

Town of Sharon
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 16, 2019



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December 16, 2019

Personal and Confidential

Mr. Krishan Gupta
Finance Director / Town Accountant
Town of Sharon
90 Main Street, PO Box 335
Sharon, MA 02067

Dear Mr. Gupta:

We have performed an actuarial valuation of the Town of Sharon 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 Sharon, 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,



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

December 16, 2019

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Sharon 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.

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 'Andrew D. Taggart', written over a horizontal line.

Andrew D. Taggart, ASA, MAAA
Consulting 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 \$7,875,438 or 10.45% of the beginning Total OPEB Liability ("TOL"). This was mainly due to Active Plan premiums not changing rather than the expected 10% increase, Medicare Supplement premiums decreasing rather than the expected 10% increase and fewer retirees over the age of 65 on Active Plans. This was slightly offset by the increase in active employees and retirees. During the period there was an investment gain of \$18,690 above the expected return.

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 4.50% to 4.25% increasing the disclosed liability by \$2.8 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 \$4 million.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$6.1 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 \$13 million.
- ✓ Assumption changes caused Service Cost to increase by \$320 thousand.

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

Changes in Benefits Terms

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

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 5.44 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 \$919,017 of OPEB assets as of June 30, 2019.
- ✓ Funding Policy - The Town is expected to contribute \$350,000 in fiscal 2020, increasing by \$50,000 annually for the next 3 years and then \$500,000 annually thereafter.
- ✓ 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 70.97% 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 (4.25%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. 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 17 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	July 1, 2017
Reporting Date/Fiscal Year End	June 30, 2019	June 30, 2018
Total OPEB Liability	85,683,647	77,192,252
Per Eligible Active Plan Participant	64,497	69,205
Per Retiree/Spouse Plan Participant	75,227	70,597
Total Annual Service Cost (annual benefit accrual)	2,609,939	2,475,181
Per Eligible Active Plan Participant	3,919	4,217
Employer Share of Retiree Costs	1,782,627	2,684,008
Per Retiree/Spouse Plan Participant	3,138	5,181
Net OPEB Liability as a % of Covered Payroll	190.10%	200.70%
Average Annual Medical Plan Premium (Single Coverage)	6,660	6,025
Average Annual Medical Plan Premium (Family Coverage)	21,293	22,128
<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	568	85,683,647	85,683,647	1,782,627	1,782,627
June 30, 2024	633	103,041,666	88,884,646	3,806,013	3,283,100
June 30, 2029	658	122,158,934	90,897,719	4,901,907	3,647,479
June 30, 2034	677	142,199,014	91,272,136	6,067,705	3,894,629
June 30, 2039	669	164,652,629	91,164,169	6,888,579	3,814,039
June 30, 2044	659	195,315,148	93,283,602	7,982,223	3,812,354
June 30, 2049	653	235,589,631	97,059,809	9,062,601	3,733,672

PRINCIPAL RESULTS OF THE VALUATION

Town of Sharon

Assuming Funding - 4.25% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2018	July 1, 2016
For the Measurement Period ending on the Measurement Date of:	June 30, 2019	July 1, 2017
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018
I. Total OPEB Liability		
A. Actives	42,954,946	40,623,166
B. Retirees/Disabled	<u>42,728,701</u>	<u>36,569,086</u>
C. Total	85,683,647	77,192,252
II. Fiduciary Net Position [Plan Assets]	919,017	325,798
III. Net OPEB Liability (Asset) [I. - II.]	84,764,630	76,866,454
IV. Funded Ratio [II. / I.]	1.07%	0.42%
V. Number of Eligible Participants		
A. Actives	666	587
B. Retirees/Disabled & Dependents	<u>568</u>	<u>518</u>
C. Total	1,234	1,105
VI. Service Cost	2,609,939	2,475,181
VII. Financial Statement Expense	7,139,963	5,481,072
VIII. Employer Contribution to the OPEB Trust	(300,000)	(150,000)
IX. Deferred Inflow of Resources	(6,442,835)	0
X. Deferred Outflow of Resources	11,369,534	540
XI. Money Weighted Rate of Return	7.95%	6.51%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.79%	3.13%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.72%	6.51%
XIV. Crossover Year	Immediate	Immediate
XV. Discount Rate	4.25%	4.00%

PRINCIPAL RESULTS OF THE VALUATION

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

	Town Employees and Retirees	School Employees and Retirees	Public Safety Employees and Retirees	Treasurer Employees and Retirees	Highway Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability							
A. Actives	2,286,009	31,525,443	6,126,647	261,185	2,239,736	515,926	42,954,946
B. Retirees/Disabled	<u>18,537,383</u>	<u>23,221,467</u>	<u>193,170</u>	<u>0</u>	<u>620,551</u>	<u>156,130</u>	<u>42,728,701</u>
C. Total	20,823,392	54,746,910	6,319,817	261,185	2,860,287	672,056	85,683,647
II. Fiduciary Net Position [Plan Assets]	223,346	587,199	67,784	2,801	30,679	7,208	919,017
III. Net OPEB Liability (Asset) [I. - II.]	20,600,046	54,159,711	6,252,033	258,384	2,829,608	664,848	84,764,630
IV. Number of Eligible Participants							
A. Actives	48	500	63	8	38	9	666
B. Retirees/Disabled	<u>162</u>	<u>400</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>568</u>
C. Total	210	900	65	8	40	11	1,234
For the Reporting Date and Fiscal Year Ending June 30, 2019							
V. Service Cost	142,423	1,879,750	398,485	33,374	137,200	18,707	2,609,939
VI. Financial Statement Expense	1,214,244	4,786,398	744,868	48,405	291,760	54,288	7,139,963
VII. Employer Share of Costs	(689,102)	(1,038,350)	(22,091)	(593)	(22,202)	(10,289)	(1,782,627)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(69,598)	(193,053)	(23,527)	(1,036)	(10,418)	(2,368)	(300,000)
IX. Total Employer Contribution [VII. + VIII.]	(758,700)	(1,231,403)	(45,618)	(1,629)	(32,620)	(12,657)	(2,082,627)

PRINCIPAL RESULTS OF THE VALUATION

Town of Sharon

Assuming Funding - 4.25% discount rate

For the Period ending on the June 30, 2019 Measurement Date

	Actives			Retirees/Disabled			Grand Total
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
Present Value of Future Benefits							
A. Participants	17,489,404	23,141,416	40,630,820	4,490,542	33,932,055	38,422,597	79,053,417
B. Spouses	<u>11,270,651</u>	<u>16,430,643</u>	<u>27,701,294</u>	<u>1,677,201</u>	<u>2,628,903</u>	<u>4,306,104</u>	<u>32,007,398</u>
C. Total	28,760,055	39,572,059	68,332,114	6,167,743	36,560,958	42,728,701	111,060,815
Total OPEB Liability							
A. Participants	11,326,487	14,143,642	25,470,129	4,490,542	33,932,055	38,422,597	63,892,726
B. Spouses	<u>7,381,789</u>	<u>10,103,028</u>	<u>17,484,817</u>	<u>1,677,201</u>	<u>2,628,903</u>	<u>4,306,104</u>	<u>21,790,921</u>
C. Total	18,708,276	24,246,670	42,954,946	6,167,743	36,560,958	42,728,701	85,683,647
Service Cost							
A. Participants	594,756	965,794	1,560,550	0	0	0	1,560,550
B. Spouses	<u>370,580</u>	<u>678,809</u>	<u>1,049,389</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,049,389</u>
C. Total	965,336	1,644,603	2,609,939	0	0	0	2,609,939

