,000	1,167,498	867,498	0	300,000
2028	June 30, 2028	16,685,583	5,554,219	11,131,364	33.29%	450,265	845,120	300,000	1,145,120	845,120	0	300,000
2029	June 30, 2029	17,283,588	6,237,379	11,046,209	36.09%	467,709	936,004	300,000	1,236,004	936,004	0	300,000
2030	June 30, 2030	17,942,117	6,966,447	10,975,670	38.83%	483,417	953,358	300,000	1,253,358	953,358	0	300,000
2031	June 30, 2031	18,612,650	7,744,508	10,868,142	41.61%	501,912	986,707	300,000	1,286,707	986,707	0	300,000
2032	June 30, 2032	19,131,005	8,574,855	10,556,150	44.82%	518,300	1,087,212	300,000	1,387,212	1,087,212	0	300,000
2033	June 30, 2033	19,783,084	9,461,001	10,322,083	47.82%	536,065	1,135,704	300,000	1,435,704	1,135,704	0	300,000
2034	June 30, 2034	20,432,403	10,406,696	10,025,707	50.93%	556,597	1,172,061	300,000	1,472,061	1,172,061	0	300,000
2035	June 30, 2035	21,066,572	11,415,942	9,650,630	54.19%	575,877	1,249,913	300,000	1,549,913	1,249,913	0	300,000
2036	June 30, 2036	21,720,288	12,493,009	9,227,279	57.52%	598,492	1,306,036	300,000	1,606,036	1,306,036	0	300,000
2037	June 30, 2037	22,382,891	13,642,455	8,740,436	60.95%	621,572	1,301,846	300,000	1,601,846	1,301,846	0	300,000
2038	June 30, 2038	23,089,739	14,869,144	8,220,595	64.40%	643,279	1,345,481	300,000	1,645,481	1,345,481	0	300,000
2039	June 30, 2039	23,919,956	16,178,267	7,741,689	67.64%	667,259	1,363,041	300,000	1,663,041	1,363,041	0	300,000
2040	June 30, 2040	24,847,155	17,575,363	7,271,792	70.73%	695,125	1,339,483	300,000	1,639,483	1,339,483	0	300,000
2041	June 30, 2041	25,730,833	19,066,344	6,664,489	74.10%	721,794	1,372,452	300,000	1,672,452	1,372,452	0	300,000
2042	June 30, 2042	26,714,338	20,657,518	6,056,820	77.33%	748,833	1,392,308	300,000	1,692,308	1,392,308	0	300,000
2043	June 30, 2043	27,739,925	22,355,619	5,384,306	80.59%	779,302	1,419,100	300,000	1,719,100	1,419,100	0	300,000
2044	June 30, 2044	28,761,143	24,167,833	4,593,310	84.03%	810,315	1,454,911	300,000	1,754,911	1,454,911	0	300,000
2045	June 30, 2045	29,901,400	26,101,827	3,799,573	87.29%	842,625	1,533,676	300,000	1,833,676	1,533,676	0	300,000
2046	June 30, 2046	31,104,808	28,165,786	2,939,022	90.55%	878,858	1,577,215	300,000	1,877,215	1,577,215	0	300,000
2047	June 30, 2047	32,400,763	30,368,443	2,032,320	93.73%	916,082	1,630,367	300,000	1,930,367	1,630,367	0	300,000
2048	June 30, 2048	33,765,752	32,719,118	1,046,634	96.90%	955,446	1,707,697	300,000	2,007,697	1,707,697	0	300,000
2049	June 30, 2049	35,189,872	35,227,759	(37,887)	100.11%	998,566	1,746,013	300,000	2,046,013	1,746,013	0	300,000
2050	June 30, 2050	36,707,107	36,787,826	(80,719)	100.22%	1,041,691	1,823,101	(781,410)	1,041,691	1,823,101	0	(781,410)
2051	June 30, 2051	38,244,360	38,414,900	(170,540)	100.45%	1,087,014	1,905,043	(818,029)	1,087,014	1,905,043	0	(818,029)

