

Town of Bellingham Other Postemployment Benefits Plan

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2017

As of the Measurement Date:
June 30, 2019

For the Reporting Date:
June 30, 2019

Delivered October 10, 2019



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October 10, 2019

Personal and Confidential

Ms. Beth Cornell-Smith
Human Resources Director
Town of Bellingham
10 Mechanic Street
Bellingham, MA 02019

Dear Ms. Cornell-Smith:

We have performed an actuarial valuation of the Town of Bellingham 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, 2017. The figures presented in this report reflect the adoption, by the Town of Bellingham, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal years ending June 30, 2017 and June 30, 2018 respectively.

The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, reflecting the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,

A handwritten signature in black ink, appearing to read 'P. Elmore', written over a light blue rectangular background.

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

October 10, 2019

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Bellingham other postemployment benefit programs with a Valuation Date of July 1, 2017 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 in a cursive style.

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 no experience because this was an interim valuation. During the period there was an investment loss of \$6,674 below the expected return.

Assumption changes

A key assumption has changed since the prior valuation - the impact is detailed below.

- ✓ Due to the GASB 75 standards the discount rate has been changed from 3.50% to 2.75% increasing the disclosed liability by \$8.9 million.
- ✓ Assumption changes caused Service Cost to increase by \$560 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 \$514,133 of assets as of June 30, 2019.
- ✓ Funding Policy - The Town is expected to contribute \$100,000 in Fiscal Year 2020 and \$50,000 annually thereafter.
- ✓ Investment Policy - The Town is expected to earn 2.75% on assets based on its investment policy.

EXECUTIVE SUMMARY

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare integrated) plans - represent 84.10% 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 5.00% per year for non-Medicare integrated plans and 5.00% per year for Medicare integrated plans.
- ✓ Discount Rate (2.75%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated 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 42 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, 2017	July 1, 2017
Measurement Date & Period Ending	June 30, 2019	June 30, 2018
Reporting Date/Fiscal Year End	June 30, 2019	June 30, 2018
Total OPEB Liability	81,124,133	68,268,802
Per Eligible Active Plan Participant	83,272	83,241
Per Retiree/Spouse Plan Participant	141,449	96,864
Total Annual Service Cost (annual benefit accrual)	3,201,129	2,517,169
Per Eligible Active Plan Participant	6,600	5,190
Expected Employer Share of Retiree Costs	1,715,869	1,525,583
Per Retiree/Spouse Plan Participant	5,958	5,297
Net OPEB Liability as a % of Covered Payroll	260.90%	225.90%
Average Annual Medical Plan Premium (Single Coverage)	8,554	8,147
Average Annual Medical Plan Premium (Family Coverage)	28,195	26,852
<u>Projected 2022 Excise Tax Thresholds</u>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	

PRINCIPAL RESULTS OF THE VALUATION

Town of Bellingham Assuming Funding - 2.75% discount rate Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2017	July 1, 2017
For the Measurement Period ending on the Measurement Date of:	June 30, 2019	June 30, 2018
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018
I. Total OPEB Liability		
A. Actives	40,386,819	40,371,936
B. Retirees/Disabled	<u>40,737,314</u>	<u>27,896,866</u>
C. Total	81,124,133	68,268,802
II. Fiduciary Net Position [Plan Assets]	514,133	506,868
III. Net OPEB Liability (Asset) [I. - II.]	80,610,000	67,761,934
IV. Funded Ratio [II. / I.]	0.63%	0.74%
V. Number of Eligible Participants		
A. Actives	485	485
B. Retirees/Disabled & Dependents	<u>288</u>	<u>288</u>
C. Total	773	773
VI. Service Cost	3,201,129	2,517,169
VII. Financial Statement Expense	8,363,689	5,749,399
VIII. Employer Contribution to the OPEB Trust	0	0
IX. Deferred Inflow of Resources	0	0
X. Deferred Outflow of Resources	11,422,353	5,222,107
XI. Money Weighted Rate of Return	1.43%	0.57%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.79%	2.98%
XIII. Expected Long Term Rate of Return (Net of Expense)	2.75%	2.75%
XIV. Crossover Year	Immediate	Immediate
XV. Discount Rate	2.75%	3.50%

PRINCIPAL RESULTS OF THE VALUATION

Town of Bellingham
Plan Liabilities as of the June 30, 2019 Measurement Date
Assuming Funding - 2.75% discount rate

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Highway Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Sanitation Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability									
A. Actives	3,108,235	28,605,279	3,556,804	2,980,561	806,177	124,277	0	1,205,486	40,386,819
B. Retirees/Disabled	<u>29,102,165</u>	<u>9,715,750</u>	<u>773,112</u>	<u>452,793</u>	<u>355,036</u>	<u>0</u>	<u>120,780</u>	<u>217,678</u>	<u>40,737,314</u>
C. Total	32,210,400	38,321,029	4,329,916	3,433,354	1,161,213	124,277	120,780	1,423,164	81,124,133
II. Fiduciary Net Position [Plan Assets]	204,594	242,230	27,513	21,685	7,461	771	777	9,102	514,133
III. Net OPEB Liability (Asset) [I. - II.]	32,005,806	38,078,799	4,302,403	3,411,669	1,153,752	123,506	120,003	1,414,062	80,610,000
IV. Number of Eligible Participants									
A. Actives	55	352	30	27	9	1	0	11	485
B. Retirees/Disabled	<u>229</u>	<u>45</u>	<u>3</u>	<u>1</u>	<u>6</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>288</u>
C. Total	284	397	33	28	15	1	1	14	773

For the Reporting Date and Fiscal Year Ending June 30, 2019

V. Service Cost	377,471	2,263,866	233,509	240,371	32,332	4,568	0	49,012	3,201,129
VI. Financial Statement Expense	2,646,430	4,531,744	489,606	444,950	99,851	11,872	6,935	132,301	8,363,689
VII. Employer Share of Costs	(1,073,053)	(537,995)	(27,548)	(17,225)	(35,417)	(1)	(3,592)	(21,038)	(1,715,869)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	0	0	0	0	0	0	0	0	0
IX. Total Employer Contribution [VII. + VIII.]	(1,073,053)	(537,995)	(27,548)	(17,225)	(35,417)	(1)	(3,592)	(21,038)	(1,715,869)

PRINCIPAL RESULTS OF THE VALUATION

Town of Bellingham

Assuming Funding - 2.75% 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	14,057,582	31,906,343	45,963,925	1,341,819	33,582,218	34,924,037	80,887,962
B. Spouses	<u>6,058,591</u>	<u>21,194,951</u>	<u>27,253,542</u>	<u>472,004</u>	<u>5,341,273</u>	<u>5,813,277</u>	<u>33,066,819</u>
C. Total	20,116,173	53,101,294	73,217,467	1,813,823	38,923,491	40,737,314	113,954,781
Total OPEB Liability							
A. Participants	7,670,834	17,443,542	25,114,376	1,341,819	33,582,218	34,924,037	60,038,413
B. Spouses	<u>3,416,011</u>	<u>11,856,432</u>	<u>15,272,443</u>	<u>472,004</u>	<u>5,341,273</u>	<u>5,813,277</u>	<u>21,085,720</u>
C. Total	11,086,845	29,299,974	40,386,819	1,813,823	38,923,491	40,737,314	81,124,133
Service Cost							
A. Participants	583,044	1,445,908	2,028,952	0	0	0	2,028,952
B. Spouses	<u>240,424</u>	<u>931,753</u>	<u>1,172,177</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,172,177</u>
C. Total	823,468	2,377,661	3,201,129	0	0	0	3,201,129