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	2,609,939
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	3,467,826
III. Deferred (Inflows)/Outflows from Plan Experience**	(1,447,690)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions**	2,560,584
V. Projected earnings on OPEB plan investments	(47,093)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	(3,603)
VII. Financial Statement Expense prior to Plan Design Changes [I. + II.+ III. + IV. + V. + VI.]	7,139,963
VIII. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IX. Financial Statement Expense [VII. + VIII.]	7,139,963

* Recognized Immediately

** Amortized over 5.44 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	77,192,252	325,798	76,866,454
II. Prior Period Adjustment	<u>(1,857,883)</u>	<u>227,436</u>	<u>(2,085,319)</u>
III. Balances for June 30, 2018 with Adjustment [I. + II.]	75,334,369	553,234	74,781,135
Changes for the year:			
IV. Service Cost	2,609,939	0	2,609,939
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	3,467,826	0	3,467,826
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	13,929,578	0	13,929,578
VIII. Differences between actual and expected experience **	<u>(7,875,438)</u>	0	<u>(7,875,438)</u>
IX. Net investment income	0	65,783	<u>(65,783)</u>
X. Employer contributions to Trust	0	2,082,627	<u>(2,082,627)</u>
XI. Benefit payments withdrawn from Trust	0	<u>(1,782,627)</u>	1,782,627
XII. Benefit payments excluding Implicit Cost	<u>(1,782,627)</u>	0	<u>(1,782,627)</u>
XIII. Implicit Cost amount	0	0	0
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	<u>(1,782,627)</u>	0	<u>(1,782,627)</u>
XV. Administrative expense	0	0	0
XVI. Other Charges	0	0	0
XVII. Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]	<u>10,349,278</u>	<u>365,783</u>	<u>9,983,495</u>
XVIII. Balances at June 30, 2019 [III.+XVII.]	85,683,647	919,017	84,764,630

* Recognized Immediately

** Amortized over 5.44 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	5.00	0	0	0	0	0		
2019	(7,875,438)	5.44	(6,427,748)	(1,447,690)	(1,447,690)	(1,447,690)	(1,447,690)	(1,447,690)	(636,988)
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(6,427,748)						
Net increase (decrease) in OPEB expense				(1,447,690)	(1,447,690)	(1,447,690)	(1,447,690)	(1,447,690)	(636,988)

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	5.00	0	0	0	0	0		
2019	13,929,578	5.44	11,368,994	2,560,584	2,560,584	2,560,584	2,560,584	2,560,584	1,126,658
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			11,368,994						
Net increase (decrease) in OPEB expense				2,560,584	2,560,584	2,560,584	2,560,584	2,560,584	1,126,658

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	675	5.00	405	135	135	135	135		
2019	(18,690)	5.00	(14,952)	(3,738)	(3,738)	(3,738)	(3,738)	(3,738)	
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(14,547)						
Net increase (decrease) in OPEB expense				(3,603)	(3,603)	(3,603)	(3,603)	(3,738)	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	(6,427,748)	(6,427,748)
III. Changes of assumptions	11,368,994	0	11,368,994
IV. Net difference between projected & actual earnings on OPEB plan investments	<u>405</u>	<u>(14,952)</u>	<u>(14,547)</u>
V. Total [I.+II.+III.+IV.]	11,369,399	(6,442,700)	4,926,699

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 1,109,291
	2021 1,109,291
	2022 1,109,291
	2023 1,109,156
	2024 489,670
	Thereafter 0

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 4.25% as of June 30, 2019 and 4.50% as of July 1, 2017. 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 insufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets is applied to the projected benefits payments which the Fiduciary Net Position is expected to be sufficient to cover and the Municipal Bond Rate is applied thereafter. The Municipal Bond Rate is based on the S&P Municipal Bond 20 - Year High Grade Index ("SAPIHG"), which was 2.79% as of June 30, 2019. The S&P Municipal Bond 20 - Year High Grade Index is the index rate for 20 year, tax exempt general obligation municipal bonds with an average rate of AA/Aa or higher.

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 \$1,782,627. The Town also withdrew \$300,000 to an OPEB Trust for a total contribution during the measurement period of \$2,082,627 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	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, 2019 Measurement Date)

7. Schedule of The Town's Contributions

<u>Year</u>	<u>Actuarial Determined Contribution</u>	<u>Contributions in relation to the actuarially determined contribution</u>	<u>Contribution deficiency (excess)</u>	<u>Covered employee payroll</u>	<u>Contributions as a percentage of covered employee payroll</u>
June 30, 2019	7,455,813	(2,082,627)	5,373,186	44,577,895	4.67%
June 30, 2018	6,939,196	(2,996,860)	3,942,336	39,449,452	7.60%
June 30, 2017	6,602,184	(2,834,008)	3,768,176	38,300,439	7.40%

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	73,704,937	85,683,647	100,863,104
II. Fiduciary Net Position	<u>919,017</u>	<u>919,017</u>	<u>919,017</u>
III. Net OPEB Liability (Asset) [I.-II.]	72,785,920	84,764,630	99,944,087
IV. Service Cost	2,033,216	2,609,939	3,403,411

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	99,248,715	85,683,647	74,875,384
II. Fiduciary Net Position	<u>919,017</u>	<u>919,017</u>	<u>919,017</u>
III. Net OPEB Liability (Asset) [I.-II.]	98,329,698	84,764,630	73,956,367
IV. Service Cost	3,390,864	2,609,939	2,035,542

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	553,234	12	1.0000
Monthly net external cash flows:			
July	300,000	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	0	6	0.5000
January	0	5	0.4167
February	0	4	0.3333
March	0	3	0.2500
April	0	2	0.1667
May	0	1	0.0833
<u>June</u>	<u>0</u>	0	0.0000
II. Total net external cash flow	300,000		
III. Earnings and increase in fair value	65,783		
IV. Ending value - June 30, 2019 [I.+II.+III.]	919,017		
Money Weighted Rate of Return	7.95%		
Asset Value - June 30, 2019	919,017		