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Table 1: Projection of Contributions using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2020	13,154,640	0	13,154,640	0	598,687	0	598,687
June 30, 2021	12,218,859	1,330,420	13,549,279	0	640,197	0	640,197
June 30, 2022	11,492,615	2,463,142	13,955,757	0	671,853	0	671,853
June 30, 2023	10,812,778	3,561,652	14,374,430	0	743,872	0	743,872
June 30, 2024	10,228,068	4,577,595	14,805,663	0	760,095	0	760,095
June 30, 2025	9,678,548	5,571,285	15,249,833	0	788,878	0	788,878
June 30, 2026	9,112,026	6,595,302	15,707,328	0	846,650	0	846,650
June 30, 2027	8,576,947	7,601,601	16,178,548	0	867,498	0	867,498
June 30, 2028	8,045,585	8,618,319	16,663,904	0	845,120	0	845,120
June 30, 2029	7,578,195	9,585,626	17,163,821	0	936,004	0	936,004
June 30, 2030	7,089,564	10,589,172	17,678,736	0	953,358	0	953,358
June 30, 2031	6,702,732	11,506,366	18,209,098	0	980,780	5,927	986,707
June 30, 2032	6,260,415	12,494,956	18,755,371	0	1,072,467	14,745	1,087,212
June 30, 2033	5,814,251	13,503,781	19,318,032	0	1,108,861	26,843	1,135,704
June 30, 2034	5,466,561	14,431,012	19,897,573	0	1,128,206	43,855	1,172,061
June 30, 2035	5,081,058	15,413,442	20,494,500	0	1,184,715	65,198	1,249,913
June 30, 2036	4,759,756	16,349,579	21,109,335	0	1,225,582	80,454	1,306,036
June 30, 2037	4,497,721	17,244,894	21,742,615	0	1,202,979	98,867	1,301,846
June 30, 2038	4,207,633	18,187,260	22,394,893	0	1,225,245	120,236	1,345,481
June 30, 2039	3,923,157	19,143,583	23,066,740	0	1,225,756	137,285	1,363,041
June 30, 2040	3,690,834	20,067,908	23,758,742	0	1,183,292	156,191	1,339,483
June 30, 2041	3,490,805	20,980,699	24,471,504	0	1,187,935	184,517	1,372,452
June 30, 2042	3,263,187	21,942,462	25,205,649	0	1,171,820	220,488	1,392,308
June 30, 2043	3,082,218	22,879,600	25,961,818	0	1,155,112	263,988	1,419,100
June 30, 2044	2,901,377	23,839,296	26,740,673	0	1,136,210	318,701	1,454,911
June 30, 2045	2,706,860	24,836,033	27,542,893	0	1,150,610	383,066	1,533,676
June 30, 2046	2,557,626	25,811,554	28,369,180	0	1,142,287	434,928	1,577,215
June 30, 2047	2,417,830	26,802,425	29,220,255	0	1,136,059	494,308	1,630,367
June 30, 2048	2,274,401	27,822,462	30,096,863	0	1,147,594	560,103	1,707,697
June 30, 2049	2,178,315	28,821,454	30,999,769	0	1,129,423	616,590	1,746,013
June 30, 2050	2,060,846	29,868,916	31,929,762	0	1,144,799	678,302	1,823,101
June 30, 2051	1,923,330	30,964,325	32,887,655	0	1,153,535	751,508	1,905,043
June 30, 2052	1,749,317	32,124,968	33,874,285	0	1,151,212	832,238	1,983,450
June 30, 2053	1,603,658	33,286,856	34,890,514	0	1,139,119	920,312	2,059,431
June 30, 2054	1,417,663	34,519,566	35,937,229	0	1,116,944	1,018,447	2,135,391
June 30, 2055	1,277,709	35,737,637	37,015,346	0	1,102,241	1,126,079	2,228,320
June 30, 2056	1,112,782	37,013,024	38,125,806	0	1,099,780	1,226,165	2,325,945
June 30, 2057	956,063	38,313,517	39,269,580	0	1,045,451	1,334,691	2,380,142
June 30, 2058	797,035	39,650,632	40,447,667	0	1,020,376	1,449,580	2,469,956
June 30, 2059	600,481	41,060,616	41,661,097	0	976,242	1,563,501	2,539,743