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	3,201,129
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	2,471,678
III. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IV. Deferred (Inflows)/Outflows from Plan Experience**	325,299
V. Deferred (Inflows)/Outflows from Changes of Assumptions**	2,375,992
VI. Projected earnings on OPEB plan investments	(13,939)
VII. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	3,530
VIII. Financial statement expense [I. + II. + III. + IV. + V. + VI. + VII.]	8,363,689

* Recognized Immediately

** Amortized over 5.64 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	68,268,802	506,868	67,761,934
II. Prior Period Adjustment	0	0	0
III. Balances for June 30, 2018 with Adjustment [I. + II.]	68,268,802	506,868	67,761,934
Changes for the year:			
IV. Service Cost	3,201,129	0	3,201,129
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	2,471,678	0	2,471,678
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	8,898,393	0	8,898,393
VIII. Differences between actual and expected experience **	0	0	0
IX. Net investment income	0	7,265	(7,265)
X. Employer contributions to Trust	0	1,715,869	(1,715,869)
XI. Benefit payments withdrawn from Trust	0	(1,715,869)	1,715,869
XII. Benefit payments excluding Implicit Cost	(1,435,737)	0	(1,435,737)
XIII. Implicit Cost amount	(280,132)	0	(280,132)
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	(1,715,869)	0	(1,715,869)
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.]	12,855,331	7,265	12,848,066
XVIII. Balances at June 30, 2019 [III.+XVII.]	81,124,133	514,133	80,610,000

* Recognized Immediately

** Amortized over 5.64 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	1,834,685	5.64	1,184,087	325,299	325,299	325,299	325,299	208,190	
2019	0	5.64	0	0	0	0	0	0	0
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			1,184,087						
Net increase (decrease) in OPEB expense				325,299	325,299	325,299	325,299	208,190	0

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	4,502,203	5.64	2,905,677	798,263	798,263	798,263	798,263	510,888	
2019	8,898,393	5.64	7,320,664	1,577,729	1,577,729	1,577,729	1,577,729	1,577,729	1,009,748
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			10,226,341						
Net increase (decrease) in OPEB expense				2,375,992	2,375,992	2,375,992	2,375,992	2,088,617	1,009,748

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									
2018	10,976	5.00	6,586	2,195	2,195	2,195	2,196		
2019	6,674	5.00	5,339	1,335	1,335	1,335	1,335	1,334	
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			11,925						
Net increase (decrease) in OPEB expense				3,530	3,530	3,530	3,531	1,334	0

EXHIBIT A

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

3. Changes in Net OPEB Expense (Continued)

Statement of Outflows & Inflows Arising from Current & Prior Reporting Periods for the Measurement Period ending on June 30, 2019 to be reported for the fiscal year ending June 30, 2019		
	Deferred Outflows of Resources	Deferred Inflows of Resources
I. Differences between actual & expected experience	1,184,087	0
II. Changes of assumptions	10,226,341	0
III. Net difference between projected & actual earnings on OPEB plan investments	<u>11,925</u>	<u>0</u>
IV. Total [I.+II.+III.]	11,422,353	0
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	2,704,821
	2021	2,704,821
	2022	2,704,822
	2023	2,298,141
	2024	1,009,748
	Thereafter	0

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

4. Funding Policy

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the period ending on the June 30, 2019 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$1,715,869. The Town also made a contribution to an OPEB Trust of \$0 for a total contribution during the measurement period of \$1,715,869 to be reported on the financial statement for the fiscal year ending June 30, 2019.

5. Investment Policy

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

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return
Domestic Equity - Large Cap	0.00%	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	0.00%	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 & Cash Equivalents	100.00%	Cash & Cash Equivalents	0.00%
Total	100.00%		
		I. Real Rate of Return*	0.00%
		II. Inflation Assumption	2.75%
		III. Total Nominal Return [I. + II.]	2.75%
		IV. Investment Expense	0.00%
		V. Net Investment Return [III.-IV.]	2.75%

*Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

6. Schedule of The Town's Contributions

Year	Actuarial Determined Contribution	Contributions in relation to the actuarially determined contribution	Contribution deficiency (excess)	Covered employee payroll	Contributions as a percentage of covered employee payroll
June 30, 2019	7,075,463	(1,715,869)	5,359,594	30,891,835	5.55%
June 30, 2018	5,580,666	(1,525,583)	4,055,083	29,992,073	5.09%
June 30, 2017	5,575,718	(1,210,598)	4,365,120	27,445,923	4.41%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

7. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	54,784,096	81,124,133	115,716,760
II. Fiduciary Net Position	<u>514,133</u>	<u>514,133</u>	<u>514,133</u>
III. Net OPEB Liability (Asset) [I.-II.]	54,269,963	80,610,000	115,202,627
IV. Service Cost	1,619,103	3,201,129	5,463,121

8. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	97,056,704	81,124,133	69,286,993
II. Fiduciary Net Position	<u>514,133</u>	<u>514,133</u>	<u>514,133</u>
III. Net OPEB Liability (Asset) [I.-II.]	96,542,571	80,610,000	68,772,860
IV. Service Cost	4,302,173	3,201,129	2,462,775

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	506,868	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	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	0		
III. Earnings and increase in fair value	7,265		
IV. Ending value - June 30, 2019 [I.+II.+III.]	514,133		
Money Weighted Rate of Return	1.43%		
Asset Value - June 30, 2019	514,133		

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

10. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2019								
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Highway Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Sanitation Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2019	32,210,400	38,321,029	4,329,916	3,433,354	1,161,213	124,277	120,780	1,423,164	81,124,133
II. Fiduciary Net Position as of June 30, 2019	204,594	242,230	27,513	21,685	7,461	771	777	9,102	514,133
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	32,005,806	38,078,799	4,302,403	3,411,669	1,153,752	123,506	120,003	1,414,062	80,610,000
IV. Service Cost	377,471	2,263,866	233,509	240,371	32,332	4,568	0	49,012	3,201,129
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,200,531	996,774	112,477	90,697	29,003	3,182	2,930	36,084	2,471,678
VI. Projected Earnings on OPEB Plan Investments	(5,530)	(6,582)	(747)	(591)	(201)	(21)	(21)	(246)	(13,939)
VII. Net Recognition of Deferred (Inflows)/Outflows	1,073,958	1,277,686	144,367	114,473	38,717	4,143	4,026	47,451	2,704,821
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VI. + VII. + VIII.]	2,646,430	4,531,744	489,606	444,950	99,851	11,872	6,935	132,301	8,363,689
X. Employer Share of Costs	(1,073,053)	(537,995)	(27,548)	(17,225)	(35,417)	(1)	(3,592)	(21,038)	(1,715,869)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	0	0	0	0	0	0	0	0	0
XII. Total Employer Contribution [X. + XI.]	(1,073,053)	(537,995)	(27,548)	(17,225)	(35,417)	(1)	(3,592)	(21,038)	(1,715,869)
XIII. Net OPEB Expense [IX. + XII.]	1,573,377	3,993,749	462,058	427,725	64,434	11,871	3,343	111,263	6,647,820