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

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2019						
	Town Employees and Retirees	School Employees and Retirees	Public Safety Employees and Retirees	Treasurer Employees and Retirees	Highway Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2019	20,823,392.00	54,746,910.00	6,319,817.00	261,185.00	2,860,287.00	672,056.00	85,683,647
II. Fiduciary Net Position as of June 30, 2019	223,346	587,199	67,784	2,801	30,679	7,208	919,017
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	20,600,046.00	54,159,711.00	6,252,033.00	258,384.00	2,829,608.00	664,848.00	84,764,630.00
IV. Service Cost	142,423	1,879,750	398,485	33,374	137,200	18,707	2,609,939
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	813,598	2,227,998	268,072	11,796	119,112	27,250	3,467,826
VI. Projected Earnings on OPEB Plan Investments	(11,364)	(30,123)	(3,508)	(146)	(1,582)	(370)	(47,093)
VII. Net Recognition of Deferred (Inflows)/Outflows	269,587	708,773	81,819	3,381	37,030	8,701	1,109,291
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	1,214,244	4,786,398	744,868	48,405	291,760	54,288	7,139,963
X. Employer Share of Costs	(689,102)	(1,038,350)	(22,091)	(593)	(22,202)	(10,289)	(1,782,627)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(69,598)	(193,053)	(23,527)	(1,036)	(10,418)	(2,368)	(300,000)
XII. Total Employer Contribution [X. + XI.]	(758,700)	(1,231,403)	(45,618)	(1,629)	(32,620)	(12,657)	(2,082,627)
XIII. Net OPEB Expense [IX. + XII.]	455,544	3,554,995	699,250	46,776	259,140	41,631	5,057,336

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	(6,427,748)
II. Deferred (Inflow)/Outflow from Investment Experience	(14,547)
III. Deferred (Inflow)/Outflow from Changes in Assumptions	11,368,994
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	540
II. Deferred Outflow created during the period	13,929,578
III. Deferred Outflow recognized during the period	2,560,584
IV. Change in Deferred Outflow (II. - III.)	11,368,994
V. Deferred Outflow at end of the period (I. + IV.)	11,369,534
VI. Deferred Inflow at the beginning of the period	0
VII. Deferred Inflow created during the period	(7,894,128)
VIII. Deferred Inflow recognized during the period	(1,451,293)
IX. Change in Deferred Inflow (VII. - VIII.)	(6,442,835)
X. Deferred Inflow at end of the period (VI. + IX.)	(6,442,835)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	74,781,135
II. Service Cost	2,609,939
III. Interest on Total OPEB Liability, Service Cost, and Payments	3,467,826
IV. Projected Investment Income	(47,093)
V. Total Employer Contributions	(2,082,627)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	3,948,045
VIII. Deferred Outflow created during the period	13,929,578
IX. Deferred Inflow created during the period	(7,894,128)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	84,764,630
Net OPEB Expense	
I. Service Cost	2,609,939
II. Interest on Total OPEB Liability, Service Cost, and Payments	3,467,826
III. Projected Investment Income	(47,093)
IV. Recognition of Deferred (Inflow)/Outflow	1,109,291
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	7,139,963
VII. Benefit Payments	(1,782,627)
VIII. Contributions to Trust	(300,000)
IX. Total Employer Payments (VII. + VIII.)	(2,082,627)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	5,057,336

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	2,609,939	2,423,454	2,475,181
II. 30 year level dollar amortization of NOL	<u>4,845,874</u>	<u>4,515,742</u>	<u>4,127,003</u>
III. Actuarial Determined Contribution [I. + II.]	7,455,813	6,939,196	6,602,184
IV. Contributions in relation to the actuarially determined contribution	<u>(2,082,627)</u>	<u>(2,996,860)</u>	<u>(2,834,008)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>5,373,186</u>	<u>3,942,336</u>	<u>3,768,176</u>
Covered employee payroll	44,577,895	39,449,452	38,300,439
Contributions as a % of covered employee payroll	4.67%	7.60%	7.40%
Discount Rate	4.25%	4.50%	4.00%
Money Weighted Rate of Return	7.95%	6.47%	6.51%

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	85,683,647	75,334,369	77,192,252
I. Service Cost	2,609,939	2,423,454	2,475,181
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	3,467,826	3,520,469	3,021,054
III. Changes in Benefit terms	0	0	0
IV. Difference between Expected & Actual Plan Experience	(7,875,438)	0	0
V. Changes of assumptions	13,929,578	(5,004,946)	0
VI. Benefit Payments Excluding Implicit Cost	(1,782,627)	(2,421,556)	(2,311,517)
VII. Implicit Cost Amount	0	(375,304)	(372,491)
VIII. Total Benefit payments including Implicit Cost [VI.+VII.]	(1,782,627)	(2,796,860)	(2,684,008)
IX. Net Change in OPEB liability [I.+II.+III.+IV.+V.+VIII.]	10,349,278	(1,857,883)	2,812,227
X. Total OPEB liability - beginning of period	75,334,369	77,192,252	74,380,025
XI. Total OPEB liability - end of period [IX.+X.]	85,683,647	75,334,369	77,192,252
Plan Fiduciary Net Position	919,017	553,234	325,798
XII. Earning from Plan Investments	65,783	27,436	14,623
XIII. Employer Contribution to trust	2,082,627	2,996,860	2,834,008
XIV. Benefit payments from trust, including refunds of member contributions	(1,782,627)	(2,796,860)	(2,684,008)
XV. Administrative expense	0	0	0
XVI. Other	0	0	0
XVII. Net change in plan fiduciary net position [XII.+XIII.+XIV.+XV.+XVI.]	365,783	227,436	164,623
XVIII. Plan fiduciary net position - beginning of period	553,234	325,798	161,175
XIX. Plan fiduciary net position - end of period [XVII.+XVIII.]	919,017	553,234	325,798
XX. Net OPEB Liability [XI.-XIX.]	84,764,630	74,781,135	76,866,454
XXI. Plan fiduciary net position as % of total OPEB liability [XIX. / XI.]	1.07%	0.73%	0.42%
XXII. Covered employee payroll	44,577,895	39,449,452	38,300,439
XXIII. Plan NOL as % of covered employee payroll [XX. / XXII.]	190.15%	189.56%	200.69%
Single Discount Rate to calculate Plan Liabilities	4.25%	4.50%	4.00%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Notes to Required Supplementary Information:

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

Actuarial Assumptions:

Investment Rate of Return:	6.72%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	4.25%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% 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 BREQUIRED 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:	568
Active Employees:	666
Total:	1,234

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 4.50% to 4.25%
- ✓ 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 \$300,000 beyond the pay-as-you-go cost for the period ending on the June 30, 2019 Measurement Date. For the year ending on the June 30, 2019 Measurement Date total Town premiums plus implicit costs for the retiree medical program were \$1,782,627. \$of the \$1,782,627 represents implicit cost.