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Table 1: Projection of Contributions using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2060	482,053	42,428,877	42,910,930	0	946,738	1,684,542	2,631,280
June 30, 2061	398,378	43,799,880	44,198,258	0	903,996	1,816,454	2,720,450
June 30, 2062	283,075	45,241,131	45,524,206	0	856,033	1,958,294	2,814,327
June 30, 2063	201,688	46,688,244	46,889,932	0	832,244	2,111,093	2,943,337
June 30, 2064	116,419	48,180,211	48,296,630	0	797,910	2,275,716	3,073,626
June 30, 2065	95,343	49,650,186	49,745,529	0	773,807	2,453,408	3,227,215
June 30, 2066	49,859	51,188,036	51,237,895	0	750,745	2,629,611	3,380,356
June 30, 2067	11,324	52,763,708	52,775,032	0	727,415	2,816,885	3,544,300
June 30, 2068	0	54,358,283	54,358,283	0	701,824	3,013,563	3,715,387
June 30, 2069	0	55,989,031	55,989,031	0	675,170	3,209,439	3,884,609
June 30, 2070	0	57,668,702	57,668,702	0	648,429	3,414,695	4,063,124
June 30, 2071	0	59,398,763	59,398,763	0	621,610	3,629,842	4,251,452
June 30, 2072	0	61,180,726	61,180,726	0	594,723	3,854,394	4,449,117
June 30, 2073	0	63,016,148	63,016,148	0	567,843	4,088,712	4,656,555
June 30, 2074	0	64,906,632	64,906,632	0	540,971	4,332,419	4,873,390
June 30, 2075	0	66,853,831	66,853,831	0	514,161	4,587,767	5,101,928
June 30, 2076	0	68,859,446	68,859,446	0	487,492	4,854,685	5,342,177
June 30, 2077	0	70,925,229	70,925,229	0	461,017	5,132,326	5,593,343
June 30, 2078	0	73,052,986	73,052,986	0	434,739	5,420,570	5,855,309
June 30, 2079	0	75,244,576	75,244,576	0	408,716	5,721,593	6,130,309
June 30, 2080	0	77,501,913	77,501,913	0	382,964	6,033,770	6,416,734
June 30, 2081	0	79,826,970	79,826,970	0	357,510	6,358,357	6,715,867
June 30, 2082	0	82,221,779	82,221,779	0	332,421	6,696,758	7,029,179
June 30, 2083	0	84,688,432	84,688,432	0	307,721	7,049,499	7,357,220
June 30, 2084	0	87,229,085	87,229,085	0	283,459	7,417,378	7,700,837
June 30, 2085	0	89,845,958	89,845,958	0	259,698	7,801,240	8,060,938
June 30, 2086	0	92,541,337	92,541,337	0	236,480	8,204,010	8,440,490
June 30, 2087	0	95,317,577	95,317,577	0	213,913	8,623,051	8,836,964
June 30, 2088	0	98,177,104	98,177,104	0	192,078	9,058,998	9,251,076
June 30, 2089	0	101,122,417	101,122,417	0	171,094	9,516,618	9,687,712
June 30, 2090	0	104,156,090	104,156,090	0	151,071	9,992,586	10,143,657
June 30, 2091	0	107,280,773	107,280,773	0	132,101	10,489,887	10,621,988
June 30, 2092	0	110,499,196	110,499,196	0	114,310	11,009,415	11,123,725
June 30, 2093	0	113,814,172	113,814,172	0	97,776	11,551,918	11,649,694
June 30, 2094	0	117,228,597	117,228,597	0	82,596	12,119,946	12,202,542