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, 2017
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	1,184,087
II. Deferred (Inflow)/Outflow from Investment Experience	11,925
III. Deferred (Inflow)/Outflow from Changes in Assumptions	10,226,341
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	5,222,107
II. Deferred Outflow created during the period	8,905,067
III. Deferred Outflow recognized during the period	2,704,821
IV. Change in Deferred Outflow (II. - III.)	6,200,246
V. Deferred Outflow at end of the period (I. + IV.)	11,422,353
VI. Deferred Inflow at the beginning of the period	0
VII. Deferred Inflow created during the period	0
VIII. Deferred Inflow recognized during the period	0
IX. Change in Deferred Inflow (VII. - VIII.)	0
X. Deferred Inflow at end of the period (VI. + IX.)	0
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	67,761,934
II. Service Cost	3,201,129
III. Interest on Total OPEB Liability, Service Cost, and Payments	2,471,678
IV. Projected Investment Income	(13,939)
V. Total Employer Contributions	(1,715,869)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	3,942,999
VIII. Deferred Outflow created during the period	8,905,067
IX. Deferred Inflow created during the period	0
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	80,610,000
Net OPEB Expense	
I. Service Cost	3,201,129
II. Interest on Total OPEB Liability, Service Cost, and Payments	2,471,678
III. Projected Investment Income	(13,939)
IV. Recognition of Deferred (Inflow)/Outflow	2,704,821
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	8,363,689
VII. Benefit Payments	(1,715,869)
VIII. Contributions to Trust	0
IX. Total Employer Payments (VII. + VIII.)	(1,715,869)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	6,647,820

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)			
	For the Fiscal Year Ending:		
	<u>June 30, 2019</u>	<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	3,201,129	2,517,169	2,771,538
II. 30 year level dollar amortization of NOL	<u>3,874,334</u>	<u>3,063,497</u>	<u>2,804,180</u>
III. Actuarial Determined Contribution [I. + II.]	7,075,463	5,580,666	5,575,718
IV. Contributions in relation to the actuarially determined contribution	<u>(1,715,869)</u>	<u>(1,525,583)</u>	<u>(1,210,598)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>5,359,594</u>	<u>4,055,083</u>	<u>4,365,120</u>
Covered employee payroll	30,891,835	29,992,073	27,445,923
Contributions as a % of covered employee payroll	5.55%	5.09%	4.41%
Discount Rate	2.75%	3.50%	3.25%
Money Weighted Rate of Return	1.43%	0.57%	2.75%

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, 2017	July 1, 2017	July 1, 2015
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018	June 30, 2017
Total OPEB Liability	81,124,133	68,268,802	58,819,995
I. Service Cost	3,201,129	2,517,169	2,771,538
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	2,471,678	2,120,333	1,871,855
III. Changes in Benefit terms	0	0	0
IV. Difference between Expected & Actual Plan Experience	0	4,502,203	0
V. Changes of assumptions	8,898,393	1,834,685	0
VI. Benefit Payments Excluding Implicit Cost	(1,435,737)	(1,286,488)	N/A
VII. Implicit Cost Amount	(280,132)	(239,095)	N/A
VIII. Total Benefit payments including Implicit Cost [VI.+VII.]	(1,715,869)	(1,525,583)	(1,284,525)
IX. Net Change in OPEB liability [I.+II.+III.+IV.+V.+VIII.]	12,855,331	9,448,807	3,358,868
X. Total OPEB liability - beginning of period	68,268,802	58,819,995	55,461,127
XI. Total OPEB liability - end of period [IX.+X.]	81,124,133	68,268,802	58,819,995
Plan Fiduciary Net Position	514,133	506,868	503,984
XII. Earning from Plan Investments	7,265	2,884	1,508
XIII. Employer Contribution to trust	1,715,869	1,525,583	1,210,598
XIV. Benefit payments from trust, including refunds of member contributions	(1,715,869)	(1,525,583)	(1,210,598)
XV. Administrative expense	0	0	0
XVI. Other	0	0	0
XVII. Net change in plan fiduciary net position [XII.+XIII.+XIV.+XV.+XVI.]	7,265	2,884	1,508
XVIII. Plan fiduciary net position - beginning of period	506,868	503,984	502,476
XIX. Plan fiduciary net position - end of period [XVII.+XVIII.]	514,133	506,868	503,984
XX. Net OPEB Liability [XI.-XIX.]	80,610,000	67,761,934	58,316,011
XXI. Plan fiduciary net position as % of total OPEB liability [XIX. / XI.]	0.63%	0.74%	0.86%
XXII. Covered employee payroll	30,891,835	29,992,073	27,445,923
XXIII. Plan NOL as % of covered employee payroll [XX. / XXII.]	260.94%	225.93%	212.48%
Single Discount Rate to calculate Plan Liabilities	2.75%	3.50%	3.25%

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, 2017.
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:	2.75%, 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:	2.75%, net of OPEB plan investment expense, including inflation.
Inflation:	2.75% as of June 30, 2019 and for future periods
Salary Increases:	3.00% annually as of June 30, 2019 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Pre-Retirement Mortality:	General: RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females Teacher: RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Post-Retirement Mortality:	General: RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females Teachers: RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Disabled Mortality:	General: RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB and a base year 2012 for males and females Teachers: RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB and a base year 2012 for males and females

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Plan Membership

At July 1, 2017, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	288
Active Employees:	<u>485</u>
Total:	773

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 3.50% to 2.75%

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$0 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 \$1,715,869. \$280,132 of the \$1,715,869 represents implicit cost.

