

# **Town of East Bridgewater 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 August 9, 2019



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August 9, 2019

***Personal and Confidential***

Ms. Melissa Morrissey  
Tax Collector/Treasurer  
Town of East Bridgewater  
175 Central Street  
East Bridgewater, MA 02333

Dear Ms. Morrissey:

We have performed an actuarial valuation of the Town of East Bridgewater 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 East Bridgewater, 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, 2017 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

August 9, 2019

ACTUARIAL CERTIFICATION

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

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

## EXECUTIVE SUMMARY

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

For the year ending on the Measurement Date of June 30, 2019, the Plan saw an experience gain of \$6,792,252 or 9.86% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums increasing less than the expected 10% increase.

### Assumption changes

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

- ✓ The expected long-term medical trend has been updated to 4.5% decreasing the disclosed liability by \$6.1 million.
- ✓ Assumption changes caused Service Cost to decrease by \$410 thousand.

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

### Changes in Benefits Terms

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

## EXECUTIVE SUMMARY

### Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over time until fully recognized
- ✓ Changes in benefit terms are to be recognized in full immediately

### Events Subsequent to the Measurement Date

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

### Discount Rate Determinants

- ✓ Employer Current and Future Benefit Payments
- ✓ Municipal Bond Rate – The municipal bond rate was 2.79% as of June 30, 2019.
- ✓ Current Asset Level – The Town had \$70,484 of assets as of June 30, 2019.
- ✓ Funding Policy - The Town is expected to contribute \$10,000 annually.
- ✓ Investment Policy - The Town is expected to earn 4.26% on assets based on its investment policy.

## Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare integrated) plans - represent 77.43% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate - We currently assume medical costs increase at 4.50% per year for non-Medicare integrated plans and 4.50% per year for Medicare integrated plans.
- ✓ Discount Rate (3.00%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

## Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. Under Actuarial Standards of Practice for OPEB, we are required to reflect the projected higher healthcare costs that occur as retirees age. The Town currently has 13 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	June 30, 2016
Measurement Date & Period Ending	June 30, 2019	June 30, 2017
Reporting Date/Fiscal Year End	June 30, 2019	June 30, 2018
Total OPEB Liability	59,142,235	65,453,705
Per Eligible Active Plan Participant	65,846	82,133
Per Retiree/Spouse Plan Participant	96,211	111,229
Total Annual Service Cost (annual benefit accrual)	2,508,172	2,554,321
Per Eligible Active Plan Participant	5,525	6,516
Expected Employer Share of Retiree Costs	1,541,652	1,438,388
Per Retiree/Spouse Plan Participant	5,071	4,811
Net OPEB Liability as a % of Payroll	229.60%	279.30%
Average Annual Medical Plan Premium (Single Coverage)	6,322	6,040
Average Annual Medical Plan Premium (Family Coverage)	17,695	17,084
<b><u>Projected 2022 Excise Tax Thresholds</u></b>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	



## PRINCIPAL RESULTS OF THE VALUATION

### **Town of East Bridgewater Assuming Funding - 3.00% discount rate Comparison of Plan Liabilities to Prior Valuation**

Valuation Date	July 1, 2018	June 30, 2016
For the Measurement Period ending on the Measurement Date of:	June 30, 2019	June 30, 2017
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018
I. Total OPEB Liability		
A. Actives	29,894,076	32,196,136
B. Retirees/Disabled	<u>29,248,159</u>	<u>33,257,569</u>
C. Total	59,142,235	65,453,705
II. Fiduciary Net Position [Plan Assets]	70,484	0
III. Net OPEB Liability (Asset) [I. - II.]	59,071,751	65,453,705
IV. Funded Ratio [II. / I.]	0.12%	0.00%
V. Number of Eligible Participants		
A. Actives	454	392
B. Retirees/Disabled	<u>304</u>	<u>299</u>
C. Total	758	691
VI. Service Cost	2,508,172	2,554,321
VII. Financial Statement Expense	3,472,750	5,155,686
VIII. Employer Contribution to the OPEB Trust	(67,370)	0
IX. Deferred Inflow of Resources	(10,918,349)	0
X. Deferred Outflow of Resources	3,991,647	4,777,403
XI. Discount Rate	3.00%	3.00%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.79%	3.13%
XIII. Expected Long Term Rate of Return	4.26%	N/A
XIV. Money Weighted Rate of Return	5.42%	N/A

## PRINCIPAL RESULTS OF THE VALUATION

**Town of East Bridgewater**  
**Plan Liabilities as of the June 30, 2019 Measurement Date**  
**Assuming Funding - 3.00% discount rate**

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Solid Waste Enterprise Employees and Retirees	Total
I. Total OPEB Liability							
A. Actives	3,771,808	19,638,121	3,026,714	2,297,404	1,024,413	135,616	29,894,076
B. Retirees/Disabled	<u>7,468,050</u>	<u>20,060,617</u>	<u>595,288</u>	<u>754,552</u>	<u>369,652</u>	<u>0</u>	<u>29,248,159</u>
C. Total	11,239,858	39,698,738	3,622,002	3,051,956	1,394,065	135,616	59,142,235
II. Fiduciary Net Position [Plan Assets]	13,411	47,336	4,279	3,641	1,658	159	70,484
III. Net OPEB Liability (Asset) [I. - II.]	11,226,447	39,651,402	3,617,723	3,048,315	1,392,407	135,457	59,071,751
IV. Number of Eligible Participants							
A. Actives	60	329	30	25	9	1	454
B. Retirees/Disabled	<u>86</u>	<u>209</u>	<u>4</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>304</u>
C. Total	146	538	34	29	10	1	758
<b>For the Reporting Date and Fiscal Year Ending June 30, 2019</b>							
V. Service Cost	381,590	1,673,124	200,371	213,345	36,804	2,938	2,508,172
VI. Financial Statement Expense	559,872	2,319,358	262,111	267,174	59,125	5,110	3,472,750
VII. Employer Share of Costs	(378,342)	(1,081,851)	(41,823)	(25,995)	(13,637)	(4)	(1,541,652)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(12,585)	(45,158)	(4,244)	(3,638)	(1,590)	(155)	(67,370)
IX. Total Employer Contribution [VII. + VIII.]	(390,927)	(1,127,009)	(46,067)	(29,633)	(15,227)	(159)	(1,609,022)

## PRINCIPAL RESULTS OF THE VALUATION

**Town of East Bridgewater**  
**Assuming Funding - 3.00% discount rate**  
**For the Period ending on the June 30, 2019 Measurement Date**

	<b>Actives</b>			<b>Retirees/Disabled</b>			<b>Grand Total</b>
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
<b>Present Value of Future Benefits</b>							
A. Participants	11,489,051	22,411,089	33,900,140	1,811,449	19,412,780	21,224,229	55,124,369
B. Spouses	<u>7,585,616</u>	<u>16,552,677</u>	<u>24,138,293</u>	<u>1,181,755</u>	<u>6,842,175</u>	<u>8,023,930</u>	<u>32,162,223</u>
C. Total	19,074,667	38,963,766	58,038,433	2,993,204	26,254,955	29,248,159	87,286,592
<b>Total OPEB Liability</b>							
A. Participants	6,213,692	11,203,616	17,417,308	1,811,449	19,412,780	21,224,229	38,641,537
B. Spouses	<u>4,139,596</u>	<u>8,337,172</u>	<u>12,476,768</u>	<u>1,181,755</u>	<u>6,842,175</u>	<u>8,023,930</u>	<u>20,500,698</u>
C. Total	10,353,288	19,540,788	29,894,076	2,993,204	26,254,955	29,248,159	59,142,235
<b>Service Cost</b>							
A. Participants	436,630	1,037,671	1,474,301	0	0	0	1,474,301
B. Spouses	<u>279,102</u>	<u>754,769</u>	<u>1,033,871</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,033,871</u>
C. Total	715,732	1,792,440	2,508,172	0	0	0	2,508,172

## 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

<b>Components of the Town's OPEB Expenses for the Fiscal Year Ending June 30, 2019</b>	
<b>Description</b>	<b>Amount</b>
I. Service Cost	2,508,172
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	2,119,655
III. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IV. Deferred (Inflows)/Outflows from Plan Experience**	(238,716)
V. Deferred (Inflows)/Outflows from Changes of Assumptions**	(914,602)
VI. Projected earnings on OPEB plan investments	(1,420)
VII. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	(339)
VIII. Financial statement expense [I. + II.+ III. + IV. + V. + VI. + VII.]	3,472,750