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2020	1,089,506	598,687	300,000	898,687	0	598,687	598,687	40,726	1,430,232
June 30, 2021	1,430,232	640,197	270,543	910,740	0	640,197	640,197	95,617	1,796,392
June 30, 2022	1,796,392	671,853	247,051	918,904	0	671,853	671,853	128,883	2,172,326
June 30, 2023	2,172,326	743,872	225,667	969,539	0	743,872	743,872	153,439	2,551,432
June 30, 2024	2,551,432	760,095	207,246	967,341	0	760,095	760,095	178,306	2,936,984
June 30, 2025	2,936,984	788,878	190,400	979,278	0	788,878	788,878	203,659	3,331,043
June 30, 2026	3,331,043	846,650	174,034	1,020,684	0	846,650	846,650	229,599	3,734,676
June 30, 2027	3,734,676	867,498	159,043	1,026,541	0	867,498	867,498	256,227	4,149,946
June 30, 2028	4,149,946	845,120	144,845	989,965	0	845,120	845,120	283,664	4,578,455
June 30, 2029	4,578,455	936,004	132,456	1,068,460	0	936,004	936,004	312,050	5,022,961
June 30, 2030	5,022,961	953,358	120,307	1,073,665	0	953,358	953,358	341,520	5,484,788
June 30, 2031	5,484,788	980,780	110,429	1,091,209	0	980,780	980,780	372,228	5,961,518
June 30, 2032	5,961,518	1,072,467	100,138	1,172,605	0	1,072,467	1,072,467	403,924	6,450,835
June 30, 2033	6,450,835	1,108,861	90,293	1,199,154	0	1,108,861	1,108,861	436,481	6,950,766
June 30, 2034	6,950,766	1,128,206	82,421	1,210,627	0	1,128,206	1,128,206	469,816	7,459,148
June 30, 2035	7,459,148	1,184,715	74,377	1,259,092	0	1,184,715	1,184,715	503,713	7,972,040
June 30, 2036	7,972,040	1,225,582	67,644	1,293,226	0	1,225,582	1,225,582	537,957	8,497,187
June 30, 2037	8,497,187	1,202,979	62,059	1,265,038	0	1,202,979	1,202,979	573,062	9,033,441
June 30, 2038	9,033,441	1,225,245	56,365	1,281,610	0	1,225,245	1,225,245	608,910	9,578,480
June 30, 2039	9,578,480	1,225,756	51,024	1,276,780	0	1,225,756	1,225,756	645,360	10,137,579
June 30, 2040	10,137,579	1,183,292	46,604	1,229,896	0	1,183,292	1,183,292	682,786	10,710,778
June 30, 2041	10,710,778	1,187,935	42,794	1,230,729	0	1,187,935	1,187,935	721,179	11,290,234
June 30, 2042	11,290,234	1,171,820	38,839	1,210,659	0	1,171,820	1,171,820	759,987	11,868,572
June 30, 2043	11,868,572	1,155,112	35,616	1,190,728	0	1,155,112	1,155,112	798,745	12,438,945
June 30, 2044	12,438,945	1,136,210	32,550	1,168,760	0	1,136,210	1,136,210	836,973	12,989,767
June 30, 2045	12,989,767	1,150,610	29,483	1,180,093	0	1,150,610	1,150,610	873,887	13,510,071
June 30, 2046	13,510,071	1,142,287	27,047	1,169,334	0	1,142,287	1,142,287	908,771	14,010,961
June 30, 2047	14,010,961	1,136,059	24,824	1,160,883	0	1,136,059	1,136,059	942,357	14,483,834
June 30, 2048	14,483,834	1,147,594	22,671	1,170,265	0	1,147,594	1,147,594	974,063	14,920,465
June 30, 2049	14,920,465	1,129,423	21,081	1,150,504	0	1,129,423	1,129,423	1,003,352	15,328,308
June 30, 2050	15,328,308	1,144,799	19,363	1,164,162	0	1,144,799	1,144,799	1,030,702	15,700,071
June 30, 2051	15,700,071	1,153,535	17,545	1,171,080	0	1,153,535	1,153,535	1,055,625	16,021,733
June 30, 2052	16,021,733	1,151,212	15,492	1,166,704	0	1,151,212	1,151,212	1,077,173	16,282,160
June 30, 2053	16,282,160	1,139,119	13,789	1,152,908	0	1,139,119	1,139,119	1,094,617	16,470,254
June 30, 2054	16,470,254	1,116,944	11,834	1,128,778	0	1,116,944	1,116,944	1,107,192	16,570,833
June 30, 2055	16,570,833	1,102,241	10,356	1,112,597	0	1,102,241	1,102,241	1,113,902	16,569,012
June 30, 2056	16,569,012	1,099,780	8,756	1,108,536	0	1,099,780	1,099,780	1,113,727	16,465,330
June 30, 2057	16,465,330	1,045,451	7,304	1,052,755	0	1,045,451	1,045,451	1,106,712	16,244,655
June 30, 2058	16,244,655	1,020,376	5,912	1,026,288	0	1,020,376	1,020,376	1,091,836	15,892,823
June 30, 2059	15,892,823	976,242	4,324	980,566	0	976,242	976,242	1,068,141	15,401,787