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 2.75% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 2.75% 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 [VII. - VIII. - IX.]
2019	June 30, 2019	81,124,133	514,133	80,610,000	0.63%	3,201,129	1,715,869	0	1,715,869	1,715,869	0	1,715,869
2020	June 30, 2020	85,451,472	629,637	84,821,835	0.74%	3,407,637	1,838,266	100,000	1,938,266	1,838,266	0	1,938,266
2021	June 30, 2021	89,699,539	697,635	89,001,904	0.78%	3,617,245	1,988,662	50,000	2,038,662	1,988,662	0	2,038,662
2022	June 30, 2022	94,068,898	767,503	93,301,395	0.82%	3,824,278	2,165,189	50,000	2,215,189	2,165,189	0	2,215,189
2023	June 30, 2023	98,579,491	839,292	97,740,199	0.85%	4,048,991	2,336,059	50,000	2,386,059	2,336,059	0	2,386,059
2024	June 30, 2024	103,279,044	913,055	102,365,989	0.88%	4,268,827	2,488,744	50,000	2,538,744	2,488,744	0	2,538,744
2025	June 30, 2025	108,133,202	988,847	107,144,355	0.91%	4,516,958	2,663,450	50,000	2,713,450	2,663,450	0	2,713,450
2026	June 30, 2026	113,221,030	1,066,723	112,154,307	0.94%	4,753,297	2,818,291	50,000	2,868,291	2,818,291	0	2,868,291
2027	June 30, 2027	118,440,812	1,146,741	117,294,071	0.97%	5,003,375	3,019,092	50,000	3,069,092	3,019,092	0	3,069,092
2028	June 30, 2028	123,747,879	1,228,959	122,518,920	0.99%	5,236,575	3,231,318	50,000	3,281,318	3,231,318	0	3,281,318
2029	June 30, 2029	129,227,228	1,313,438	127,913,790	1.02%	5,476,356	3,411,144	50,000	3,461,144	3,411,144	0	3,461,144
2030	June 30, 2030	134,732,629	1,400,240	133,332,389	1.04%	5,749,170	3,622,973	50,000	3,672,973	3,622,973	0	3,672,973
2031	June 30, 2031	140,574,314	1,489,429	139,084,885	1.06%	6,009,330	3,850,020	50,000	3,900,020	3,850,020	0	3,900,020
2032	June 30, 2032	146,478,033	1,581,071	144,896,962	1.08%	6,310,269	4,037,756	50,000	4,087,756	4,037,756	0	4,087,756
2033	June 30, 2033	152,721,025	1,675,233	151,045,792	1.10%	6,609,178	4,203,669	50,000	4,253,669	4,203,669	0	4,253,669
2034	June 30, 2034	159,281,454	1,771,985	157,509,469	1.11%	6,923,904	4,421,455	50,000	4,471,455	4,421,455	0	4,471,455
2035	June 30, 2035	166,183,532	1,871,397	164,312,135	1.13%	7,258,038	4,614,938	50,000	4,664,938	4,614,938	0	4,664,938
2036	June 30, 2036	173,134,989	1,973,543	171,161,446	1.14%	7,607,042	4,771,893	50,000	4,821,893	4,771,893	0	4,821,893
2037	June 30, 2037	180,750,756	2,078,498	178,672,258	1.15%	7,965,235	4,976,846	50,000	5,026,846	4,976,846	0	5,026,846
2038	June 30, 2038	188,833,976	2,186,340	186,647,636	1.16%	8,366,352	5,176,020	50,000	5,226,020	5,176,020	0	5,226,020
2039	June 30, 2039	197,285,861	2,297,147	194,988,714	1.16%	8,771,092	5,361,895	50,000	5,411,895	5,361,895	0	5,411,895
2040	June 30, 2040	206,016,398	2,411,001	203,605,397	1.17%	9,201,812	5,568,723	50,000	5,618,723	5,568,723	0	5,618,723
2041	June 30, 2041	215,416,418	2,527,986	212,888,432	1.17%	9,659,768	5,861,282	50,000	5,911,282	5,861,282	0	5,911,282
2042	June 30, 2042	225,337,816	2,648,188	222,689,628	1.18%	10,158,401	6,134,713	50,000	6,184,713	6,134,713	0	6,184,713
2043	June 30, 2043	235,635,756	2,771,696	232,864,060	1.18%	10,681,168	6,388,220	50,000	6,438,220	6,388,220	0	6,438,220
2044	June 30, 2044	246,623,665	2,898,600	243,725,065	1.18%	11,235,250	6,664,869	50,000	6,714,869	6,664,869	0	6,714,869
2045	June 30, 2045	258,278,683	3,028,994	255,249,689	1.17%	11,823,849	6,958,803	50,000	7,008,803	6,958,803	0	7,008,803
2046	June 30, 2046	270,511,084	3,162,974	267,348,110	1.17%	12,447,666	7,205,031	50,000	7,255,031	7,205,031	0	7,255,031
2047	June 30, 2047	283,393,449	3,300,639	280,092,810	1.16%	13,111,070	7,486,621	50,000	7,536,621	7,486,621	0	7,536,621
2048	June 30, 2048	297,212,539	3,442,089	293,770,450	1.16%	13,801,438	7,726,981	50,000	7,776,981	7,726,981	0	7,776,981
2049	June 30, 2049	312,121,137	3,587,429	308,533,708	1.15%	14,534,096	7,981,844	50,000	8,031,844	7,981,844	0	8,031,844
2050	June 30, 2050	327,778,319	3,736,766	324,041,553	1.14%	15,322,612	8,302,012	50,000	8,352,012	8,302,012	0	8,352,012

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

ALTERNATIVE FUNDING SCENARIO (OPEN GROUP)