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 4.25% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 6.72% 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.]
2019	June 30, 2019	85,683,647	919,017	84,764,630	1.07%	2,609,939	1,782,627	300,000	2,082,627	1,782,627	0	300,000
2020	June 30, 2020	89,071,028	1,342,344	87,728,684	1.51%	2,734,181	3,040,617	350,000	3,390,617	3,040,617	0	350,000
2021	June 30, 2021	92,463,535	1,845,771	90,617,764	2.00%	2,843,992	3,233,878	400,000	3,633,878	3,233,878	0	400,000
2022	June 30, 2022	95,887,097	2,434,681	93,452,416	2.54%	2,983,397	3,487,136	450,000	3,937,136	3,487,136	0	450,000
2023	June 30, 2023	99,393,436	3,114,818	96,278,618	3.13%	3,103,831	3,661,872	500,000	4,161,872	3,661,872	0	500,000
2024	June 30, 2024	103,041,666	3,840,661	99,201,005	3.73%	3,243,958	3,806,013	500,000	4,306,013	3,806,013	0	500,000
2025	June 30, 2025	106,698,130	4,615,280	102,082,850	4.33%	3,377,019	4,053,603	500,000	4,553,603	4,053,603	0	500,000
2026	June 30, 2026	110,417,618	5,441,954	104,975,664	4.93%	3,515,190	4,266,402	500,000	4,766,402	4,266,402	0	500,000
2027	June 30, 2027	114,268,234	6,324,180	107,944,054	5.53%	3,653,537	4,418,817	500,000	4,918,817	4,418,817	0	500,000
2028	June 30, 2028	118,187,255	7,265,692	110,921,563	6.15%	3,804,291	4,657,158	500,000	5,157,158	4,657,158	0	500,000
2029	June 30, 2029	122,158,934	8,270,473	113,888,461	6.77%	3,955,862	4,901,907	500,000	5,401,907	4,901,907	0	500,000
2030	June 30, 2030	126,081,531	9,342,776	116,738,755	7.41%	4,085,464	5,169,645	500,000	5,669,645	5,169,645	0	500,000
2031	June 30, 2031	130,071,608	10,487,137	119,584,471	8.06%	4,250,181	5,356,947	500,000	5,856,947	5,356,947	0	500,000
2032	June 30, 2032	134,005,272	11,708,399	122,296,873	8.74%	4,414,850	5,657,445	500,000	6,157,445	5,657,445	0	500,000
2033	June 30, 2033	137,979,782	13,011,730	124,968,052	9.43%	4,587,013	5,908,702	500,000	6,408,702	5,908,702	0	500,000
2034	June 30, 2034	142,199,014	14,402,645	127,796,369	10.13%	4,765,553	6,067,705	500,000	6,567,705	6,067,705	0	500,000
2035	June 30, 2035	146,296,229	15,887,030	130,409,199	10.86%	4,956,842	6,337,724	500,000	6,837,724	6,337,724	0	500,000
2036	June 30, 2036	150,546,984	17,471,165	133,075,819	11.61%	5,148,064	6,494,750	500,000	6,994,750	6,494,750	0	500,000
2037	June 30, 2037	155,041,577	19,161,754	135,879,823	12.36%	5,358,248	6,589,389	500,000	7,089,389	6,589,389	0	500,000
2038	June 30, 2038	159,489,306	20,965,951	138,523,355	13.15%	5,577,592	6,731,540	500,000	7,231,540	6,731,540	0	500,000
2039	June 30, 2039	164,652,629	22,891,390	141,761,239	13.90%	5,801,187	6,888,579	500,000	7,388,579	6,888,579	0	500,000
2040	June 30, 2040	170,152,866	24,946,218	145,206,648	14.66%	6,052,115	7,067,413	500,000	7,567,413	7,067,413	0	500,000
2041	June 30, 2041	175,973,068	27,139,131	148,833,937	15.42%	6,305,107	7,250,099	500,000	7,750,099	7,250,099	0	500,000
2042	June 30, 2042	182,094,690	29,479,407	152,615,283	16.19%	6,582,992	7,437,222	500,000	7,937,222	7,437,222	0	500,000
2043	June 30, 2043	188,536,388	31,976,950	156,559,438	16.96%	6,876,752	7,666,616	500,000	8,166,616	7,666,616	0	500,000
2044	June 30, 2044	195,315,148	34,642,328	160,672,820	17.74%	7,185,326	7,982,223	500,000	8,482,223	7,982,223	0	500,000
2045	June 30, 2045	202,268,537	37,486,819	164,781,718	18.53%	7,510,437	8,197,525	500,000	8,697,525	8,197,525	0	500,000
2046	June 30, 2046	209,745,375	40,522,460	169,222,915	19.32%	7,854,721	8,414,504	500,000	8,914,504	8,414,504	0	500,000
2047	June 30, 2047	217,622,095	43,762,096	173,859,999	20.11%	8,220,172	8,676,412	500,000	9,176,412	8,676,412	0	500,000
2048	June 30, 2048	226,418,538	47,219,436	179,199,102	20.85%	8,601,847	8,782,094	500,000	9,282,094	8,782,094	0	500,000
2049	June 30, 2049	235,589,631	50,909,109	184,680,522	21.61%	9,015,099	9,062,601	500,000	9,562,601	9,062,601	0	500,000
2050	June 30, 2050	245,277,191	54,846,728	190,430,463	22.36%	9,418,059	9,393,685	500,000	9,893,685	9,393,685	0	500,000