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [III. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2060	15,401,787	946,738	3,370	950,108	0	946,738	946,738	1,035,111	14,466,677
June 30, 2061	14,466,677	903,996	2,704	906,700	0	903,996	903,996	972,250	13,571,445
June 30, 2062	13,571,445	856,033	1,865	857,898	0	856,033	856,033	912,063	12,721,083
June 30, 2063	12,721,083	832,244	1,290	833,534	0	832,244	832,244	854,899	11,892,516
June 30, 2064	11,892,516	797,910	723	798,633	0	797,910	797,910	799,201	11,096,533
June 30, 2065	11,096,533	773,807	575	774,382	0	773,807	773,807	745,706	10,324,155
June 30, 2066	10,324,155	750,745	292	751,037	0	750,745	750,745	693,793	9,574,085
June 30, 2067	9,574,085	727,415	64	727,479	0	727,415	727,415	643,381	8,846,808
June 30, 2068	8,846,808	701,824	0	701,824	0	701,824	701,824	594,505	8,144,984
June 30, 2069	8,144,984	675,170	0	675,170	0	675,170	675,170	547,343	7,469,814
June 30, 2070	7,469,814	648,429	0	648,429	0	648,429	648,429	501,971	6,821,385
June 30, 2071	6,821,385	621,610	0	621,610	0	621,610	621,610	458,397	6,199,775
June 30, 2072	6,199,775	594,723	0	594,723	0	594,723	594,723	416,625	5,605,052
June 30, 2073	5,605,052	567,843	0	567,843	0	567,843	567,843	376,659	5,037,209
June 30, 2074	5,037,209	540,971	0	540,971	0	540,971	540,971	338,500	4,496,238
June 30, 2075	4,496,238	514,161	0	514,161	0	514,161	514,161	302,147	3,982,077
June 30, 2076	3,982,077	487,492	0	487,492	0	487,492	487,492	267,596	3,494,585
June 30, 2077	3,494,585	461,017	0	461,017	0	461,017	461,017	234,836	3,033,568
June 30, 2078	3,033,568	434,739	0	434,739	0	434,739	434,739	203,856	2,598,829
June 30, 2079	2,598,829	408,716	0	408,716	0	408,716	408,716	174,641	2,190,113
June 30, 2080	2,190,113	382,964	0	382,964	0	382,964	382,964	147,176	1,807,149
June 30, 2081	1,807,149	357,510	0	357,510	0	357,510	357,510	121,440	1,449,639
June 30, 2082	1,449,639	332,421	0	332,421	0	332,421	332,421	97,416	1,117,218
June 30, 2083	1,117,218	307,721	0	307,721	0	307,721	307,721	75,077	809,497
June 30, 2084	809,497	283,459	0	283,459	0	283,459	283,459	54,398	526,038
June 30, 2085	526,038	259,698	0	259,698	0	259,698	259,698	35,350	266,340
June 30, 2086	266,340	236,480	0	236,480	0	236,480	236,480	17,898	29,860
June 30, 2087	29,860	213,913	0	213,913	0	213,913	213,913	2,007	2,007
June 30, 2088	2,007	192,078	0	192,078	0	192,078	192,078	135	135
June 30, 2089	135	171,094	0	171,094	0	171,094	171,094	9	9
June 30, 2090	9	151,071	0	151,071	0	151,071	151,071	1	1
June 30, 2091	1	132,101	0	132,101	0	132,101	132,101	0	0
June 30, 2092	0	114,310	0	114,310	0	114,310	114,310	0	0
June 30, 2093	0	97,776	0	97,776	0	97,776	97,776	0	0
June 30, 2094	0	82,596	0	82,596	0	82,596	82,596	0	0