6.50% discount rate and funding increasing at 3.00% per year

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with expected 6.50% return	III. Net OPEB Liability (Asset) ("NOL") [I. - II.]	IV. Funded Ratio [III. / 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	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VII. - VIII. - IX.]
2019	June 30, 2019	42,015,771	514,133	41,501,638	1.22%	1,106,926	1,715,869	0	1,715,869	1,715,869	0	0
2020	June 30, 2020	44,325,487	2,240,170	42,085,317	5.05%	1,205,722	1,838,266	1,640,153	3,478,419	1,838,266	0	1,640,153
2021	June 30, 2021	46,678,619	4,129,179	42,549,440	8.85%	1,287,224	1,988,662	1,689,358	3,678,020	1,988,662	0	1,689,358
2022	June 30, 2022	49,138,465	6,140,973	42,997,492	12.50%	1,369,156	2,165,189	1,740,039	3,905,228	2,165,189	0	1,740,039
2023	June 30, 2023	51,680,376	8,335,836	43,344,540	16.13%	1,449,970	2,336,059	1,792,240	4,128,299	2,336,059	0	1,792,240
2024	June 30, 2024	54,281,999	10,727,236	43,554,763	19.76%	1,537,042	2,488,744	1,846,007	4,334,751	2,488,744	0	1,846,007
2025	June 30, 2025	56,955,061	13,329,564	43,625,497	23.40%	1,621,080	2,663,450	1,901,387	4,564,837	2,663,450	0	1,901,387
2026	June 30, 2026	59,732,302	16,158,195	43,574,107	27.05%	1,717,198	2,818,291	1,958,429	4,776,720	2,818,291	0	1,958,429
2027	June 30, 2027	62,588,765	19,229,554	43,359,211	30.72%	1,808,200	3,019,092	2,017,182	5,036,274	3,019,092	0	2,017,182
2028	June 30, 2028	65,576,403	22,561,183	43,015,220	34.40%	1,903,867	3,231,318	2,077,697	5,309,015	3,231,318	0	2,077,697
2029	June 30, 2029	68,625,130	26,171,819	42,453,311	38.14%	1,992,513	3,411,144	2,140,028	5,551,172	3,411,144	0	2,140,028
2030	June 30, 2030	71,709,495	30,081,471	41,628,024	41.95%	2,082,505	3,622,973	2,204,229	5,827,202	3,622,973	0	2,204,229
2031	June 30, 2031	74,887,670	34,311,505	40,576,165	45.82%	2,185,714	3,850,020	2,270,356	6,120,376	3,850,020	0	2,270,356
2032	June 30, 2032	78,064,261	38,884,734	39,179,527	49.81%	2,283,421	4,037,756	2,338,467	6,376,223	4,037,756	0	2,338,467
2033	June 30, 2033	81,412,272	43,825,512	37,586,760	53.83%	2,397,235	4,203,669	2,408,621	6,612,290	4,203,669	0	2,408,621
2034	June 30, 2034	84,791,037	49,159,839	35,631,198	57.98%	2,510,236	4,421,455	2,480,880	6,902,335	4,421,455	0	2,480,880
2035	June 30, 2035	88,359,238	54,915,468	33,443,770	62.15%	2,629,445	4,614,938	2,555,306	7,170,244	4,614,938	0	2,555,306
2036	June 30, 2036	92,094,271	61,122,019	30,972,252	66.37%	2,755,729	4,771,893	2,631,965	7,403,858	4,771,893	0	2,631,965
2037	June 30, 2037	96,008,365	67,811,108	28,197,257	70.63%	2,887,449	4,976,846	2,710,924	7,687,770	4,976,846	0	2,710,924
2038	June 30, 2038	99,962,033	75,016,472	24,945,561	75.04%	3,022,525	5,176,020	2,792,252	7,968,272	5,176,020	0	2,792,252
2039	June 30, 2039	104,293,243	82,774,114	21,519,129	79.37%	3,174,485	5,361,895	2,876,020	8,237,915	5,361,895	0	2,876,020
2040	June 30, 2040	108,877,644	91,122,451	17,755,193	83.69%	3,326,719	5,568,723	2,962,301	8,531,024	5,568,723	0	2,962,301
2041	June 30, 2041	113,679,288	100,102,471	13,576,817	88.06%	3,489,146	5,861,282	3,051,170	8,912,452	5,861,282	0	3,051,170
2042	June 30, 2042	118,635,688	109,757,904	8,877,784	92.52%	3,661,854	6,134,713	3,142,705	9,277,418	6,134,713	0	3,142,705
2043	June 30, 2043	123,951,466	120,135,403	3,816,063	96.92%	3,850,138	6,388,220	3,236,986	9,625,206	6,388,220	0	3,236,986
2044	June 30, 2044	129,547,560	131,284,736	(1,737,176)	101.34%	4,047,534	6,664,869	3,334,096	9,998,965	6,664,869	0	3,334,096
2045	June 30, 2045	135,369,951	143,258,992	(7,889,041)	105.83%	4,256,916	6,958,803	0	6,958,803	6,958,803	0	0
2046	June 30, 2046	141,553,874	152,570,826	(11,016,952)	107.78%	4,479,088	7,205,031	0	7,205,031	7,205,031	0	0
2047	June 30, 2047	148,098,481	162,487,930	(14,389,449)	109.72%	4,714,519	7,486,621	0	7,486,621	7,486,621	0	0
2048	June 30, 2048	154,972,582	173,049,645	(18,077,063)	111.66%	4,964,806	7,726,981	0	7,726,981	7,726,981	0	0
2049	June 30, 2049	162,228,752	184,297,872	(22,069,120)	113.60%	5,225,230	7,981,844	0	7,981,844	7,981,844	0	0
2050	June 30, 2050	170,013,562	196,277,234	(26,263,672)	115.45%	5,501,503	8,302,012	0	8,302,012	8,302,012	0	0
2051	June 30, 2051	178,431,506	209,035,254	(30,603,748)	117.15%	5,798,472	8,636,236	0	8,636,236	8,636,236	0	0
2052	June 30, 2052	187,292,380	222,622,546	(35,330,166)	118.86%	6,107,346	9,003,575	0	9,003,575	9,003,575	0	0
2053	June 30, 2053	196,750,500	237,093,011	(40,342,511)	120.50%	6,437,792	9,423,467	0	9,423,467	9,423,467	0	0

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Projection of Contributions using a July 1, 2017 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	30,891,835	0	30,891,835	0	1,715,869	0	1,715,869
June 30, 2020	28,741,666	3,076,924	31,818,590	0	1,838,266	0	1,838,266
June 30, 2021	26,914,219	5,858,929	32,773,148	0	1,988,662	0	1,988,662
June 30, 2022	25,385,677	8,370,665	33,756,342	0	2,165,189	0	2,165,189
June 30, 2023	23,858,964	10,910,068	34,769,032	0	2,336,059	0	2,336,059
June 30, 2024	22,470,331	13,341,772	35,812,103	0	2,488,744	0	2,488,744
June 30, 2025	21,124,518	15,761,948	36,886,466	0	2,663,450	0	2,663,450
June 30, 2026	19,942,393	18,050,667	37,993,060	0	2,818,291	0	2,818,291
June 30, 2027	18,782,229	20,350,623	39,132,852	0	3,019,092	0	3,019,092
June 30, 2028	17,743,952	22,562,886	40,306,838	0	3,231,318	0	3,231,318
June 30, 2029	16,646,013	24,870,030	41,516,043	0	3,390,037	21,107	3,411,144
June 30, 2030	15,594,834	27,166,690	42,761,524	0	3,570,233	52,740	3,622,973
June 30, 2031	14,638,388	29,405,982	44,044,370	0	3,751,102	98,918	3,850,020
June 30, 2032	13,643,496	31,722,205	45,365,701	0	3,877,807	159,949	4,037,756
June 30, 2033	12,835,058	33,891,614	46,726,672	0	3,968,760	234,909	4,203,669
June 30, 2034	12,043,435	36,085,037	48,128,472	0	4,120,404	301,051	4,421,455
June 30, 2035	11,253,934	38,318,392	49,572,326	0	4,236,593	378,345	4,614,938
June 30, 2036	10,524,984	40,534,512	51,059,496	0	4,306,469	465,424	4,771,893
June 30, 2037	9,813,453	42,777,828	52,591,281	0	4,428,537	548,309	4,976,846
June 30, 2038	9,055,578	45,113,441	54,169,019	0	4,536,589	639,431	5,176,020
June 30, 2039	8,383,557	47,410,533	55,794,090	0	4,603,113	758,782	5,361,895
June 30, 2040	7,861,122	49,606,791	57,467,913	0	4,656,435	912,288	5,568,723
June 30, 2041	7,282,069	51,909,881	59,191,950	0	4,758,697	1,102,585	5,861,282
June 30, 2042	6,683,461	54,284,248	60,967,709	0	4,804,154	1,330,559	6,134,713
June 30, 2043	6,166,633	56,630,107	62,796,740	0	4,794,824	1,593,396	6,388,220
June 30, 2044	5,640,453	59,040,189	64,680,642	0	4,835,747	1,829,122	6,664,869
June 30, 2045	5,111,366	61,509,695	66,621,061	0	4,866,571	2,092,232	6,958,803
June 30, 2046	4,619,984	63,999,709	68,619,693	0	4,824,451	2,380,580	7,205,031
June 30, 2047	4,114,007	66,564,277	70,678,284	0	4,823,658	2,662,963	7,486,621
June 30, 2048	3,660,144	69,138,489	72,798,633	0	4,759,840	2,967,141	7,726,981
June 30, 2049	3,188,375	71,794,217	74,982,592	0	4,674,596	3,307,248	7,981,844
June 30, 2050	2,768,570	74,463,500	77,232,070	0	4,622,076	3,679,936	8,302,012
June 30, 2051	2,417,831	77,131,201	79,549,032	0	4,548,342	4,087,894	8,636,236
June 30, 2052	2,038,725	79,896,778	81,935,503	0	4,471,384	4,532,191	9,003,575
June 30, 2053	1,715,087	82,678,481	84,393,568	0	4,408,176	5,015,291	9,423,467
June 30, 2054	1,388,380	85,536,995	86,925,375	0	4,350,719	5,506,944	9,857,663
June 30, 2055	1,086,160	88,446,976	89,533,136	0	4,339,114	6,033,151	10,372,265
June 30, 2056	838,927	91,380,203	92,219,130	0	4,257,183	6,596,414	10,853,597
June 30, 2057	634,152	94,351,552	94,985,704	0	4,184,025	7,188,565	11,372,590
June 30, 2058	453,162	97,382,113	97,835,275	0	4,159,842	7,815,751	11,975,593