\* Recognized Immediately

\*\* Amortized over 6.63 years

\*\*\* Amortized over 5 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
<b>I. Balances for June 30, 2018</b>	65,453,705	0	65,453,705
<b>II. Prior Period Adjustment</b>	<u>3,458,423</u>	<u>0</u>	<u>3,458,423</u>
<b>III. Balances for June 30, 2018 GASB 75 [I. + II.]</b>	68,912,128	0	68,912,128
<b>Changes for the year:</b>			
IV. Service Cost	2,508,172	0	2,508,172
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	2,119,655	0	2,119,655
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	(6,063,816)	0	(6,063,816)
VIII. Differences between actual and expected experience **	(6,792,252)	0	(6,792,252)
IX. Net investment income	0	3,114	(3,114)
X. Employer contributions to Trust	0	1,609,022	(1,609,022)
XI. Benefit payments withdrawn from Trust	0	(1,541,652)	1,541,652
XII. Benefit payments excluding Implicit Cost	(1,209,620)	0	(1,209,620)
XIII. Implicit Cost amount	(332,032)	0	(332,032)
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	(1,541,652)	0	(1,541,652)
XV. Administrative expense	0	0	0
XVI. Other Charges	0	0	0
<b>XVII. Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]</b>	<u>(9,769,893)</u>	<u>70,484</u>	<u>(9,840,377)</u>
<b>XVIII. Balances at June 30, 2019 [III.+XVII.]</b>	59,142,235	70,484	59,071,751

\* Recognized Immediately

\*\* Amortized over 6.63 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	5,563,159	7.08	3,991,647	785,756	785,756	785,756	785,756	785,756	785,756
2018	0	7.08	0	0	0	0	0	0	0
2019	(6,792,252)	6.63	(5,767,780)	(1,024,472)	(1,024,472)	(1,024,472)	(1,024,472)	(1,024,472)	(1,024,472)
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(1,776,133)						
Net increase (decrease) in OPEB expense				(238,716)	(238,716)	(238,716)	(238,716)	(238,716)	(238,716)

Deferred (Inflows)/Outflows in OPEB Expense arising from the recognition of the effects of changes in assumptions									
Fiscal	Differences from changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance	2019	2020	2021	2022	2023	2024
2017	0	7.08	0	0	0	0	0	0	0
2018	0	7.08	0	0	0	0	0	0	0
2019	(6,063,816)	6.63	(5,149,214)	(914,602)	(914,602)	(914,602)	(914,602)	(914,602)	(914,602)
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(5,149,214)						
Net increase (decrease) in OPEB expense				(914,602)	(914,602)	(914,602)	(914,602)	(914,602)	(914,602)

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 actual & expected earnings	Recognition Period (years)	Remaining Balance	2019	2020	2021	2022	2023	2024
2017	0	5.00	0	0	0	0	0		
2018	0	5.00	0	0	0	0	0	0	
2019	(1,694)	5.00	(1,355)	(339)	(339)	(339)	(339)	(338)	
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(1,355)						
Net increase (decrease) in OPEB expense				(339)	(339)	(339)	(339)	(338)	0

EXHIBIT A

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

3. Changes in Net OPEB Expense (Continued)

Statement of Outflows & Inflows Arising from Current & Prior Reporting Periods for the Measurement Period ending on June 30, 2019 to be reported for the fiscal year ending June 30, 2019		
	Deferred Outflows of Resources	Deferred Inflows of Resources
I. Differences between actual & expected experience	3,991,647	(5,767,780)
II. Changes of assumptions	0	(5,149,214)
III. Net difference between projected & actual earnings on OPEB plan investments	0	(1,355)
IV. Total [I.+II.+III.]	3,991,647	(10,918,349)
<b>Annual Amortization of Deferred (Inflows)/Outflows</b>		
The balance of deferred (inflows)/outflows as of June 30, 2019 will be recognized in future years as shown below.		
	<b>Year ending June 30:</b>	
	2020	(1,153,657)
	2021	(1,153,657)
	2022	(1,153,657)
	2023	(1,153,656)
	2024	(1,153,318)
	Thereafter	(1,158,757)



## EXHIBIT A

### FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

#### 4. Funding Policy

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the period ending on the June 30, 2019 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$1,541,652. The Town also made a contribution to an OPEB Trust of \$67,370 for a total contribution during the measurement period of \$1,609,022 to be reported on the financial statement for the fiscal year ending June 30, 2019.

#### 5. Investment Policy

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

<b>Investment Target Allocation &amp; Expected Long-Term Real Rate of Return</b>			
<b>Asset Class</b>	<b>Target Allocation</b>	<b>Asset Class</b>	<b>Long-Term Expected Real Rate of Return</b>
Domestic Equity - Large Cap	12.25%	Domestic Equity - Large Cap	4.00%
Domestic Equity - Small/Mid Cap	0.00%	Domestic Equity - Small/Mid Cap	6.00%
International Equity - Developed Market	0.00%	International Equity - Developed Market	4.50%
International Equity-Emerging Market	0.00%	International Equity-Emerging Market	7.00%
Domestic Fixed Income	63.50%	Domestic Fixed Income	2.00%
International Fixed Income	0.00%	International Fixed Income	3.00%
Alternatives	0.00%	Alternatives	6.50%
Real Estate	0.00%	Real Estate	6.25%
Cash	24.25%	Cash	0.00%
Total	100.00%		
		I. Real Rate of Return*	1.76%
		II. Inflation Assumption	2.75%
		III. Total Nominal Return [I. + II.]	4.51%
		IV. Investment Expense	0.25%
		V. Net Investment Return [III.-IV.]	4.26%

\*Geometric Mean

## EXHIBIT A

### FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

#### 6. Funded Status and Funding Progress

Fiscal Year	Measurement Date	Fiduciary Net Position	Total OPEB Liability	Net OPEB Liability	Funded Ratio	Covered Payroll	NOL as a % of Covered Payroll
2016	6/30/2015	\$0	\$38,211,551	\$38,211,551	0.0%	N/A	N/A
2017	6/30/2016	\$0	\$62,316,351	\$62,316,351	0.0%	\$22,748,755	273.9%
2018	6/30/2017	\$0	\$65,453,705	\$65,453,705	0.0%	\$23,431,218	279.3%
2019	6/30/2019	\$70,484	\$59,142,235	\$59,071,751	0.1%	\$25,730,949	229.6%
2020	6/30/2020 (est.)	\$83,697	\$62,026,964	\$61,943,267	0.1%	\$26,502,877	233.7%
2021	6/30/2021 (est.)	\$97,473	\$65,048,180	\$64,950,707	0.2%	\$27,297,964	237.9%

## EXHIBIT A

### FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

#### 7. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
<b>I. Total OPEB Liability</b>	49,733,040	59,142,235	71,142,235
<b>II. Fiduciary Net Position</b>	<u>70,484</u>	<u>70,484</u>	<u>70,484</u>
<b>III. Net OPEB Liability (Asset) [I.-II.]</b>	49,662,556	59,071,751	71,071,751
<b>IV. Service Cost</b>	1,875,551	2,508,172	3,383,723

#### 8. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
<b>I. Total OPEB Liability</b>	69,969,810	59,142,235	50,624,256
<b>II. Fiduciary Net Position</b>	<u>70,484</u>	<u>70,484</u>	<u>70,484</u>
<b>III. Net OPEB Liability (Asset) [I.-II.]</b>	69,899,326	59,071,751	50,553,772
<b>IV. Service Cost</b>	3,348,306	2,508,172	1,901,999

## EXHIBIT A

### FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

#### 9. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - June 30, 2018	0	12	1.0000
Monthly net external cash flows:			
July	57,370	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	10,000	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
June	0	0	0.0000
II. Total net external cash flow	67,370		
III. Earnings and increase in fair value	3,114		
IV. Ending value - June 30, 2019 [I.+II.+III.]	70,484		
Money Weighted Rate of Return	5.42%		
Asset Value - June 30, 2019	70,484		