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Table 3: Actuarial Present Values of Projected Benefit Payments using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.72%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [6.66%]	
June 30, 2020	1,089,506	598,687	598,687	0	598,687	0	598,687	Sum of Column V.
June 30, 2021	1,430,232	640,197	640,197	0	599,885	0	600,237	14,359,691
June 30, 2022	1,796,392	671,853	671,853	0	589,906	0	590,598	
June 30, 2023	2,172,326	743,872	743,872	0	612,013	0	613,091	Sum of Column VI.
June 30, 2024	2,551,432	760,095	760,095	0	585,982	0	587,359	136,992
June 30, 2025	2,936,984	788,878	788,878	0	569,877	0	571,550	
June 30, 2026	3,331,043	846,650	846,650	0	573,098	0	575,118	Sum of Column VII.
June 30, 2027	3,734,676	867,498	867,498	0	550,234	0	552,498	[V. + VI.]
June 30, 2028	4,149,946	845,120	845,120	0	502,287	0	504,649	14,496,683
June 30, 2029	4,578,455	936,004	936,004	0	521,273	0	524,032	
June 30, 2030	5,022,961	953,358	953,358	0	497,505	0	500,432	
June 30, 2031	5,484,788	980,780	980,780	0	479,587	0	482,691	
June 30, 2032	5,961,518	1,072,467	1,072,467	0	491,399	0	494,870	
June 30, 2033	6,450,835	1,108,861	1,108,861	0	476,082	0	479,726	
June 30, 2034	6,950,766	1,128,206	1,128,206	0	453,886	0	457,628	
June 30, 2035	7,459,148	1,184,715	1,184,715	0	446,608	0	450,555	
June 30, 2036	7,972,040	1,225,582	1,225,582	0	432,922	0	437,003	
June 30, 2037	8,497,187	1,202,979	1,202,979	0	398,180	0	402,170	
June 30, 2038	9,033,441	1,225,245	1,225,245	0	380,013	0	384,046	
June 30, 2039	9,578,480	1,225,756	1,225,756	0	356,232	0	360,224	
June 30, 2040	10,137,579	1,183,292	1,183,292	0	322,237	0	326,039	
June 30, 2041	10,710,778	1,187,935	1,187,935	0	303,131	0	306,888	
June 30, 2042	11,290,234	1,171,820	1,171,820	0	280,190	0	283,829	
June 30, 2043	11,868,572	1,155,112	1,155,112	0	258,804	0	262,318	
June 30, 2044	12,438,945	1,136,210	1,136,210	0	238,539	0	241,920	
June 30, 2045	12,989,767	1,150,610	1,150,610	0	226,351	0	229,695	
June 30, 2046	13,510,071	1,142,287	1,142,287	0	210,564	0	213,799	
June 30, 2047	14,010,961	1,136,059	1,136,059	0	196,229	0	199,361	
June 30, 2048	14,483,834	1,147,594	1,147,594	0	185,740	0	188,815	
June 30, 2049	14,920,465	1,129,423	1,129,423	0	171,288	0	174,227	
June 30, 2050	15,328,308	1,144,799	1,144,799	0	162,688	0	165,576	
June 30, 2051	15,700,071	1,153,535	1,153,535	0	153,607	0	156,425	
June 30, 2052	16,021,733	1,151,212	1,151,212	0	143,645	0	146,366	
June 30, 2053	16,282,160	1,139,119	1,139,119	0	133,186	0	135,788	
June 30, 2054	16,470,254	1,116,944	1,116,944	0	122,370	0	124,834	