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Projection of Contributions using a July 1, 2017 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	323,819	100,446,514	100,770,333	0	4,068,974	8,488,396	12,557,370
June 30, 2060	227,412	103,566,031	103,793,443	0	4,013,938	9,204,296	13,218,234
June 30, 2061	147,995	106,759,251	106,907,246	0	3,971,279	9,966,328	13,937,607
June 30, 2062	85,303	110,029,160	110,114,463	0	3,920,984	10,777,750	14,698,734
June 30, 2063	39,407	113,378,490	113,417,897	0	3,858,311	11,637,624	15,495,935
June 30, 2064	16,380	116,804,054	116,820,434	0	3,791,481	12,535,527	16,327,008
June 30, 2065	2,194	120,322,853	120,325,047	0	3,716,557	13,481,913	17,198,470
June 30, 2066	0	123,934,798	123,934,798	0	3,634,899	14,479,894	18,114,793
June 30, 2067	0	127,652,842	127,652,842	0	3,547,144	15,521,819	19,068,963
June 30, 2068	0	131,482,427	131,482,427	0	3,452,936	16,615,422	20,068,358
June 30, 2069	0	135,426,900	135,426,900	0	3,352,453	17,762,401	21,114,854
June 30, 2070	0	139,489,707	139,489,707	0	3,245,566	18,962,488	22,208,054
June 30, 2071	0	143,674,398	143,674,398	0	3,132,403	20,220,231	23,352,634
June 30, 2072	0	147,984,630	147,984,630	0	3,012,953	21,535,625	24,548,578
June 30, 2073	0	152,424,169	152,424,169	0	2,887,474	22,913,509	25,800,983
June 30, 2074	0	156,996,894	156,996,894	0	2,756,197	24,354,357	27,110,554
June 30, 2075	0	161,706,801	161,706,801	0	2,619,190	25,860,004	28,479,194
June 30, 2076	0	166,558,005	166,558,005	0	2,477,230	27,433,639	29,910,869
June 30, 2077	0	171,554,745	171,554,745	0	2,330,861	29,076,379	31,407,240
June 30, 2078	0	176,701,387	176,701,387	0	2,180,650	30,792,915	32,973,565
June 30, 2079	0	182,002,429	182,002,429	0	2,027,264	32,585,708	34,612,972
June 30, 2080	0	187,462,502	187,462,502	0	1,871,941	34,461,044	36,332,985
June 30, 2081	0	193,086,377	193,086,377	0	1,715,230	36,423,898	38,139,128
June 30, 2082	0	198,878,968	198,878,968	0	1,559,573	38,479,803	40,039,376
June 30, 2083	0	204,845,337	204,845,337	0	1,405,761	40,633,579	42,039,340
June 30, 2084	0	210,990,697	210,990,697	0	1,255,705	42,894,248	44,149,953
June 30, 2085	0	217,320,418	217,320,418	0	1,110,621	45,263,352	46,373,973
June 30, 2086	0	223,840,031	223,840,031	0	972,057	47,748,899	48,720,956
June 30, 2087	0	230,555,232	230,555,232	0	840,989	50,357,949	51,198,938
June 30, 2088	0	237,471,889	237,471,889	0	718,915	53,095,838	53,814,753
June 30, 2089	0	244,596,046	244,596,046	0	606,322	55,970,577	56,576,899
June 30, 2090	0	251,933,927	251,933,927	0	505,215	58,989,636	59,494,851
June 30, 2091	0	259,491,945	259,491,945	0	415,254	62,162,642	62,577,896
June 30, 2092	0	267,276,703	267,276,703	0	336,712	65,496,218	65,832,930
June 30, 2093	0	275,295,004	275,295,004	0	269,552	69,000,443	69,269,995