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

**10. OPEB Liability, OPEB Expense and ADC**

	Fiscal Year Ending June 30, 2019						Total
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Solid Waste Enterprise Employees and Retirees	
I. Total OPEB Liability as of June 30, 2019	11,239,858	39,698,738	3,622,002	3,051,956	1,394,065	135,616	59,142,235
II. Fiduciary Net Position as of June 30, 2019	13,411	47,336	4,279	3,641	1,658	159	70,484
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	11,226,447	39,651,402	3,617,723	3,048,315	1,392,407	135,457	59,071,751
IV. Service Cost	381,590	1,673,124	200,371	213,345	36,804	2,938	2,508,172
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	397,801	1,421,571	132,479	113,436	49,548	4,820	2,119,655
VI. Projected Earnings on OPEB Plan Investments	(269)	(954)	(87)	(73)	(34)	(3)	(1,420)
VII. Net Recognition of Deferred (Inflows)/Outflows	(219,250)	(774,383)	(70,652)	(59,534)	(27,193)	(2,645)	(1,153,657)
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VI. + VII. + VIII.]	559,872	2,319,358	262,111	267,174	59,125	5,110	3,472,750
X. Employer Share of Costs	(378,342)	(1,081,851)	(41,823)	(25,995)	(13,637)	(4)	(1,541,652)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(12,585)	(45,158)	(4,244)	(3,638)	(1,590)	(155)	(67,370)
XII. Total Employer Contribution [X. + XI.]	(390,927)	(1,127,009)	(46,067)	(29,633)	(15,227)	(159)	(1,609,022)
XIII. Net OPEB Expense [IX. + XII.]	168,945	1,192,349	216,044	237,541	43,898	4,951	1,863,728

## EXHIBIT A

### FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

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

Valuation Date	July 1, 2018
For the Measurement Period ending on the Measurement Date of:	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2019
<b>Source of Deferred Inflow/Outflow</b>	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(1,776,133)
II. Deferred (Inflow)/Outflow from Investment Experience	(1,355)
III. Deferred (Inflow)/Outflow from Changes in Assumptions	(5,149,214)
<b>Change in Deferred Inflow/Outflow</b>	
I. Deferred Outflow at the beginning of the period	4,777,403
II. Deferred Outflow created during the period	0
III. Deferred Outflow recognized during the period	785,756
IV. Change in Deferred Outflow (II. - III. )	(785,756)
V. Deferred Outflow at end of the period (I. + IV. )	3,991,647
VI. Deferred Inflow at the beginning of the period	0
VII. Deferred Inflow created during the period	(12,857,762)
VIII. Deferred Inflow recognized during the period	(1,939,413)
IX. Change in Deferred Inflow (VII. - VIII. )	(10,918,349)
X. Deferred Inflow at end of the period (VI. + IX. )	(10,918,349)
<b>Net OPEB Liability</b>	
I. Net OPEB Liability at beginning of period	68,912,128
II. Service Cost	2,508,172
III. Interest on Total OPEB Liability, Service Cost, and Payments	2,119,655
IV. Projected Investment Income	(1,420)
V. Total Employer Contributions	(1,609,022)
VI. Expense Related to Change in Benefit Terms	0
VI. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI. )	3,017,385
VII. Deferred Outflow created during the period	0
VIII. Deferred Inflow created during the period	(12,857,762)
IX. Net OPEB Liability at end of period (I. + VI. + VII. + VIII. )	59,071,751
<b>Net OPEB Expense</b>	
I. Service Cost	2,508,172
II. Interest on Total OPEB Liability, Service Cost, and Payments	2,119,655
III. Projected Investment Income	(1,420)
IV. Recognition of Deferred (Inflow)/Outflow	(1,153,657)
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V. )	3,472,750
VII. Benefit Payments	(1,541,652)
VIII. Contributions to Trust	(67,370)
IX. Total Employer Payments (VII. + VIII. )	(1,609,022)
X. Total Net OPEB Expense under GASB 75 (VI. + IX. )	1,863,728

## 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:

<b>Actuarially Determined Contribution - Deficiency / (Excess)</b>				
	<u>June 30, 2019</u>	<u>June 30, 2018</u>	<b>For the Fiscal Year Ending:</b>	
			<u>June 30, 2017</u>	<u>June 30, 2016</u>
I. Service Cost	2,508,172	2,704,845	2,554,321	2,617,379
II. 30 year level dollar amortization of NOL	<u>2,926,016</u>	<u>3,242,135</u>	<u>3,242,136</u>	<u>3,023,674</u>
III. Actuarial Determined Contribution [I. + II.]	5,434,188	5,946,980	5,796,457	5,641,053
IV. Contributions in relation to the actuarially determined contribution	<u>(1,609,022)</u>	<u>(1,438,388)</u>	<u>(1,343,091)</u>	<u>(1,154,083)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>3,825,166</u>	<u>4,508,592</u>	<u>4,453,366</u>	<u>4,486,970</u>
Covered employee payroll	25,730,949	23,431,218	22,748,755	22,748,755
Contributions as a % of covered employee payroll	6.25%	6.14%	5.90%	5.07%
Discount Rate	3.00%	3.00%	3.00%	3.00%
Money Weighted Rate of Return	5.42%	N/A	N/A	N/A

## 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	June 30, 2016	June 30, 2016	June 30, 2016
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016
<b>Total OPEB Liability</b>	59,142,235	68,912,128	65,453,705	62,316,351
I. Service Cost	2,508,172	2,704,845	2,554,321	2,617,379
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	2,119,655	2,191,966	1,926,124	1,669,937
III. Changes in Benefit terms	0	0	0	0
IV. Difference between Expected & Actual Plan Experience	(6,792,252)	0	0	5,563,159
V. Changes of assumptions	(6,063,816)	0	0	0
VI. Benefit Payments Excluding Implicit Cost	(1,209,620)	(1,346,429)	(1,260,567)	N/A
VII. Implicit Cost Amount	(332,032)	(91,959)	(82,524)	N/A
VIII. Total Benefit payments including Implicit Cost [VI.+VII.]	(1,541,652)	(1,438,388)	(1,343,091)	(1,154,083)
IX. Net Change in OPEB liability [I.+II.+III.+IV.+V.+VIII.]	(9,769,893)	3,458,423	3,137,354	8,696,392
X. Total OPEB liability - beginning of period	68,912,128	65,453,705	62,316,351	53,619,959
XI. Total OPEB liability - end of period [IX.+X.]	59,142,235	68,912,128	65,453,705	62,316,351
<b>Plan Fiduciary Net Position</b>	70,484	0	0	0
XII. Earning from Plan Investments	3,114	0	0	0
XIII. Employer Contribution to trust	1,609,022	1,438,388	1,343,091	1,154,083
XIV. Benefit payments from trust, including refunds of member contributions	(1,541,652)	(1,438,388)	(1,343,091)	(1,154,083)
XV. Administrative expense	0	0	0	0
XVI. Other	0	0	0	0
XVII. Net change in plan fiduciary net position [XII.+XIII.+XIV.+XV.+XVI.]	70,484	0	0	0
XVIII. Plan fiduciary net position - beginning of period	0	0	0	0
XIX. Plan fiduciary net position - end of period [XVII.+XVIII.]	70,484	0	0	0
XX. Net OPEB Liability [XI.-XIX.]	59,071,751	68,912,128	65,453,705	62,316,351
XXI. Plan fiduciary net position as % of total OPEB liability [XIX. / XI.]	0.12%	0.00%	0.00%	0.00%
XXII. Covered employee payroll	25,730,949	23,431,218	22,748,755	22,748,755
XXIII. Plan NOL as % of covered employee payroll [XX. / XXII.]	229.57%	294.10%	287.72%	273.93%
Single Discount Rate to calculate Plan Liabilities	3.00%	3.00%	3.00%	3.00%



## EXHIBIT B

### REQUIRED 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:	4.26%, 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:	3.00%, net of OPEB plan investment expense, including inflation.
Inflation:	2.75% as of June 30, 2019 and for future periods
Salary Increases:	3.00% annually as of June 30, 2019 and for future periods
Cost of Living Adjustment:	Not Applicable
Pre-Retirement Mortality:	RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Post-Retirement Mortality:	RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Disabled Mortality:	RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB and a base year 2012 for males and females

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Notes to Required Supplementary Information (Continued):Plan Membership

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

Inactive employees or beneficiaries currently receiving benefits:	304
Active Employees:	<u>454</u>
Total:	758

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, 2017 to June 30, 2019

- ✓ The expected long-term medical trend has been updated to 4.50%

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$67,370 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 \$1,541,652. \$332,032 of the \$1,541,652 represents implicit cost.

## APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

### CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 3.00% discount rate										
For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date		III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [III. / I.]	V. Service Cost	VI. Employer Share of Premiums / Claims	VII. Excess Employer Payments (beyond claims)	VIII. Total Employer Payments [VI. + VII.]
			with an expected 4.26% return							
2019	June 30, 2019	59,142,235	70,484	59,071,751	0.12%	2,508,172	1,541,652	67,370	1,609,022	
2020	June 30, 2020	62,026,964	83,697	61,943,267	0.13%	2,659,912	1,605,345	10,000	1,615,345	
2021	June 30, 2021	65,048,180	97,473	64,950,707	0.15%	2,808,004	1,689,132	10,000	1,699,132	
2022	June 30, 2022	68,220,331	111,836	68,108,495	0.16%	2,964,839	1,784,744	10,000	1,794,744	
2023	June 30, 2023	71,523,148	126,811	71,396,337	0.18%	3,120,519	1,895,223	10,000	1,905,223	
2024	June 30, 2024	74,938,683	142,424	74,796,259	0.19%	3,267,142	2,017,725	10,000	2,027,725	
2025	June 30, 2025	78,467,968	158,702	78,309,266	0.20%	3,426,878	2,150,233	10,000	2,160,233	
2026	June 30, 2026	82,136,375	175,673	81,960,702	0.21%	3,583,620	2,263,328	10,000	2,273,328	
2027	June 30, 2027	85,955,836	193,367	85,762,469	0.22%	3,748,187	2,387,654	10,000	2,397,654	
2028	June 30, 2028	89,897,258	211,815	89,685,443	0.24%	3,919,823	2,534,077	10,000	2,544,077	
2029	June 30, 2029	93,982,651	231,049	93,751,602	0.25%	4,096,017	2,652,786	10,000	2,662,786	
2030	June 30, 2030	98,191,555	251,102	97,940,453	0.26%	4,250,379	2,777,407	10,000	2,787,407	
2031	June 30, 2031	102,566,742	272,010	102,294,732	0.27%	4,445,282	2,951,611	10,000	2,961,611	
2032	June 30, 2032	106,854,001	293,808	106,560,193	0.27%	4,643,465	3,108,582	10,000	3,118,582	
2033	June 30, 2033	111,381,292	316,535	111,064,757	0.28%	4,837,699	3,231,983	10,000	3,241,983	
2034	June 30, 2034	115,920,720	340,230	115,580,490	0.29%	5,054,539	3,442,557	10,000	3,452,557	
2035	June 30, 2035	120,871,402	364,935	120,506,467	0.30%	5,280,318	3,601,661	10,000	3,611,661	
2036	June 30, 2036	125,989,543	390,692	125,598,851	0.31%	5,518,249	3,719,109	10,000	3,729,109	
2037	June 30, 2037	131,284,879	417,546	130,867,333	0.32%	5,764,922	3,879,776	10,000	3,889,776	
2038	June 30, 2038	136,989,558	445,544	136,544,014	0.33%	6,025,478	4,039,461	10,000	4,049,461	
2039	June 30, 2039	142,999,201	474,735	142,524,466	0.33%	6,309,550	4,171,060	10,000	4,181,060	
2040	June 30, 2040	149,236,677	505,169	148,731,508	0.34%	6,583,235	4,299,110	10,000	4,309,110	
2041	June 30, 2041	155,640,220	536,900	155,103,320	0.34%	6,885,098	4,532,742	10,000	4,542,742	
2042	June 30, 2042	162,498,755	569,983	161,928,772	0.35%	7,208,101	4,732,217	10,000	4,742,217	
2043	June 30, 2043	169,586,525	604,475	168,982,050	0.36%	7,557,315	4,949,408	10,000	4,959,408	
2044	June 30, 2044	176,956,895	640,436	176,316,459	0.36%	7,920,052	5,210,589	10,000	5,220,589	
2045	June 30, 2045	184,963,495	677,929	184,285,566	0.37%	8,296,875	5,391,869	10,000	5,401,869	
2046	June 30, 2046	193,302,855	717,020	192,585,835	0.37%	8,706,823	5,619,387	10,000	5,629,387	
2047	June 30, 2047	201,971,179	757,776	201,213,403	0.38%	9,126,242	5,863,158	10,000	5,873,158	
2048	June 30, 2048	211,226,184	800,268	210,425,916	0.38%	9,561,244	6,068,606	10,000	6,078,606	
2049	June 30, 2049	220,917,118	844,570	220,072,548	0.38%	10,031,653	6,321,541	10,000	6,331,541	
2050	June 30, 2050	231,329,826	890,759	230,439,067	0.39%	10,508,605	6,559,025	10,000	6,569,025	

## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### ALTERNATIVE FUNDING SCENARIO (OPEN GROUP)

4.25% discount rate and increasing at 3.00% per year									
For the Fiscal Year	Period Ending on the Measurement Date of:	II. Fiduciary Net Position as of Measurement Date		III. Net OPEB	IV Funded Ratio [II. / I.]	V. Service Cost	VI. Employer	VII. Annual Funding / (Payments)	VIII. Total
		I. Total OPEB	with expected 4.26% return	Liability (Asset)			Share of		Employer
		Liability ("TOL") as of Measurement Date		("NOL") [I. - II.]			Premiums / Claims		Payments
2019	June 30, 2019	46,575,901	70,484	46,505,417	0.15%	1,786,815	1,541,652	67,370	1,609,022
2020	June 30, 2020	48,836,021	2,608,100	46,227,921	5.34%	1,908,026	1,605,345	2,482,292	4,087,637
2021	June 30, 2021	51,249,429	5,329,857	45,919,572	10.40%	2,024,208	1,689,132	2,556,761	4,245,893
2022	June 30, 2022	53,792,064	8,167,561	45,624,503	15.18%	2,146,259	1,784,744	2,633,464	4,418,208
2023	June 30, 2023	56,459,282	11,204,471	45,254,811	19.85%	2,266,283	1,895,223	2,712,468	4,607,691
2024	June 30, 2024	59,235,367	14,451,422	44,783,945	24.40%	2,378,031	2,017,725	2,793,842	4,811,567
2025	June 30, 2025	62,103,076	17,919,783	44,183,293	28.85%	2,499,057	2,150,233	2,877,657	5,027,890
2026	June 30, 2026	65,059,593	21,621,478	43,438,115	33.23%	2,615,553	2,263,328	2,963,987	5,227,315
2027	June 30, 2027	68,133,174	25,569,014	42,564,160	37.53%	2,738,213	2,387,654	3,052,907	5,440,561
2028	June 30, 2028	71,331,051	29,775,510	41,555,541	41.74%	2,865,071	2,534,077	3,144,494	5,678,571
2029	June 30, 2029	74,622,508	34,254,720	40,367,788	45.90%	2,995,896	2,652,786	3,238,829	5,891,615
2030	June 30, 2030	78,037,419	39,021,068	39,016,351	50.00%	3,106,857	2,777,407	3,335,994	6,113,401
2031	June 30, 2031	81,560,134	44,089,675	37,470,459	54.06%	3,248,810	2,951,611	3,436,074	6,387,685
2032	June 30, 2032	85,204,388	49,476,394	35,727,994	58.07%	3,392,671	3,108,582	3,539,156	6,647,738
2033	June 30, 2033	88,764,200	55,197,842	33,566,358	62.18%	3,532,779	3,231,983	3,645,331	6,877,314
2034	June 30, 2034	92,518,025	61,271,437	31,246,588	66.23%	3,689,936	3,442,557	3,754,691	7,197,248
2035	June 30, 2035	96,263,578	67,715,432	28,548,146	70.34%	3,854,028	3,601,661	3,867,332	7,468,993
2036	June 30, 2036	100,340,216	74,548,956	25,791,260	74.30%	4,026,925	3,719,109	3,983,352	7,702,461
2037	June 30, 2037	104,565,933	81,792,054	22,773,879	78.22%	4,206,091	3,879,776	4,102,853	7,982,629
2038	June 30, 2038	108,948,730	89,465,728	19,483,002	82.12%	4,395,716	4,039,461	4,225,939	8,265,400
2039	June 30, 2039	113,648,788	97,591,981	16,056,807	85.87%	4,602,468	4,171,060	4,352,717	8,523,777
2040	June 30, 2040	118,604,328	106,193,862	12,410,466	89.54%	4,800,649	4,299,110	4,483,299	8,782,409
2041	June 30, 2041	123,777,543	115,295,518	8,482,025	93.15%	5,019,606	4,532,742	4,617,798	9,150,540
2042	June 30, 2042	129,088,202	124,922,238	4,165,964	96.77%	5,254,335	4,732,217	4,756,332	9,488,549
2043	June 30, 2043	134,742,838	135,100,511	(357,673)	100.27%	5,508,428	4,949,408	4,165,964	9,115,372
2044	June 30, 2044	140,594,364	145,109,566	(4,515,202)	103.21%	5,772,350	5,210,589	559,020	5,769,609
2045	June 30, 2045	146,649,082	151,862,036	(5,212,954)	103.55%	6,046,371	5,391,869	561,761	5,953,630
2046	June 30, 2046	153,224,356	158,904,960	(5,680,604)	103.71%	6,344,210	5,619,387	654,502	6,273,889
2047	June 30, 2047	160,082,633	166,342,609	(6,259,976)	103.91%	6,648,765	5,863,158	724,823	6,587,981
2048	June 30, 2048	167,214,259	174,168,905	(6,954,646)	104.16%	6,964,610	6,068,606	785,607	6,854,213
2049	June 30, 2049	174,840,110	182,390,666	(7,550,556)	104.32%	7,305,833	6,321,541	896,004	7,217,545
2050	June 30, 2050	182,830,411	191,075,398	(8,244,987)	104.51%	7,651,743	6,559,025	984,292	7,543,317
2051	June 30, 2051	191,444,267	200,220,249	(8,775,982)	104.58%	8,028,511	6,844,473	1,092,718	7,937,191
2052	June 30, 2052	200,478,403	209,865,382	(9,386,979)	104.68%	8,425,852	7,231,978	1,184,038	8,416,016
2053	June 30, 2053	209,769,199	220,014,642	(10,245,443)	104.88%	8,837,833	7,573,868	1,193,874	8,767,742
2054	June 30, 2054	219,515,204	230,606,304	(11,091,100)	105.05%	9,276,328	7,973,193	1,263,965	9,237,158
2055	June 30, 2055	229,944,773	241,720,739	(11,775,966)	105.12%	9,728,915	8,370,392	1,303,135	9,673,527
2056	June 30, 2056	240,717,664	253,348,645	(12,630,981)	105.25%	10,208,987	8,731,855	1,358,523	10,090,378
2057	June 30, 2057	251,959,702	265,528,455	(13,568,753)	105.39%	10,709,898	9,135,562	1,477,132	10,612,694
2058	June 30, 2058	263,777,702	278,348,234	(14,570,532)	105.52%	11,223,147	9,521,971	1,574,336	11,096,307

## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### CONTRIBUTION PROJECTION DISCLOSURES

Projection of Contributions using a July 1, 2018 Valuation Date							
For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total employee payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2019	25,730,949	0	25,730,949	0	1,541,652	0	1,541,652
June 30, 2020	24,361,058	2,141,819	26,502,877	0	1,605,345	0	1,605,345
June 30, 2021	23,445,285	3,852,679	27,297,964	0	1,689,132	0	1,689,132
June 30, 2022	22,804,917	5,311,986	28,116,903	0	1,784,744	0	1,784,744
June 30, 2023	22,378,913	6,581,497	28,960,410	0	1,895,223	0	1,895,223
June 30, 2024	22,000,107	7,829,115	29,829,222	0	2,017,725	0	2,017,725
June 30, 2025	21,693,777	9,030,322	30,724,099	0	2,150,233	0	2,150,233
June 30, 2026	21,329,151	10,316,671	31,645,822	0	2,263,328	0	2,263,328
June 30, 2027	20,955,820	11,639,377	32,595,197	0	2,387,654	0	2,387,654
June 30, 2028	20,655,865	12,917,188	33,573,053	0	2,534,077	0	2,534,077
June 30, 2029	20,332,748	14,247,497	34,580,245	0	2,652,786	0	2,652,786
June 30, 2030	19,843,374	15,774,278	35,617,652	0	2,755,499	21,908	2,777,407
June 30, 2031	19,406,917	17,279,265	36,686,182	0	2,895,871	55,740	2,951,611
June 30, 2032	19,070,413	18,716,354	37,786,767	0	3,005,496	103,086	3,108,582
June 30, 2033	18,575,323	20,345,047	38,920,370	0	3,067,293	164,690	3,231,983
June 30, 2034	18,038,234	22,049,747	40,087,981	0	3,204,856	237,701	3,442,557
June 30, 2035	17,490,825	23,799,795	41,290,620	0	3,303,329	298,332	3,601,661
June 30, 2036	16,931,146	25,598,193	42,529,339	0	3,351,777	367,332	3,719,109
June 30, 2037	16,278,145	27,527,074	43,805,219	0	3,435,411	444,365	3,879,776
June 30, 2038	15,580,709	29,538,667	45,119,376	0	3,526,085	513,376	4,039,461
June 30, 2039	15,081,780	31,391,177	46,472,957	0	3,581,486	589,574	4,171,060
June 30, 2040	14,436,604	33,430,542	47,867,146	0	3,607,761	691,349	4,299,110
June 30, 2041	13,785,556	35,517,604	49,303,160	0	3,707,907	824,835	4,532,742
June 30, 2042	13,089,306	37,692,949	50,782,255	0	3,743,888	988,329	4,732,217
June 30, 2043	12,421,510	39,884,213	52,305,723	0	3,765,244	1,184,164	4,949,408
June 30, 2044	11,815,539	42,059,356	53,874,895	0	3,802,540	1,408,049	5,210,589
June 30, 2045	11,140,448	44,350,694	55,491,142	0	3,778,863	1,613,006	5,391,869
June 30, 2046	10,627,237	46,528,639	57,155,876	0	3,782,157	1,837,230	5,619,387
June 30, 2047	10,078,417	48,792,135	58,870,552	0	3,780,294	2,082,864	5,863,158
June 30, 2048	9,336,290	51,300,379	60,636,669	0	3,752,159	2,316,447	6,068,606
June 30, 2049	8,711,101	53,744,668	62,455,769	0	3,754,316	2,567,225	6,321,541
June 30, 2050	7,990,727	56,338,715	64,329,442	0	3,711,191	2,847,834	6,559,025
June 30, 2051	7,311,804	58,947,521	66,259,325	0	3,690,368	3,154,105	6,844,473
June 30, 2052	6,765,115	61,481,990	68,247,105	0	3,746,505	3,485,473	7,231,978
June 30, 2053	6,063,649	64,230,869	70,294,518	0	3,729,628	3,844,240	7,573,868
June 30, 2054	5,380,867	67,022,487	72,403,354	0	3,741,441	4,231,752	7,973,193
June 30, 2055	4,592,776	69,982,679	74,575,455	0	3,740,677	4,629,715	8,370,392
June 30, 2056	3,870,630	72,942,089	76,812,719	0	3,680,480	5,051,375	8,731,855
June 30, 2057	3,304,942	75,812,159	79,117,101	0	3,634,846	5,500,716	9,135,562
June 30, 2058	2,628,523	78,862,091	81,490,614	0	3,554,374	5,967,597	9,521,971

## 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 employee payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2059	2,147,946	81,787,386	83,935,332	0	3,459,972	6,457,284	9,917,256
June 30, 2060	1,684,980	84,768,412	86,453,392	0	3,362,388	6,978,730	10,341,118
June 30, 2061	1,151,287	87,895,707	89,046,994	0	3,283,801	7,529,398	10,813,199
June 30, 2062	802,414	90,915,990	91,718,404	0	3,199,134	8,111,048	11,310,182
June 30, 2063	506,752	93,963,204	94,469,956	0	3,111,025	8,726,613	11,837,638
June 30, 2064	248,750	97,055,305	97,304,055	0	3,038,796	9,376,491	12,415,287
June 30, 2065	113,616	100,109,561	100,223,177	0	2,959,856	10,054,605	13,014,461
June 30, 2066	46,956	103,182,916	103,229,872	0	2,875,182	10,764,812	13,639,994
June 30, 2067	0	106,326,768	106,326,768	0	2,786,774	11,509,195	14,295,969
June 30, 2068	0	109,516,571	109,516,571	0	2,693,635	12,280,687	14,974,322
June 30, 2069	0	112,802,068	112,802,068	0	2,597,691	13,084,941	15,682,632
June 30, 2070	0	116,186,130	116,186,130	0	2,499,074	13,924,460	16,423,534
June 30, 2071	0	119,671,714	119,671,714	0	2,398,182	14,797,876	17,196,058
June 30, 2072	0	123,261,865	123,261,865	0	2,295,007	15,710,239	18,005,246
June 30, 2073	0	126,959,721	126,959,721	0	2,190,111	16,662,610	18,852,721
June 30, 2074	0	130,768,513	130,768,513	0	2,083,861	17,653,748	19,737,609
June 30, 2075	0	134,691,568	134,691,568	0	1,976,371	18,689,550	20,665,921
June 30, 2076	0	138,732,315	138,732,315	0	1,868,375	19,766,550	21,634,925
June 30, 2077	0	142,894,284	142,894,284	0	1,759,887	20,886,754	22,646,641
June 30, 2078	0	147,181,113	147,181,113	0	1,651,509	22,053,814	23,705,323
June 30, 2079	0	151,596,546	151,596,546	0	1,543,676	23,265,845	24,809,521
June 30, 2080	0	156,144,442	156,144,442	0	1,436,583	24,527,167	25,963,750
June 30, 2081	0	160,828,775	160,828,775	0	1,330,551	25,839,936	27,170,487
June 30, 2082	0	165,653,638	165,653,638	0	1,225,868	27,208,227	28,434,095
June 30, 2083	0	170,623,247	170,623,247	0	1,122,537	28,636,516	29,759,053
June 30, 2084	0	175,741,944	175,741,944	0	1,021,374	30,124,815	31,146,189
June 30, 2085	0	181,014,202	181,014,202	0	922,510	31,679,847	32,602,357
June 30, 2086	0	186,444,628	186,444,628	0	826,304	33,302,391	34,128,695
June 30, 2087	0	192,037,967	192,037,967	0	733,858	34,994,113	35,727,971
June 30, 2088	0	197,799,106	197,799,106	0	645,158	36,761,560	37,406,718
June 30, 2089	0	203,733,079	203,733,079	0	562,264	38,606,071	39,168,335
June 30, 2090	0	209,845,071	209,845,071	0	486,853	40,531,392	41,018,245
June 30, 2091	0	216,140,423	216,140,423	0	417,195	42,543,216	42,960,411
June 30, 2092	0	222,624,636	222,624,636	0	353,044	44,646,314	44,999,358
June 30, 2093	0	229,303,375	229,303,375	0	295,176	46,845,069	47,140,245
June 30, 2094	0	236,182,476	236,182,476	0	243,796	49,143,428	49,387,224
June 30, 2095	0	243,267,950	243,267,950	0	198,629	51,547,425	51,746,054
June 30, 2096	0	250,565,989	250,565,989	0	159,888	54,060,719	54,220,607
June 30, 2097	0	258,082,969	258,082,969	0	126,770	56,688,013	56,814,783
June 30, 2098	0	265,825,458	265,825,458	0	99,065	59,435,900	59,534,965

## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### FIDUCIARY NET POSITION PROJECTION DISCLOSURES

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

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Portion of Employer Contributions for Current Plan Members	III. Total Benefit Payments	IV. Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Investment Earnings	VIII. Ending Fiduciary Net Position for Current Plan Members
June 30, 2019	0	1,541,652	1,541,652	0	67,370	67,370	3,114	70,484
June 30, 2020	70,484	1,605,345	1,605,345	0	10,000	9,192	2,953	82,629
June 30, 2021	82,629	1,689,132	1,689,132	0	10,000	8,589	3,701	94,919
June 30, 2022	94,919	1,784,744	1,784,744	0	10,000	8,111	4,215	107,245
June 30, 2023	107,245	1,895,223	1,895,223	0	10,000	7,727	4,732	119,704
June 30, 2024	119,704	2,017,725	2,017,725	0	10,000	7,375	5,255	132,334
June 30, 2025	132,334	2,150,233	2,150,233	0	10,000	7,061	5,786	145,181
June 30, 2026	145,181	2,263,328	2,263,328	0	10,000	6,740	6,327	158,248
June 30, 2027	158,248	2,387,654	2,387,654	0	10,000	6,429	6,877	171,554
June 30, 2028	171,554	2,534,077	2,534,077	0	10,000	6,153	7,438	185,145
June 30, 2029	185,145	2,652,786	2,652,786	0	10,000	5,880	8,011	199,036
June 30, 2030	199,036	2,755,499	2,777,407	0	10,000	5,571	8,596	191,295
June 30, 2031	191,295	2,895,871	2,951,611	0	10,000	5,290	8,261	149,106
June 30, 2032	149,106	3,005,496	3,108,582	0	10,000	5,047	6,458	57,525
June 30, 2033	57,525	3,067,293	3,231,983	0	10,000	4,773	2,551	7,324
June 30, 2034	7,324	3,204,856	3,442,557	0	10,000	4,500	407	4,907
June 30, 2035	4,907	3,303,329	3,601,661	0	10,000	4,236	298	4,534
June 30, 2036	4,534	3,351,777	3,719,109	0	10,000	3,981	277	4,258
June 30, 2037	4,258	3,435,411	3,879,776	0	10,000	3,716	260	3,976
June 30, 2038	3,976	3,526,085	4,039,461	0	10,000	3,453	242	3,695
June 30, 2039	3,695	3,581,486	4,171,060	0	10,000	3,245	226	3,471
June 30, 2040	3,471	3,607,761	4,299,110	0	10,000	3,016	211	3,227
June 30, 2041	3,227	3,707,907	4,532,742	0	10,000	2,796	196	2,992
June 30, 2042	2,992	3,743,888	4,732,217	0	10,000	2,578	182	2,760
June 30, 2043	2,760	3,765,244	4,949,408	0	10,000	2,375	168	2,543
June 30, 2044	2,543	3,802,540	5,210,589	0	10,000	2,193	155	2,348
June 30, 2045	2,348	3,778,863	5,391,869	0	10,000	2,008	142	2,150
June 30, 2046	2,150	3,782,157	5,619,387	0	10,000	1,859	131	1,990
June 30, 2047	1,990	3,780,294	5,863,158	0	10,000	1,712	121	1,833
June 30, 2048	1,833	3,752,159	6,068,606	0	10,000	1,540	111	1,651
June 30, 2049	1,651	3,754,316	6,321,541	0	10,000	1,395	100	1,495
June 30, 2050	1,495	3,711,191	6,559,025	0	10,000	1,242	90	1,332
June 30, 2051	1,332	3,690,368	6,844,473	0	10,000	1,104	80	1,184
June 30, 2052	1,184	3,746,505	7,231,978	0	10,000	991	71	1,062
June 30, 2053	1,062	3,729,628	7,573,868	0	10,000	863	63	926
June 30, 2054	926	3,741,441	7,973,193	0	10,000	743	55	798
June 30, 2055	798	3,740,677	8,370,392	0	10,000	616	47	663
June 30, 2056	663	3,680,480	8,731,855	0	10,000	504	39	543
June 30, 2057	543	3,634,846	9,135,562	0	10,000	418	32	450
June 30, 2058	450	3,554,374	9,521,971	0	10,000	323	26	349



## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

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

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Portion of Employer Contributions for Current Plan Members	III. Total Benefit Payments	IV. Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Investment Earnings	VIII. Ending Fiduciary Net Position for Current Plan Members
June 30, 2059	349	3,459,972	9,917,256	0	10,000	256	20	276
June 30, 2060	276	3,362,388	10,341,118	0	10,000	195	16	211
June 30, 2061	211	3,283,801	10,813,199	0	10,000	129	12	141
June 30, 2062	141	3,199,134	11,310,182	0	10,000	87	8	95
June 30, 2063	95	3,111,025	11,837,638	0	10,000	54	5	59
June 30, 2064	59	3,038,796	12,415,287	0	10,000	26	3	29
June 30, 2065	29	2,959,856	13,014,461	0	10,000	11	1	12
June 30, 2066	12	2,875,182	13,639,994	0	10,000	5	1	6
June 30, 2067	6	2,786,774	14,295,969	0	10,000	0	0	0
June 30, 2068	0	2,693,635	14,974,322	0	10,000	0	0	0
June 30, 2069	0	2,597,691	15,682,632	0	10,000	0	0	0
June 30, 2070	0	2,499,074	16,423,534	0	10,000	0	0	0
June 30, 2071	0	2,398,182	17,196,058	0	10,000	0	0	0
June 30, 2072	0	2,295,007	18,005,246	0	10,000	0	0	0
June 30, 2073	0	2,190,111	18,852,721	0	10,000	0	0	0
June 30, 2074	0	2,083,861	19,737,609	0	10,000	0	0	0
June 30, 2075	0	1,976,371	20,665,921	0	10,000	0	0	0
June 30, 2076	0	1,868,375	21,634,925	0	10,000	0	0	0
June 30, 2077	0	1,759,887	22,646,641	0	10,000	0	0	0
June 30, 2078	0	1,651,509	23,705,323	0	10,000	0	0	0
June 30, 2079	0	1,543,676	24,809,521	0	10,000	0	0	0
June 30, 2080	0	1,436,583	25,963,750	0	10,000	0	0	0
June 30, 2081	0	1,330,551	27,170,487	0	10,000	0	0	0
June 30, 2082	0	1,225,868	28,434,095	0	10,000	0	0	0
June 30, 2083	0	1,122,537	29,759,053	0	10,000	0	0	0
June 30, 2084	0	1,021,374	31,146,189	0	10,000	0	0	0
June 30, 2085	0	922,510	32,602,357	0	10,000	0	0	0
June 30, 2086	0	826,304	34,128,695	0	10,000	0	0	0
June 30, 2087	0	733,858	35,727,971	0	10,000	0	0	0
June 30, 2088	0	645,158	37,406,718	0	10,000	0	0	0
June 30, 2089	0	562,264	39,168,335	0	10,000	0	0	0
June 30, 2090	0	486,853	41,018,245	0	10,000	0	0	0
June 30, 2091	0	417,195	42,960,411	0	10,000	0	0	0
June 30, 2092	0	353,044	44,999,358	0	10,000	0	0	0
June 30, 2093	0	295,176	47,140,245	0	10,000	0	0	0
June 30, 2094	0	243,796	49,387,224	0	10,000	0	0	0
June 30, 2095	0	198,629	51,746,054	0	10,000	0	0	0
June 30, 2096	0	159,888	54,220,607	0	10,000	0	0	0
June 30, 2097	0	126,770	56,814,783	0	10,000	0	0	0
June 30, 2098	0	99,065	59,534,965	0	10,000	0	0	0



## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### BENEFIT PAYMENT PROJECTION DISCLOSURES

Actuarial Present Values of Projected Benefit Payments using a July 1, 2018 Valuation Date							
For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments	V. Present Value of Funded Benefit Payments	VI. Present Value of Unfunded Benefit Payments	VII. Present Value of Benefit Payments using Single Equivalent Discount Rate
June 30, 2019	0	1,541,652	0	1,541,652	0	1,541,652	1,541,652
June 30, 2020	70,484	1,605,345	70,484	1,534,861	67,604	1,493,146	1,561,595
June 30, 2021	82,629	1,689,132	82,629	1,606,503	76,015	1,520,366	1,598,320
June 30, 2022	94,919	1,784,744	94,919	1,689,825	83,753	1,555,757	1,642,768
June 30, 2023	107,245	1,895,223	107,245	1,787,978	90,762	1,601,384	1,696,917
June 30, 2024	119,704	2,017,725	119,704	1,898,021	97,167	1,653,741	1,757,367
June 30, 2025	132,334	2,150,233	132,334	2,017,899	103,030	1,710,406	1,821,739
June 30, 2026	145,181	2,263,328	145,181	2,118,147	108,414	1,746,583	1,865,298
June 30, 2027	158,248	2,387,654	158,248	2,229,406	113,343	1,788,363	1,914,133
June 30, 2028	171,554	2,534,077	171,554	2,362,523	117,853	1,843,639	1,976,154
June 30, 2029	185,145	2,652,786	185,145	2,467,641	121,993	1,873,334	2,012,349
June 30, 2030	199,036	2,755,499	199,036	2,556,463	125,787	1,888,017	2,033,300
June 30, 2031	191,295	2,895,871	191,295	2,704,576	115,955	1,943,117	2,078,646
June 30, 2032	149,106	3,005,496	149,106	2,856,390	86,689	1,996,414	2,098,541
June 30, 2033	57,525	3,067,293	57,525	3,009,768	32,078	2,046,442	2,083,323
June 30, 2034	7,324	3,204,856	7,324	3,197,532	3,917	2,115,021	2,117,435
June 30, 2035	4,907	3,303,329	4,907	3,298,422	2,517	2,122,459	2,123,017
June 30, 2036	4,534	3,351,777	4,534	3,347,243	2,231	2,095,336	2,095,448
June 30, 2037	4,258	3,435,411	4,258	3,431,153	2,009	2,089,488	2,089,202
June 30, 2038	3,976	3,526,085	3,976	3,522,109	1,800	2,086,584	2,085,906
June 30, 2039	3,695	3,581,486	3,695	3,577,791	1,604	2,061,965	2,060,940
June 30, 2040	3,471	3,607,761	3,471	3,604,290	1,445	2,020,782	2,019,482
June 30, 2041	3,227	3,707,907	3,227	3,704,680	1,289	2,020,616	2,018,976
June 30, 2042	2,992	3,743,888	2,992	3,740,896	1,146	1,984,915	1,983,011
June 30, 2043	2,760	3,765,244	2,760	3,762,484	1,014	1,942,112	1,939,972
June 30, 2044	2,543	3,802,540	2,543	3,799,997	896	1,908,166	1,905,796
June 30, 2045	2,348	3,778,863	2,348	3,776,515	794	1,844,835	1,842,315
June 30, 2046	2,150	3,782,157	2,150	3,780,007	697	1,796,355	1,793,669
June 30, 2047	1,990	3,780,294	1,990	3,778,304	619	1,746,746	1,743,928
June 30, 2048	1,833	3,752,159	1,833	3,750,326	547	1,686,690	1,683,775
June 30, 2049	1,651	3,754,316	1,651	3,752,665	472	1,641,872	1,638,830
June 30, 2050	1,495	3,711,191	1,495	3,709,696	410	1,578,960	1,575,856
June 30, 2051	1,332	3,690,368	1,332	3,689,036	351	1,527,492	1,524,309
June 30, 2052	1,184	3,746,505	1,184	3,745,321	299	1,508,650	1,505,323
June 30, 2053	1,062	3,729,628	1,062	3,728,566	257	1,461,082	1,457,703
June 30, 2054	926	3,741,441	926	3,740,515	215	1,425,928	1,422,468
June 30, 2055	798	3,740,677	798	3,739,879	178	1,386,938	1,383,419
June 30, 2056	663	3,680,480	663	3,679,817	142	1,327,575	1,324,062
June 30, 2057	543	3,634,846	543	3,634,303	111	1,275,520	1,272,008
June 30, 2058	450	3,554,374	450	3,553,924	88	1,213,410	1,209,949

## 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	349	3,459,972	349	3,459,623	66	1,149,110	1,145,715
June 30, 2060	276	3,362,388	276	3,362,112	50	1,086,371	1,083,059
June 30, 2061	211	3,283,801	211	3,283,590	37	1,032,163	1,028,919
June 30, 2062	141	3,199,134	141	3,198,993	23	978,241	975,072
June 30, 2063	95	3,111,025	95	3,110,930	15	925,457	922,376
June 30, 2064	59	3,038,796	59	3,038,737	9	879,412	876,408
June 30, 2065	29	2,959,856	29	2,959,827	4	833,295	830,377
June 30, 2066	12	2,875,182	12	2,875,170	2	787,462	784,639
June 30, 2067	6	2,786,774	6	2,786,768	1	742,506	739,787
June 30, 2068	0	2,693,635	0	2,693,635	0	698,186	695,575
June 30, 2069	0	2,597,691	0	2,597,691	0	655,018	652,518
June 30, 2070	0	2,499,074	0	2,499,074	0	613,025	610,639
June 30, 2071	0	2,398,182	0	2,398,182	0	572,288	570,017
June 30, 2072	0	2,295,007	0	2,295,007	0	532,782	530,627
June 30, 2073	0	2,190,111	0	2,190,111	0	494,613	492,574
June 30, 2074	0	2,083,861	0	2,083,861	0	457,827	455,905
June 30, 2075	0	1,976,371	0	1,976,371	0	422,410	420,605
June 30, 2076	0	1,868,375	0	1,868,375	0	388,475	386,785
June 30, 2077	0	1,759,887	0	1,759,887	0	355,973	354,398
June 30, 2078	0	1,651,509	0	1,651,509	0	324,973	323,509
June 30, 2079	0	1,543,676	0	1,543,676	0	295,498	294,146
June 30, 2080	0	1,436,583	0	1,436,583	0	267,524	266,279
June 30, 2081	0	1,330,551	0	1,330,551	0	241,045	239,904
June 30, 2082	0	1,225,868	0	1,225,868	0	216,044	215,006
June 30, 2083	0	1,122,537	0	1,122,537	0	192,457	191,517
June 30, 2084	0	1,021,374	0	1,021,374	0	170,353	169,508
June 30, 2085	0	922,510	0	922,510	0	149,682	148,928
June 30, 2086	0	826,304	0	826,304	0	130,428	129,762
June 30, 2087	0	733,858	0	733,858	0	112,688	112,103
June 30, 2088	0	645,158	0	645,158	0	96,375	95,868
June 30, 2089	0	562,264	0	562,264	0	81,709	81,273
June 30, 2090	0	486,853	0	486,853	0	68,828	68,455
June 30, 2091	0	417,195	0	417,195	0	57,377	57,062
June 30, 2092	0	353,044	0	353,044	0	47,235	46,972
June 30, 2093	0	295,176	0	295,176	0	38,419	38,202
June 30, 2094	0	243,796	0	243,796	0	30,869	30,693
June 30, 2095	0	198,629	0	198,629	0	24,467	24,325
June 30, 2096	0	159,888	0	159,888	0	19,159	19,047
June 30, 2097	0	126,770	0	126,770	0	14,778	14,690
June 30, 2098	0	99,065	0	99,065	0	11,234	11,167

APPENDIX II – PLAN PROVISIONSEffective Date

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, 2017

Plan Year

July 1 through June 30.