June 30, 2055	16,570,833	1,102,241	1,102,241	0	113,155	0	115,502	
June 30, 2056	16,569,012	1,099,780	1,099,780	0	105,793	0	108,050	
June 30, 2057	16,465,330	1,045,451	1,045,451	0	94,234	0	96,302	
June 30, 2058	16,244,655	1,020,376	1,020,376	0	86,183	0	88,125	
June 30, 2059	15,892,823	976,242	976,242	0	77,263	0	79,051	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Table 3: Actuarial Present Values of Projected Benefit Payments using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.72%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [6.66%]
June 30, 2060	15,401,787	946,738	946,738	0	70,210	0	71,876
June 30, 2061	14,466,677	903,996	903,996	0	62,819	0	64,347
June 30, 2062	13,571,445	856,033	856,033	0	55,740	0	57,130
June 30, 2063	12,721,083	832,244	832,244	0	50,779	0	52,076
June 30, 2064	11,892,516	797,910	797,910	0	45,618	0	46,811
June 30, 2065	11,096,533	773,807	773,807	0	41,454	0	42,563
June 30, 2066	10,324,155	750,745	750,745	0	37,686	0	38,717
June 30, 2067	9,574,085	727,415	727,415	0	34,216	0	35,172
June 30, 2068	8,846,808	701,824	701,824	0	30,933	0	31,817
June 30, 2069	8,144,984	675,170	675,170	0	27,885	0	28,698
June 30, 2070	7,469,814	648,429	648,429	0	25,094	0	25,841
June 30, 2071	6,821,385	621,610	621,610	0	22,541	0	23,226
June 30, 2072	6,199,775	594,723	594,723	0	20,208	0	20,834
June 30, 2073	5,605,052	567,843	567,843	0	18,080	0	18,651
June 30, 2074	5,037,209	540,971	540,971	0	16,140	0	16,659
June 30, 2075	4,496,238	514,161	514,161	0	14,374	0	14,845
June 30, 2076	3,982,077	487,492	487,492	0	12,770	0	13,197
June 30, 2077	3,494,585	461,017	461,017	0	11,316	0	11,701
June 30, 2078	3,033,568	434,739	434,739	0	9,999	0	10,345
June 30, 2079	2,598,829	408,716	408,716	0	8,809	0	9,119
June 30, 2080	2,190,113	382,964	382,964	0	7,734	0	8,011
June 30, 2081	1,807,149	357,510	357,510	0	6,765	0	7,012
June 30, 2082	1,449,639	332,421	332,421	0	5,895	0	6,113
June 30, 2083	1,117,218	307,721	307,721	0	5,113	0	5,305
June 30, 2084	809,497	283,459	283,459	0	4,413	0	4,582
June 30, 2085	526,038	259,698	259,698	0	3,789	0	3,936
June 30, 2086	266,340	236,480	236,480	0	3,233	0	3,360
June 30, 2087	29,860	213,913	103,275	110,638	1,323	19,053	2,850
June 30, 2088	2,007	192,078	67,843	124,235	814	20,840	2,399
June 30, 2089	135	171,094	58,738	112,356	661	18,359	2,004
June 30, 2090	9	151,071	51,705	99,366	545	15,815	1,659
June 30, 2091	1	132,101	45,169	86,932	446	13,478	1,360
June 30, 2092	0	114,310	39,062	75,248	361	11,364	1,103
June 30, 2093	0	97,776	33,395	64,381	290	9,471	885
June 30, 2094	0	82,596	28,203	54,393	229	7,794	701