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2017 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	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
				Contributions to Trust for Current Plan Members [III. + IV.]					
June 30, 2019	506,868	1,715,869	0	1,715,869	0	1,715,869	1,715,869	7,265	514,133
June 30, 2020	514,133	1,838,266	90,330	1,928,596	0	1,838,266	1,838,266	14,005	618,468
June 30, 2021	618,468	1,988,662	41,061	2,029,723	0	1,988,662	1,988,662	17,569	677,098
June 30, 2022	677,098	2,165,189	37,601	2,202,790	0	2,165,189	2,165,189	19,134	733,833
June 30, 2023	733,833	2,336,059	34,311	2,370,370	0	2,336,059	2,336,059	20,649	788,793
June 30, 2024	788,793	2,488,744	31,373	2,520,117	0	2,488,744	2,488,744	22,120	842,286
June 30, 2025	842,286	2,663,450	28,635	2,692,085	0	2,663,450	2,663,450	23,554	894,475
June 30, 2026	894,475	2,818,291	26,245	2,844,536	0	2,818,291	2,818,291	24,956	945,676
June 30, 2027	945,676	3,019,092	23,998	3,043,090	0	3,019,092	3,019,092	26,334	996,008
June 30, 2028	996,008	3,231,318	22,011	3,253,329	0	3,231,318	3,231,318	27,691	1,045,710
June 30, 2029	1,045,710	3,390,037	20,048	3,410,085	0	3,390,037	3,390,037	29,031	1,073,682
June 30, 2030	1,073,682	3,570,233	18,235	3,588,468	0	3,570,233	3,570,233	29,775	1,068,952
June 30, 2031	1,068,952	3,751,102	16,618	3,767,720	0	3,751,102	3,751,102	29,623	1,016,275
June 30, 2032	1,016,275	3,877,807	15,037	3,892,844	0	3,877,807	3,877,807	28,153	899,516
June 30, 2033	899,516	3,968,760	13,734	3,982,494	0	3,968,760	3,968,760	24,924	703,265
June 30, 2034	703,265	4,120,404	12,512	4,132,916	0	4,120,404	4,120,404	19,511	434,237
June 30, 2035	434,237	4,236,593	11,351	4,247,944	0	4,236,593	4,236,593	12,097	79,340
June 30, 2036	79,340	4,306,469	10,307	4,316,776	0	4,306,469	4,306,469	2,323	12,630
June 30, 2037	12,630	4,428,537	9,330	4,437,867	0	4,428,537	4,428,537	475	9,805
June 30, 2038	9,805	4,536,589	8,359	4,544,948	0	4,536,589	4,536,589	384	8,743
June 30, 2039	8,743	4,603,113	7,513	4,610,626	0	4,603,113	4,603,113	343	7,856
June 30, 2040	7,856	4,656,435	6,840	4,663,275	0	4,656,435	4,656,435	309	7,149
June 30, 2041	7,149	4,758,697	6,151	4,764,848	0	4,758,697	4,758,697	281	6,432
June 30, 2042	6,432	4,804,154	5,481	4,809,635	0	4,804,154	4,804,154	252	5,733
June 30, 2043	5,733	4,794,824	4,910	4,799,734	0	4,794,824	4,794,824	225	5,135
June 30, 2044	5,135	4,835,747	4,360	4,840,107	0	4,835,747	4,835,747	201	4,561
June 30, 2045	4,561	4,866,571	3,836	4,870,407	0	4,866,571	4,866,571	178	4,014
June 30, 2046	4,014	4,824,451	3,366	4,827,817	0	4,824,451	4,824,451	156	3,522
June 30, 2047	3,522	4,823,658	2,910	4,826,568	0	4,823,658	4,823,658	137	3,047
June 30, 2048	3,047	4,759,840	2,514	4,762,354	0	4,759,840	4,759,840	118	2,632
June 30, 2049	2,632	4,674,596	2,126	4,676,722	0	4,674,596	4,674,596	101	2,227
June 30, 2050	2,227	4,622,076	1,792	4,623,868	0	4,622,076	4,622,076	86	1,878
June 30, 2051	1,878	4,548,342	1,520	4,549,862	0	4,548,342	4,548,342	72	1,592
June 30, 2052	1,592	4,471,384	1,244	4,472,628	0	4,471,384	4,471,384	61	1,305
June 30, 2053	1,305	4,408,176	1,016	4,409,192	0	4,408,176	4,408,176	50	1,066
June 30, 2054	1,066	4,350,719	799	4,351,518	0	4,350,719	4,350,719	40	839
June 30, 2055	839	4,339,114	607	4,339,721	0	4,339,114	4,339,114	31	638
June 30, 2056	638	4,257,183	455	4,257,638	0	4,257,183	4,257,183	24	479
June 30, 2057	479	4,184,025	334	4,184,359	0	4,184,025	4,184,025	18	352
June 30, 2058	352	4,159,842	232	4,160,074	0	4,159,842	4,159,842	13	245

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2017 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2059	245	4,068,974	161	4,069,135	0	4,068,974	4,068,974	9	170
June 30, 2060	170	4,013,938	110	4,014,048	0	4,013,938	4,013,938	6	116
June 30, 2061	116	3,971,279	69	3,971,348	0	3,971,279	3,971,279	4	73
June 30, 2062	73	3,920,984	39	3,921,023	0	3,920,984	3,920,984	3	42
June 30, 2063	42	3,858,311	17	3,858,328	0	3,858,311	3,858,311	1	18
June 30, 2064	18	3,791,481	7	3,791,488	0	3,791,481	3,791,481	1	8
June 30, 2065	8	3,716,557	1	3,716,558	0	3,716,557	3,716,557	0	1
June 30, 2066	1	3,634,899	0	3,634,899	0	3,634,899	3,634,899	0	0
June 30, 2067	0	3,547,144	0	3,547,144	0	3,547,144	3,547,144	0	0
June 30, 2068	0	3,452,936	0	3,452,936	0	3,452,936	3,452,936	0	0
June 30, 2069	0	3,352,453	0	3,352,453	0	3,352,453	3,352,453	0	0
June 30, 2070	0	3,245,566	0	3,245,566	0	3,245,566	3,245,566	0	0
June 30, 2071	0	3,132,403	0	3,132,403	0	3,132,403	3,132,403	0	0
June 30, 2072	0	3,012,953	0	3,012,953	0	3,012,953	3,012,953	0	0
June 30, 2073	0	2,887,474	0	2,887,474	0	2,887,474	2,887,474	0	0
June 30, 2074	0	2,756,197	0	2,756,197	0	2,756,197	2,756,197	0	0
June 30, 2075	0	2,619,190	0	2,619,190	0	2,619,190	2,619,190	0	0
June 30, 2076	0	2,477,230	0	2,477,230	0	2,477,230	2,477,230	0	0
June 30, 2077	0	2,330,861	0	2,330,861	0	2,330,861	2,330,861	0	0
June 30, 2078	0	2,180,650	0	2,180,650	0	2,180,650	2,180,650	0	0
June 30, 2079	0	2,027,264	0	2,027,264	0	2,027,264	2,027,264	0	0
June 30, 2080	0	1,871,941	0	1,871,941	0	1,871,941	1,871,941	0	0
June 30, 2081	0	1,715,230	0	1,715,230	0	1,715,230	1,715,230	0	0
June 30, 2082	0	1,559,573	0	1,559,573	0	1,559,573	1,559,573	0	0
June 30, 2083	0	1,405,761	0	1,405,761	0	1,405,761	1,405,761	0	0
June 30, 2084	0	1,255,705	0	1,255,705	0	1,255,705	1,255,705	0	0
June 30, 2085	0	1,110,621	0	1,110,621	0	1,110,621	1,110,621	0	0
June 30, 2086	0	972,057	0	972,057	0	972,057	972,057	0	0
June 30, 2087	0	840,989	0	840,989	0	840,989	840,989	0	0
June 30, 2088	0	718,915	0	718,915	0	718,915	718,915	0	0
June 30, 2089	0	606,322	0	606,322	0	606,322	606,322	0	0
June 30, 2090	0	505,215	0	505,215	0	505,215	505,215	0	0
June 30, 2091	0	415,254	0	415,254	0	415,254	415,254	0	0
June 30, 2092	0	336,712	0	336,712	0	336,712	336,712	0	0
June 30, 2093	0	269,552	0	269,552	0	269,552	269,552	0	0