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	44,577,895	0	44,577,895	0	1,782,627	0	1,782,627
June 30, 2020	41,320,330	4,594,902	45,915,232	0	3,040,617	0	3,040,617
June 30, 2021	38,602,468	8,690,221	47,292,689	0	3,233,878	0	3,233,878
June 30, 2022	36,580,479	12,130,991	48,711,470	0	3,487,136	0	3,487,136
June 30, 2023	34,664,763	15,508,051	50,172,814	0	3,661,872	0	3,661,872
June 30, 2024	33,073,170	18,604,828	51,677,998	0	3,806,013	0	3,806,013
June 30, 2025	31,532,623	21,695,715	53,228,338	0	4,053,603	0	4,053,603
June 30, 2026	30,091,806	24,733,382	54,825,188	0	4,266,402	0	4,266,402
June 30, 2027	28,654,132	27,815,812	56,469,944	0	4,418,817	0	4,418,817
June 30, 2028	27,295,504	30,868,538	58,164,042	0	4,657,158	0	4,657,158
June 30, 2029	25,958,956	33,950,007	59,908,963	0	4,901,907	0	4,901,907
June 30, 2030	24,527,951	37,178,281	61,706,232	0	5,139,754	29,891	5,169,645
June 30, 2031	23,219,688	40,337,731	63,557,419	0	5,283,055	73,892	5,356,947
June 30, 2032	21,890,599	43,573,543	65,464,142	0	5,522,152	135,293	5,657,445
June 30, 2033	20,649,756	46,778,310	67,428,066	0	5,689,600	219,102	5,908,702
June 30, 2034	19,437,790	50,013,118	69,450,908	0	5,743,333	324,372	6,067,705
June 30, 2035	18,251,998	53,282,437	71,534,435	0	5,935,204	402,520	6,337,724
June 30, 2036	17,021,412	56,659,056	73,680,468	0	5,999,349	495,401	6,494,750
June 30, 2037	15,874,586	60,016,296	75,890,882	0	5,989,675	599,714	6,589,389
June 30, 2038	14,750,097	63,417,511	78,167,608	0	6,044,655	686,885	6,731,540
June 30, 2039	13,516,685	66,995,951	80,512,636	0	6,105,738	782,841	6,888,579
June 30, 2040	12,564,634	70,363,381	82,928,015	0	6,146,879	920,534	7,067,413
June 30, 2041	11,540,617	73,875,238	85,415,855	0	6,151,359	1,098,740	7,250,099
June 30, 2042	10,599,214	77,379,117	87,978,331	0	6,125,127	1,312,095	7,437,222
June 30, 2043	9,717,111	80,900,570	90,617,681	0	6,089,876	1,576,740	7,666,616
June 30, 2044	8,880,611	84,455,600	93,336,211	0	6,094,890	1,887,333	7,982,223
June 30, 2045	8,053,775	88,082,522	96,136,297	0	6,045,645	2,151,880	8,197,525
June 30, 2046	7,231,721	91,788,665	99,020,386	0	5,967,174	2,447,330	8,414,504
June 30, 2047	6,466,526	95,524,472	101,990,998	0	5,905,554	2,770,858	8,676,412
June 30, 2048	5,696,981	99,353,747	105,050,728	0	5,718,413	3,063,681	8,782,094
June 30, 2049	5,115,472	103,086,778	108,202,250	0	5,685,355	3,377,246	9,062,601
June 30, 2050	4,472,593	106,975,725	111,448,318	0	5,655,405	3,738,280	9,393,685
June 30, 2051	3,859,616	110,932,152	114,791,768	0	5,542,987	4,135,218	9,678,205
June 30, 2052	3,308,590	114,926,931	118,235,521	0	5,449,976	4,561,009	10,010,985
June 30, 2053	2,767,276	119,015,311	121,782,587	0	5,382,403	5,026,768	10,409,171
June 30, 2054	2,286,610	123,149,455	125,436,065	0	5,250,312	5,531,656	10,781,968
June 30, 2055	1,881,565	127,317,582	129,199,147	0	5,057,016	6,034,973	11,091,989
June 30, 2056	1,501,877	131,573,244	133,075,121	0	4,915,267	6,569,510	11,484,777
June 30, 2057	1,140,891	135,926,484	137,067,375	0	4,833,430	7,137,235	11,970,665
June 30, 2058	872,533	140,306,863	141,179,396	0	4,711,190	7,722,184	12,433,374

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	651,835	144,762,943	145,414,778	0	4,626,623	8,336,519	12,963,142
June 30, 2060	446,595	149,330,626	149,777,221	0	4,487,142	8,993,509	13,480,651
June 30, 2061	293,627	153,976,911	154,270,538	0	4,370,917	9,690,467	14,061,384
June 30, 2062	186,870	158,711,784	158,898,654	0	4,276,109	10,424,391	14,700,500
June 30, 2063	99,258	163,566,356	163,665,614	0	4,155,922	11,202,454	15,358,376
June 30, 2064	65,687	168,509,895	168,575,582	0	4,023,419	12,024,296	16,047,715
June 30, 2065	19,908	173,612,941	173,632,849	0	3,905,776	12,870,976	16,776,752
June 30, 2066	3,972	178,837,862	178,841,834	0	3,780,780	13,758,051	17,538,831
June 30, 2067	0	184,207,089	184,207,089	0	3,649,217	14,687,100	18,336,317
June 30, 2068	0	189,733,302	189,733,302	0	3,511,963	15,646,776	19,158,739
June 30, 2069	0	195,425,301	195,425,301	0	3,369,865	16,647,355	20,017,220
June 30, 2070	0	201,288,060	201,288,060	0	3,223,481	17,692,469	20,915,950
June 30, 2071	0	207,326,702	207,326,702	0	3,073,410	18,783,260	21,856,670
June 30, 2072	0	213,546,503	213,546,503	0	2,920,400	19,918,746	22,839,146
June 30, 2073	0	219,952,898	219,952,898	0	2,765,265	21,102,251	23,867,516
June 30, 2074	0	226,551,485	226,551,485	0	2,608,748	22,336,150	24,944,898
June 30, 2075	0	233,348,030	233,348,030	0	2,451,651	23,623,749	26,075,400
June 30, 2076	0	240,348,471	240,348,471	0	2,294,811	24,957,403	27,252,214
June 30, 2077	0	247,558,925	247,558,925	0	2,138,997	26,346,040	28,485,037
June 30, 2078	0	254,985,693	254,985,693	0	1,984,992	27,794,329	29,779,321
June 30, 2079	0	262,635,264	262,635,264	0	1,833,489	29,295,504	31,128,993
June 30, 2080	0	270,514,322	270,514,322	0	1,685,072	30,857,662	32,542,734
June 30, 2081	0	278,629,752	278,629,752	0	1,540,506	32,486,053	34,026,559
June 30, 2082	0	286,988,645	286,988,645	0	1,400,430	34,181,616	35,582,046
June 30, 2083	0	295,598,304	295,598,304	0	1,265,514	35,948,053	37,213,567
June 30, 2084	0	304,466,253	304,466,253	0	1,136,356	37,791,494	38,927,850
June 30, 2085	0	313,600,241	313,600,241	0	1,013,509	39,715,480	40,728,989
June 30, 2086	0	323,008,248	323,008,248	0	897,307	41,717,606	42,614,913
June 30, 2087	0	332,698,495	332,698,495	0	788,197	43,807,990	44,596,187
June 30, 2088	0	342,679,450	342,679,450	0	686,477	45,991,597	46,678,074
June 30, 2089	0	352,959,834	352,959,834	0	592,406	48,268,716	48,861,122
June 30, 2090	0	363,548,629	363,548,629	0	506,235	50,647,501	51,153,736
June 30, 2091	0	374,455,088	374,455,088	0	428,119	53,133,791	53,561,910
June 30, 2092	0	385,688,741	385,688,741	0	358,034	55,732,656	56,090,690
June 30, 2093	0	397,259,403	397,259,403	0	295,865	58,449,657	58,745,522