Premium Effective Date

**Medicare Supplement Plans:** effective July 1, 2019

**Non-Medicare Plans:** effective July 1, 2019

**Dental Plans:** effective July 1, 2019

Creditable Service

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

Benefits Offered

Comprehensive Medical, Dental & \$5,000 of Life Insurance offered through the Group Insurance Commission.

Excise Tax

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.

Medicare Part B

The Town does not reimburse Medicare Part B.

The Town does not reimburse Medicare Part B Penalties.

Surviving Spouse Coverage

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

### Participant Contributions

Group	Individual	Family
<b>Medical</b>	<ul style="list-style-type: none"> <li>• 40% of premiums for Harvard Pilgrim Independence, Tufts Navigator, UniCare Choice or UniCare PLUS plans</li> <li>• 50% of premiums for UniCare Basic (with or without CIC) plans</li> <li>• 30% for all other plans</li> </ul>	<ul style="list-style-type: none"> <li>• 40% of premiums for Harvard Pilgrim Independence, Tufts Navigator, UniCare Choice or UniCare PLUS plans</li> <li>• 50% of premiums for UniCare Basic (with or without CIC) plans</li> <li>• 30% for all other plans</li> </ul>
<b>Dental</b>	<ul style="list-style-type: none"> <li>• 50% of premiums</li> </ul>	<ul style="list-style-type: none"> <li>• 50% of premiums</li> </ul>
<b>Life</b>	<ul style="list-style-type: none"> <li>• 50% of premiums</li> </ul>	N/A

### APPENDIX III - ACTUARIAL METHODS & ASSUMPTIONS

<u>Pre-Retirement Mortality</u>	RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females
<u>Post-Retirement Mortality</u>	RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females
<u>Disabled Mortality</u>	RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB and a base year 2012 for males and females
<u>Mortality Experience Study</u>	The mortality assumptions reflect recent experience analysis published in 2014 (based on the years 2006-2011), updated to reflect data through January 1, 2015 for post-retirement mortality, and professional judgement. As such, mortality assumptions reflect observed current mortality as well as expected mortality improvements.
<u>Discount Rate</u>	3.00% per annum (previously 3.00%)
<u>Long Term Rate of Return</u>	4.26% (based on investment policy)
<u>Municipal Bond Rate</u>	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
<u>Actuarial Cost Method</u>	Individual Entry Age Normal
<u>Asset-Valuation Method</u>	Market Value of Assets as of the Measurement Date, June 30, 2019.

## APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

### Excise Tax

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

### Employee Termination

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

#### **Non-Public Safety Employees**

	0-4 Years of Service (Males)	0-4 Years of Service (Females)	5-9 Years of Service (Males)	5-9 Years of Service (Females)	10+ Years of Service (Males)	10+ Years of Service (Females)
Age						
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	Public Safety 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%	1.00%
50 - 51	1.00%	1.50%	2.00%	1.50%	2.00%
52	1.00%	2.50%	2.00%	1.50%	2.00%
53	1.00%	2.50%	2.00%	1.50%	5.00%
54	2.00%	2.50%	2.00%	2.00%	7.50%
55	2.00%	5.50%	6.00%	5.00%	15.00%
56	2.50%	6.50%	20.00%	15.00%	10.00%
57	2.50%	6.50%	40.00%	35.00%	10.00%
58	5.00%	6.50%	50.00%	35.00%	10.00%
59	6.50%	6.50%	50.00%	35.00%	15.00%
60	12.00%	5.00%	40.00%	35.00%	20.00%
61	20.00%	13.00%	40.00%	35.00%	20.00%
62	30.00%	15.00%	35.00%	35.00%	25.00%
63	25.00%	12.50%	35.00%	35.00%	25.00%
64	22.00%	18.00%	35.00%	35.00%	30.00%
65	40.00%	15.00%	35.00%	35.00%	100.00%
66	25.00%	20.00%	40.00%	35.00%	100.00%
67	25.00%	20.00%	40.00%	30.00%	100.00%
68	30.00%	25.00%	40.00%	30.00%	100.00%
69	30.00%	20.00%	40.00%	30.00%	100.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%	100.00%	100.00%

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

### Permanent Disability Rates

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

### APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

#### Trend 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 and dental plans upon retirement. For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement.

#### Spouse Participation Rate

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

#### Spouse Demographics

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

#### Compensation Increases

3.00% per year.

#### Inflation Rate

2.75% per year.



### APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

#### Implicit Subsidy

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

<b>Impact of Implicit Subsidy</b>		
	<b>As of the Measurement Date</b>	
<b>Impact on Liability</b>	<b><u>June 30, 2019</u></b>	
I. Actuarial Accrued Liability	59,142,235	
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>50,689,839</u>	
III. Liability from Implicit Subsidy [I. - II.]	8,452,396	

  

	<b>For the Measurement Period</b>	
<b>Impact on Payments</b>	<b><u>June 30, 2019</u></b>	
IV. Employer Payments (Including Implicit Subsidy)	1,541,652	
V. Actual Employer Payments	<u>1,209,620</u>	
VI. Implicit Subsidy [IV. - V.]	332,032	

### 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	3,376	2,128	44 & Under	6,635	4,348	65 to 69	4,565	4,565
25 to 29	4,980	2,214	45 to 49	7,288	5,490	70 to 74	4,565	4,565
30 to 34	6,293	2,779	50 to 54	8,574	7,230	75 to 79	4,565	4,565
35 to 39	6,483	3,490	55 to 59	9,911	9,399	80 to 84	4,565	4,565
40 to 44	6,635	4,348	60 to 64	11,794	12,062	85 to 89	4,565	4,565
45 to 49	7,288	5,490	65 to 69	14,138	15,045	90 & Over	4,565	4,565
50 to 54	8,574	7,230	70 to 74	16,672	18,030			
55 to 59	9,911	9,399	75 to 79	19,362	21,294			
60 to 64	11,794	12,062	80 to 84	22,200	24,476			
65 to 69	14,138	15,045	85 to 89	25,341	28,016			
70 & Over	16,672	18,030	90 & Over	25,341	28,016			

\*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	June 30, 2016
<b>A. Average Age at Hire</b>	34.42	34.52
<b>B. Average Service</b>	<u>8.42</u>	<u>9.44</u>
<b>C. Average Current Age</b>	42.84	43.96

### Retired Employees & Spouses

Valuation Date	July 1, 2018	June 30, 2016
<b>A. Under Age 65</b>	60	60
<b>B. Age 65 &amp; Over</b>	<u>244</u>	<u>239</u>
<b>C. Total</b>	304	299

### 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	23									23
25-29	64	4								68
30-34	32	12	6							50
35-39	30	7	12	7						56
40-44	19	6	12	9	3					49
45-49	30	12	6	6	11	1				66
50-54	20	9	11	8	9	2	3			62
55-59	8	4	14	12	5		4	1		48
60-64	5	2	3	5	6	1	3			25
65-69	2	1					1			4
70+		1	1	1						3
Total	233	58	65	48	34	4	11	1		454

## APPENDIX IV – PLAN DEMOGRAPHICS

### Plan Offerings

Number of Contracts			
<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
Fallon Direct	21	8	29
Fallon Select	3	8	11
Harvard Pilgrim Independence	22	2	24
Harvard Primary Choice	19	30	49
Allways Health Partners		22	22
Tufts Navigator	8	25	33
Tufts Spirit	25	15	40
Unicare Basic w/ CIC	4		4
Unicare Comm Choice	29	58	87
Unicare Plus	6	3	9
Unicare OME w/ CIC	58	53	111
Tufts Medicare Complement	2	5	7
Tufts Medicare Preferred	4	1	5
Harvard Senior	24	16	40
Total	225	75	171
			471

Per Contract Costs (monthly)		
<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Fallon Direct	600.67	1,514.23
Fallon Select	811.80	1,971.90
Harvard Pilgrim Independence	889.65	2,171.50
Harvard Primary Choice	645.80	1,646.47
Allways Health Partners	646.93	1,677.70
Tufts Navigator	747.75	1,822.08
Tufts Spirit	565.90	1,358.93
Unicare Basic w/ CIC	1,060.77	2,347.90
Unicare Comm Choice	517.50	1,276.95
Unicare Plus	696.10	1,654.60
Unicare OME w/ CIC	379.49	758.98
Tufts Medicare Complement	371.50	743.00
Tufts Medicare Preferred	322.43	644.86
Harvard Senior	391.13	782.26
Dental Plan	45.36	118.26

#### APPENDIX IV – 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 IV – 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.