APPENDIX II – PLAN PROVISIONS

Effective Date

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

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

Plan Year

July 1 through June 30.

Premium Effective Date

Medicare Supplement Plans: effective January 1, 2020

Non-Medicare Plans: effective July 1, 2020

Dental Plans: N/A

Creditable Service

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

Benefits Offered

Comprehensive Medical Insurance as well as \$2,500 Group Term Life Insurance.

Medicare Part B

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

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

Surviving Spouse Coverage

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	<ul style="list-style-type: none"> • 40% for Blue Care Elect and Medex II • 33% for all other plans 	<ul style="list-style-type: none"> • 40% for Blue Care Elect and Medex II • 33% for all other plans
Dental	N/A	N/A
Life	33%	N/A

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-Retirement Mortality

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

Post-Retirement Mortality

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

Disabled Mortality

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

Assumption Experience Study

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

Discount Rate

6.75% per annum (previously 5.25%, used in the calculation of the Interest Cost)

Net Long Term Rate of Return

6.72% (based on investment policy)

Municipal Bond Rate

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

Actuarial Cost Method

Individual Entry Age Normal

Asset-Valuation Method

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Employee Termination

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

Non-Public Safety Employees

Service	Male	Female
0	15.00%	15.00%
5	7.60%	7.60%
10	5.40%	5.40%
15	3.30%	3.30%
20	2.00%	2.00%

Public Safety Employees

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Retirement Rates for Eligible Employees

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

Permanent Disability Rates

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Trend Rate

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

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

Dental Plans: N/A

Participation Rate

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

Spouse Participation Rate

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

Spouse Demographics

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

Medicare Eligibility

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

School Demographics

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

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

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

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2020</u>	<u>June 30, 2019</u>
I. Total OPEB Liability	12,262,133	15,233,636
II. Total OPEB Liability (Excluding Implicit Subsidy)	<u>10,644,171</u>	<u>13,843,257</u>
III. Liability from Implicit Subsidy [I. - II.]	1,617,962	1,390,379

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2020</u>	<u>June 30, 2019</u>
IV. Employer Payments (Including Implicit Subsidy)	598,687	498,275
V. Actual Employer Payments	<u>449,786</u>	<u>427,975</u>
VI. Implicit Subsidy [IV. - V.]	148,901	70,300

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	4,278	2,698	44 & Under	8,789	5,759	65 to 69	4,092	4,092
25 to 29	6,313	2,807	45 to 49	9,654	7,271	70 to 74	4,092	4,092
30 to 34	7,977	3,522	50 to 54	11,356	9,576	75 to 79	4,092	4,092
35 to 39	8,217	4,423	55 to 59	13,128	12,450	80 to 84	4,092	4,092
40 to 44	8,411	5,511	60 to 64	15,622	15,976	85 to 89	4,092	4,092
45 to 49	9,238	6,958	65 to 69	18,727	19,928	90 & Over	4,092	4,092
50 to 54	10,867	9,164	70 to 74	22,084	23,881			
55 to 59	12,563	11,914	75 to 79	25,647	28,206			
60 to 64	14,949	15,288	80 to 84	29,406	32,420			
65 to 69	17,921	19,070	85 to 89	33,566	37,110			
70 & Over	21,133	22,853	90 & Over	33,566	37,110			

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Open Group Forecast

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

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

Additional Comments

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

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

APPENDIX IV – PLAN DEMOGRAPHICS

Active Employees

Valuation Date	July 1, 2019	July 1, 2017
A. Average Age at Hire	37.65	36.51
B. Average Service	<u>9.43</u>	<u>10.37</u>
C. Average Current Age	47.08	46.88

Retired Employees & Spouses

Valuation Date	July 1, 2019	July 1, 2017
A. Under Age 65	22	19
B. Age 65 & Over	<u>90</u>	<u>66</u>
C. Total	112	85

Average Service Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-24	7									7
25-29	9	4								13
30-34	14	2	1							17
35-39	10	2	1	1						14
40-44	15	1	6	1						23
45-49	9	4	4	4	3		2			26
50-54	11	7	6	4	1	1	1			31
55-59	8	1	3	9	5	1	2			29
60-64	3	6	1	3	4	1	1	1		20
65-69	1			1	1	1				4
70+			1					1		2
Total	87	27	23	23	14	4	6	2		186

APPENDIX IV – PLAN DEMOGRAPHICS

Plan Offerings

Number of Contracts

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
HMO Blue	52		60	112
Blue Care Elect	8			8
HMO Blue Custom Network	1		3	4
Managed Blue for Seniors	20			20
Medex II LIS	2			2
Medex II	70			70
Total	153	0	63	216

Per Contract Costs (monthly)

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
HMO Blue	822.46		2,216.34
Blue Care Elect	1,193.82		3,085.14
HMO Blue Custom Network	764.89		2,061.19
Managed Blue for Seniors	319.78	639.56	
Medex II LIS	324.93	649.86	
Medex II	357.63	715.26	
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.