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	553,234	1,782,627	300,000	2,082,627	0	1,782,627	1,782,627	65,783	919,017
June 30, 2020	919,017	3,040,617	314,974	3,355,591	0	3,040,617	3,040,617	65,989	1,299,980
June 30, 2021	1,299,980	3,233,878	326,498	3,560,376	0	3,233,878	3,233,878	98,151	1,724,629
June 30, 2022	1,724,629	3,487,136	337,933	3,825,069	0	3,487,136	3,487,136	127,065	2,189,627
June 30, 2023	2,189,627	3,661,872	345,454	4,007,326	0	3,661,872	3,661,872	158,561	2,693,642
June 30, 2024	2,693,642	3,806,013	319,993	4,126,006	0	3,806,013	3,806,013	191,590	3,205,225
June 30, 2025	3,205,225	4,053,603	296,201	4,349,804	0	4,053,603	4,053,603	225,182	3,726,608
June 30, 2026	3,726,608	4,266,402	274,434	4,540,836	0	4,266,402	4,266,402	259,499	4,260,541
June 30, 2027	4,260,541	4,418,817	253,711	4,672,528	0	4,418,817	4,418,817	294,694	4,808,946
June 30, 2028	4,808,946	4,657,158	234,642	4,891,800	0	4,657,158	4,657,158	330,917	5,374,505
June 30, 2029	5,374,505	4,901,907	216,653	5,118,560	0	4,901,907	4,901,907	368,328	5,959,486
June 30, 2030	5,959,486	5,139,754	198,748	5,338,502	0	5,139,754	5,139,754	407,047	6,535,390
June 30, 2031	6,535,390	5,283,055	182,667	5,465,722	0	5,283,055	5,283,055	445,216	7,089,381
June 30, 2032	7,089,381	5,522,152	167,195	5,689,347	0	5,522,152	5,522,152	481,933	7,603,216
June 30, 2033	7,603,216	5,689,600	153,124	5,842,724	0	5,689,600	5,689,600	515,997	8,053,235
June 30, 2034	8,053,235	5,743,333	139,939	5,883,272	0	5,743,333	5,743,333	545,803	8,414,605
June 30, 2035	8,414,605	5,935,204	127,575	6,062,779	0	5,935,204	5,935,204	569,678	8,709,338
June 30, 2036	8,709,338	5,999,349	115,508	6,114,857	0	5,999,349	5,999,349	589,085	8,918,530
June 30, 2037	8,918,530	5,989,675	104,588	6,094,263	0	5,989,675	5,989,675	602,782	9,026,186
June 30, 2038	9,026,186	6,044,655	94,349	6,139,004	0	6,044,655	6,044,655	609,678	9,043,328
June 30, 2039	9,043,328	6,105,738	83,941	6,189,679	0	6,105,738	6,105,738	610,486	8,954,914
June 30, 2040	8,954,914	6,146,879	75,756	6,222,635	0	6,146,879	6,146,879	604,274	8,714,410
June 30, 2041	8,714,410	6,151,359	67,555	6,218,914	0	6,151,359	6,151,359	587,841	8,271,066
June 30, 2042	8,271,066	6,125,127	60,238	6,185,365	0	6,125,127	6,125,127	557,807	7,577,016
June 30, 2043	7,577,016	6,089,876	53,616	6,143,492	0	6,089,876	6,089,876	510,948	6,564,840
June 30, 2044	6,564,840	6,094,890	47,573	6,142,463	0	6,094,890	6,094,890	442,730	5,167,810
June 30, 2045	5,167,810	6,045,645	41,887	6,087,532	0	6,045,645	6,045,645	348,661	3,406,478
June 30, 2046	3,406,478	5,967,174	36,516	6,003,690	0	5,967,174	5,967,174	230,122	1,225,786
June 30, 2047	1,225,786	5,905,554	31,701	5,937,255	0	5,905,554	5,905,554	83,421	115,122
June 30, 2048	115,122	5,718,413	27,115	5,745,528	0	5,718,413	5,718,413	8,632	35,747
June 30, 2049	35,747	5,685,355	23,638	5,708,993	0	5,685,355	5,685,355	3,184	26,822
June 30, 2050	26,822	5,655,405	20,066	5,675,471	0	5,655,405	5,655,405	2,466	22,532
June 30, 2051	22,532	5,542,987	16,811	5,559,798	0	5,542,987	5,542,987	2,070	18,881
June 30, 2052	18,881	5,449,976	13,992	5,463,968	0	5,449,976	5,449,976	1,731	15,723
June 30, 2053	15,723	5,382,403	11,362	5,393,765	0	5,382,403	5,382,403	1,432	12,794
June 30, 2054	12,794	5,250,312	9,115	5,259,427	0	5,250,312	5,250,312	1,161	10,276
June 30, 2055	10,276	5,057,016	7,282	5,064,298	0	5,057,016	5,057,016	931	8,213
June 30, 2056	8,213	4,915,267	5,643	4,920,910	0	4,915,267	4,915,267	738	6,381
June 30, 2057	6,381	4,833,430	4,162	4,837,592	0	4,833,430	4,833,430	566	4,728
June 30, 2058	4,728	4,711,190	3,090	4,714,280	0	4,711,190	4,711,190	420	3,510

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 [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, 2059	3,510	4,626,623	2,241	4,628,864	0	4,626,623	4,626,623	310	2,551	
June 30, 2060	2,551	4,487,142	1,491	4,488,633	0	4,487,142	4,487,142	221	1,712	
June 30, 2061	1,712	4,370,917	952	4,371,869	0	4,370,917	4,370,917	147	1,099	
June 30, 2062	1,099	4,276,109	588	4,276,697	0	4,276,109	4,276,109	93	681	
June 30, 2063	681	4,155,922	303	4,156,225	0	4,155,922	4,155,922	56	359	
June 30, 2064	359	4,023,419	195	4,023,614	0	4,023,419	4,023,419	31	226	
June 30, 2065	226	3,905,776	57	3,905,833	0	3,905,776	3,905,776	17	74	
June 30, 2066	74	3,780,780	11	3,780,791	0	3,780,780	3,780,780	5	16	
June 30, 2067	16	3,649,217	0	3,649,217	0	3,649,217	3,649,217	1	1	
June 30, 2068	1	3,511,963	0	3,511,963	0	3,511,963	3,511,963	0	0	
June 30, 2069	0	3,369,865	0	3,369,865	0	3,369,865	3,369,865	0	0	
June 30, 2070	0	3,223,481	0	3,223,481	0	3,223,481	3,223,481	0	0	
June 30, 2071	0	3,073,410	0	3,073,410	0	3,073,410	3,073,410	0	0	
June 30, 2072	0	2,920,400	0	2,920,400	0	2,920,400	2,920,400	0	0	
June 30, 2073	0	2,765,265	0	2,765,265	0	2,765,265	2,765,265	0	0	
June 30, 2074	0	2,608,748	0	2,608,748	0	2,608,748	2,608,748	0	0	
June 30, 2075	0	2,451,651	0	2,451,651	0	2,451,651	2,451,651	0	0	
June 30, 2076	0	2,294,811	0	2,294,811	0	2,294,811	2,294,811	0	0	
June 30, 2077	0	2,138,997	0	2,138,997	0	2,138,997	2,138,997	0	0	
June 30, 2078	0	1,984,992	0	1,984,992	0	1,984,992	1,984,992	0	0	
June 30, 2079	0	1,833,489	0	1,833,489	0	1,833,489	1,833,489	0	0	
June 30, 2080	0	1,685,072	0	1,685,072	0	1,685,072	1,685,072	0	0	
June 30, 2081	0	1,540,506	0	1,540,506	0	1,540,506	1,540,506	0	0	
June 30, 2082	0	1,400,430	0	1,400,430	0	1,400,430	1,400,430	0	0	
June 30, 2083	0	1,265,514	0	1,265,514	0	1,265,514	1,265,514	0	0	
June 30, 2084	0	1,136,356	0	1,136,356	0	1,136,356	1,136,356	0	0	
June 30, 2085	0	1,013,509	0	1,013,509	0	1,013,509	1,013,509	0	0	
June 30, 2086	0	897,307	0	897,307	0	897,307	897,307	0	0	
June 30, 2087	0	788,197	0	788,197	0	788,197	788,197	0	0	
June 30, 2088	0	686,477	0	686,477	0	686,477	686,477	0	0	
June 30, 2089	0	592,406	0	592,406	0	592,406	592,406	0	0	
June 30, 2090	0	506,235	0	506,235	0	506,235	506,235	0	0	
June 30, 2091	0	428,119	0	428,119	0	428,119	428,119	0	0	
June 30, 2092	0	358,034	0	358,034	0	358,034	358,034	0	0	
June 30, 2093	0	295,865	0	295,865	0	295,865	295,865	0	0	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Actuarial Present Values of Projected Benefit Payments using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members		III. Funded	IV. Unfunded	V. Present Value of	VI. Present Value of	VII. Present Value of
	Plan Members	II. Benefit Payments	Portion of Benefit Payments	Portion of Benefit Payments	Funded Benefit Payments	Unfunded Benefit Payments	Benefit Payments using Single Equivalent Discount Rate
June 30, 2019	553,234	1,782,627	553,234	1,229,393	553,234	1,229,393	1,782,627
June 30, 2020	919,017	3,040,617	919,017	2,121,600	861,148	2,063,939	2,919,377
June 30, 2021	1,299,980	3,233,878	1,299,980	1,933,898	1,141,419	1,830,207	2,981,127
June 30, 2022	1,724,629	3,487,136	1,724,629	1,762,507	1,418,921	1,622,672	3,086,414
June 30, 2023	2,189,627	3,661,872	2,189,627	1,472,245	1,688,056	1,318,601	3,111,838
June 30, 2024	2,693,642	3,806,013	2,693,642	1,112,371	1,945,856	969,206	3,105,364
June 30, 2025	3,205,225	4,053,603	3,205,225	848,378	2,169,620	719,100	3,175,498
June 30, 2026	3,726,608	4,266,402	3,726,608	539,794	2,363,703	445,104	3,208,935
June 30, 2027	4,260,541	4,418,817	4,260,541	158,276	2,532,201	126,964	3,191,050
June 30, 2028	4,808,946	4,657,158	4,657,158	0	2,593,634	0	3,229,066
June 30, 2029	5,374,505	4,901,907	4,901,907	0	2,558,037	0	3,263,243
June 30, 2030	5,959,486	5,139,754	5,139,754	0	2,513,265	0	3,285,150
June 30, 2031	6,535,390	5,283,055	5,283,055	0	2,420,669	0	3,242,100
June 30, 2032	7,089,381	5,522,152	5,522,152	0	2,370,897	0	3,253,704
June 30, 2033	7,603,216	5,689,600	5,689,600	0	2,288,971	0	3,218,696
June 30, 2034	8,053,235	5,743,333	5,743,333	0	2,165,094	0	3,119,540
June 30, 2035	8,414,605	5,935,204	5,935,204	0	2,096,537	0	3,095,214
June 30, 2036	8,709,338	5,999,349	5,999,349	0	1,985,753	0	3,003,915
June 30, 2037	8,918,530	5,989,675	5,989,675	0	1,857,713	0	2,879,488
June 30, 2038	9,026,186	6,044,655	6,044,655	0	1,756,714	0	2,790,049
June 30, 2039	9,043,328	6,105,738	6,105,738	0	1,662,730	0	2,705,870
June 30, 2040	8,954,914	6,146,879	6,146,879	0	1,568,529	0	2,615,483
June 30, 2041	8,714,410	6,151,359	6,151,359	0	1,470,832	0	2,513,025
June 30, 2042	8,271,066	6,125,127	6,125,127	0	1,372,339	0	2,402,532
June 30, 2043	7,577,016	6,089,876	6,089,876	0	1,278,524	0	2,293,459
June 30, 2044	6,564,840	6,094,890	6,094,890	0	1,199,004	0	2,203,824
June 30, 2045	5,167,810	6,045,645	5,167,810	877,835	952,610	428,824	2,098,853
June 30, 2046	3,406,478	5,967,174	3,406,478	2,560,696	588,394	1,216,908	1,989,008
June 30, 2047	1,225,786	5,905,554	1,225,786	4,679,768	198,395	2,163,502	1,889,979
June 30, 2048	115,122	5,718,413	115,122	5,603,291	17,459	2,520,051	1,757,116
June 30, 2049	35,747	5,685,355	35,747	5,649,608	5,080	2,471,826	1,677,300
June 30, 2050	26,822	5,655,405	26,822	5,628,583	3,572	2,395,697	1,601,937
June 30, 2051	22,532	5,542,987	22,532	5,520,455	2,811	2,285,815	1,507,488
June 30, 2052	18,881	5,449,976	18,881	5,431,095	2,208	2,187,696	1,423,093
June 30, 2053	15,723	5,382,403	15,723	5,366,680	1,723	2,102,996	1,349,408
June 30, 2054	12,794	5,250,312	12,794	5,237,518	1,313	1,996,603	1,263,806
June 30, 2055	10,276	5,057,016	10,276	5,046,740	988	1,871,589	1,168,741
June 30, 2056	8,213	4,915,267	8,213	4,907,054	740	1,770,327	1,090,685
June 30, 2057	6,381	4,833,430	6,381	4,827,049	539	1,694,134	1,029,760
June 30, 2058	4,728	4,711,190	4,728	4,706,462	374	1,606,919	963,696

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	3,510	4,626,623	3,510	4,623,113	260	1,535,562	908,661
June 30, 2060	2,551	4,487,142	2,551	4,484,591	177	1,449,068	846,128
June 30, 2061	1,712	4,370,917	1,712	4,369,205	111	1,373,415	791,347
June 30, 2062	1,099	4,276,109	1,099	4,275,010	67	1,307,284	743,313
June 30, 2063	681	4,155,922	681	4,155,241	39	1,236,124	693,616
June 30, 2064	359	4,023,419	359	4,023,060	19	1,164,276	644,726
June 30, 2065	226	3,905,776	226	3,905,550	11	1,099,550	600,919
June 30, 2066	74	3,780,780	74	3,780,706	3	1,035,473	558,494
June 30, 2067	16	3,649,217	16	3,649,201	1	972,293	517,565
June 30, 2068	1	3,511,963	1	3,511,962	0	910,295	478,237
June 30, 2069	0	3,369,865	0	3,369,865	0	849,725	440,590
June 30, 2070	0	3,223,481	0	3,223,481	0	790,723	404,646
June 30, 2071	0	3,073,410	0	3,073,410	0	733,420	370,424
June 30, 2072	0	2,920,400	0	2,920,400	0	677,966	337,948
June 30, 2073	0	2,765,265	0	2,765,265	0	624,505	307,236
June 30, 2074	0	2,608,748	0	2,608,748	0	573,145	278,289
June 30, 2075	0	2,451,651	0	2,451,651	0	523,992	251,103
June 30, 2076	0	2,294,811	0	2,294,811	0	477,140	225,667
June 30, 2077	0	2,138,997	0	2,138,997	0	432,656	201,957
June 30, 2078	0	1,984,992	0	1,984,992	0	390,593	179,944
June 30, 2079	0	1,833,489	0	1,833,489	0	350,976	159,582
June 30, 2080	0	1,685,072	0	1,685,072	0	313,799	140,816
June 30, 2081	0	1,540,506	0	1,540,506	0	279,080	123,602
June 30, 2082	0	1,400,430	0	1,400,430	0	246,809	107,883
June 30, 2083	0	1,265,514	0	1,265,514	0	216,970	93,602
June 30, 2084	0	1,136,356	0	1,136,356	0	189,531	80,698
June 30, 2085	0	1,013,509	0	1,013,509	0	164,447	69,104
June 30, 2086	0	897,307	0	897,307	0	141,636	58,742
June 30, 2087	0	788,197	0	788,197	0	121,032	49,541
June 30, 2088	0	686,477	0	686,477	0	102,547	41,427
June 30, 2089	0	592,406	0	592,406	0	86,090	34,325
June 30, 2090	0	506,235	0	506,235	0	71,568	28,163
June 30, 2091	0	428,119	0	428,119	0	58,879	22,867
June 30, 2092	0	358,034	0	358,034	0	47,902	18,361
June 30, 2093	0	295,865	0	295,865	0	38,509	14,568

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 July 1, 2019 Dental Plans: effective July 1, 2019
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Benefits Offered</u>	Comprehensive Medical & Dental Insurance offered through Blue Cross Blue Shield of Massachusetts. \$2,000 Group Term Life Insurance offered via Boston Mutual.
<u>Excise Tax</u>	Under the Patient Protection and Affordable Care Act (“PPACA”), a 40% tax will be imposed on the cost of medical benefits in excess of a specified threshold.
<u>Medicare Part B</u>	The Town reimburses 2 Participant's Medicare Part B Premiums Medicare Part B Penalty reimbursements by the Town were not reflected in this valuation.
<u>Surviving Spouse Coverage</u>	Spousal benefits do not change after the death of a plan participant.

APPENDIX II – PLAN PROVISIONS

Eligibility

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

Participant Contributions

Group	Individual	Two-Person / Family
Medical	<ul style="list-style-type: none"> - 10% for Managed Blue for Seniors - 40% for Blue Care Elect and Medex II - 25% for Teachers for Network Blue - 20% for Non-Teachers hired on or before 7/1/2006 for Network Blue - 30% for Non-Teachers hired after 7/1/2006 for Network Blue 	<ul style="list-style-type: none"> - 10% for Managed Blue for Seniors - 40% for Blue Care Elect and Medex II - 25% for Teachers for Network Blue - 20% for Non-Teachers hired on or before 7/1/2006 for Network Blue - 30% for Non-Teachers hired after 7/1/2006 for Network Blue
Dental	100%	100%
Life	50%	N/A

APPENDIX III - ACTUARIAL METHODS & ASSUMPTIONS

Pre-Retirement Mortality

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

Post-Retirement Mortality

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

Disabled Mortality

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

Assumption Experience Study

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

Discount Rate

4.25% per annum (previously 4.50%)

Net Long Term Rate of Return

6.72% (based on investment policy)

Municipal Bond Rate

2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)

Actuarial Cost Method

Individual Entry Age Normal

Asset-Valuation Method

Market Value of Assets as of the Measurement Date, June 30, 2019

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Excise Tax

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

Employee Termination

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

Non-Public Safety Employees

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

Public Safety Employees

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Retirement Rates for Eligible Employees

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

Permanent Disability Rates

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONSTrend Rate

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

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

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

Participation Rate

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

Spouse Participation Rate

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

Spouse Demographics

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

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>July 1, 2017</u>
I. Actuarial Accrued Liability	85,683,647	77,192,252

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2019</u>	<u>July 1, 2017</u>
II. Employer Payments (Including Implicit Subsidy)	1,782,627	2,684,008
III. Actual Employer Payments	<u>1,782,627</u>	<u>2,311,517</u>
IV. Implicit Subsidy [II. - III.]	0	372,491

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	4,316	2,721	44 & Under	8,484	5,559	65 to 69	3,984	3,984
25 to 29	6,368	2,831	45 to 49	9,319	7,019	70 to 74	3,984	3,984
30 to 34	8,047	3,554	50 to 54	10,963	9,244	75 to 79	3,984	3,984
35 to 39	8,289	4,462	55 to 59	12,673	12,019	80 to 84	3,984	3,984
40 to 44	8,484	5,559	60 to 64	15,081	15,422	85 to 89	3,984	3,984
45 to 49	9,319	7,019	65 to 69	18,078	19,237	90 & Over	3,984	3,984
50 to 54	10,963	9,244	70 to 74	21,318	23,054			
55 to 59	12,673	12,019	75 to 79	24,758	27,228			
60 to 64	15,081	15,422	80 to 84	28,386	31,297			
65 to 69	18,078	19,237	85 to 89	32,402	35,823			
70 & Over	21,318	23,054	90 & Over	32,402	35,823			

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Open Group Forecast

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

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

Additional Comments

The liabilities being reported as of the Measurement Date of June 30, 2019 reflect a closed group and do not reflect any new entrants after the valuation date.

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

APPENDIX IV - PLAN DEMOGRAPHICS

Active Employees

Valuation Date	July 1, 2018	July 1, 2016
A. Average Age at Hire	35.90	37.57
B. Average Service	<u>10.08</u>	<u>9.67</u>
C. Average Current Age	45.98	47.24

Retired Employees & Spouses

Valuation Date	July 1, 2018	July 1, 2016
A. Under Age 65	89	103
B. Age 65 & Over	<u>479</u>	<u>415</u>
C. Total	568	518

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	14									14
25-29	52	6								58
30-34	46	23	1							70
35-39	37	15	25	4	1					82
40-44	24	16	19	23	3					85
45-49	37	17	9	19	11	3				96
50-54	28	14	14	16	14	5	4			95
55-59	18	10	10	12	13	10	5			78
60-64	9	5	11	12	11	7	1			56
65-69	3	3	3	8	2	2	3			24
70+	2	2				3	1			8
Total	270	111	92	94	55	30	14			666

APPENDIX IV - PLAN DEMOGRAPHICS

Plan Offerings

Number of Contracts

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
Network Blue	201		351	552
Blue Care Elect	4		3	7
Managed Blue for Seniors	114			114
Medex II	79			79
Total	398	0	354	752

Per Contract Costs (monthly)

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Network Blue	799.00		1,844.00
Blue Care Elect	1,543.00		3,058.00
Managed Blue for Seniors	305.70	611.40	
Medex II	370.00	740.00	
DMS	24.10	47.54	65.56
Delta Dental	50.92	101.84	147.58

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.