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Actuarial Present Values of Projected Benefit Payments using a July 1, 2017 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	506,868	1,715,869	506,868	1,209,001	506,868	1,209,001	1,715,869	
June 30, 2020	514,133	1,838,266	514,133	1,324,133	500,373	1,288,146	1,788,331	
June 30, 2021	618,468	1,988,662	618,468	1,370,194	585,806	1,296,727	1,882,088	
June 30, 2022	677,098	2,165,189	677,098	1,488,091	624,175	1,370,028	1,993,491	
June 30, 2023	733,833	2,336,059	733,833	1,602,226	658,370	1,435,017	2,092,386	
June 30, 2024	788,793	2,488,744	788,793	1,699,951	688,738	1,481,163	2,168,591	
June 30, 2025	842,286	2,663,450	842,286	1,821,164	715,762	1,543,650	2,257,779	
June 30, 2026	894,475	2,818,291	894,475	1,923,816	739,768	1,586,342	2,324,139	
June 30, 2027	945,676	3,019,092	945,676	2,073,416	761,181	1,663,233	2,422,101	
June 30, 2028	996,008	3,231,318	996,008	2,235,310	780,237	1,744,366	2,521,941	
June 30, 2029	1,045,710	3,390,037	1,045,710	2,344,327	797,247	1,779,719	2,573,945	
June 30, 2030	1,073,682	3,570,233	1,073,682	2,496,551	796,665	1,843,771	2,637,126	
June 30, 2031	1,068,952	3,751,102	1,068,952	2,682,150	771,927	1,927,005	2,695,458	
June 30, 2032	1,016,275	3,877,807	1,016,275	2,861,532	714,245	2,000,008	2,710,812	
June 30, 2033	899,516	3,968,760	899,516	3,069,244	615,266	2,086,882	2,699,029	
June 30, 2034	703,265	4,120,404	703,265	3,417,139	468,157	2,260,281	2,726,038	
June 30, 2035	434,237	4,236,593	434,237	3,802,356	281,331	2,446,729	2,726,769	
June 30, 2036	79,340	4,306,469	79,340	4,227,129	50,027	2,646,134	2,696,450	
June 30, 2037	12,630	4,428,537	12,630	4,415,907	7,751	2,689,179	2,697,559	
June 30, 2038	9,805	4,536,589	9,805	4,526,784	5,856	2,681,778	2,688,311	
June 30, 2039	8,743	4,603,113	8,743	4,594,370	5,082	2,647,844	2,653,635	
June 30, 2040	7,856	4,656,435	7,856	4,648,579	4,444	2,606,273	2,611,455	
June 30, 2041	7,149	4,758,697	7,149	4,751,548	3,936	2,591,601	2,596,310	
June 30, 2042	6,432	4,804,154	6,432	4,797,722	3,446	2,545,666	2,549,910	
June 30, 2043	5,733	4,794,824	5,733	4,789,091	2,990	2,472,024	2,475,826	
June 30, 2044	5,135	4,835,747	5,135	4,830,612	2,606	2,425,689	2,429,129	
June 30, 2045	4,561	4,866,571	4,561	4,862,010	2,253	2,375,101	2,378,206	
June 30, 2046	4,014	4,824,451	4,014	4,820,437	1,930	2,290,794	2,293,580	
June 30, 2047	3,522	4,823,658	3,522	4,820,136	1,648	2,228,395	2,230,909	
June 30, 2048	3,047	4,759,840	3,047	4,756,793	1,387	2,139,343	2,141,594	
June 30, 2049	2,632	4,674,596	2,632	4,671,964	1,166	2,044,085	2,046,107	
June 30, 2050	2,227	4,622,076	2,227	4,619,849	960	1,966,349	1,968,162	
June 30, 2051	1,878	4,548,342	1,878	4,546,464	788	1,882,521	1,884,154	
June 30, 2052	1,592	4,471,384	1,592	4,469,792	650	1,800,474	1,801,958	
June 30, 2053	1,305	4,408,176	1,305	4,406,871	519	1,726,884	1,728,229	
June 30, 2054	1,066	4,350,719	1,066	4,349,653	412	1,658,138	1,659,368	
June 30, 2055	839	4,339,114	839	4,338,275	316	1,608,854	1,609,987	
June 30, 2056	638	4,257,183	638	4,256,545	234	1,535,642	1,536,678	
June 30, 2057	479	4,184,025	479	4,183,546	171	1,468,286	1,469,246	
June 30, 2058	352	4,159,842	352	4,159,490	122	1,420,167	1,421,073	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a July 1, 2017 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	245	4,068,974	245	4,068,729	83	1,351,424	1,352,272
June 30, 2060	170	4,013,938	170	4,013,768	56	1,296,935	1,297,745
June 30, 2061	116	3,971,279	116	3,971,163	37	1,248,295	1,249,075
June 30, 2062	73	3,920,984	73	3,920,911	23	1,199,001	1,199,755
June 30, 2063	42	3,858,311	42	3,858,269	13	1,147,780	1,148,509
June 30, 2064	18	3,791,481	18	3,791,463	5	1,097,251	1,097,957
June 30, 2065	8	3,716,557	8	3,716,549	2	1,046,339	1,047,024
June 30, 2066	1	3,634,899	1	3,634,898	0	995,539	996,203
June 30, 2067	0	3,547,144	0	3,547,144	0	945,101	945,744
June 30, 2068	0	3,452,936	0	3,452,936	0	894,996	895,618
June 30, 2069	0	3,352,453	0	3,352,453	0	845,335	845,934
June 30, 2070	0	3,245,566	0	3,245,566	0	796,140	796,716
June 30, 2071	0	3,132,403	0	3,132,403	0	747,498	748,050
June 30, 2072	0	3,012,953	0	3,012,953	0	699,452	699,978
June 30, 2073	0	2,887,474	0	2,887,474	0	652,105	652,604
June 30, 2074	0	2,756,197	0	2,756,197	0	605,540	606,012
June 30, 2075	0	2,619,190	0	2,619,190	0	559,800	560,245
June 30, 2076	0	2,477,230	0	2,477,230	0	515,069	515,486
June 30, 2077	0	2,330,861	0	2,330,861	0	471,464	471,852
June 30, 2078	0	2,180,650	0	2,180,650	0	429,093	429,453
June 30, 2079	0	2,027,264	0	2,027,264	0	388,069	388,400
June 30, 2080	0	1,871,941	0	1,871,941	0	348,598	348,899
June 30, 2081	0	1,715,230	0	1,715,230	0	310,734	311,007
June 30, 2082	0	1,559,573	0	1,559,573	0	274,856	275,101
June 30, 2083	0	1,405,761	0	1,405,761	0	241,015	241,234
June 30, 2084	0	1,255,705	0	1,255,705	0	209,437	209,630
June 30, 2085	0	1,110,621	0	1,110,621	0	180,204	180,373
June 30, 2086	0	972,057	0	972,057	0	153,435	153,581
June 30, 2087	0	840,989	0	840,989	0	129,139	129,263
June 30, 2088	0	718,915	0	718,915	0	107,393	107,498
June 30, 2089	0	606,322	0	606,322	0	88,112	88,200
June 30, 2090	0	505,215	0	505,215	0	71,424	71,496
June 30, 2091	0	415,254	0	415,254	0	57,110	57,168
June 30, 2092	0	336,712	0	336,712	0	45,050	45,096
June 30, 2093	0	269,552	0	269,552	0	35,084	35,121

APPENDIX II – PLAN PROVISIONS

Effective Date

GASB 45 was adopted July 1, 2007

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

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

Plan Year

July 1 through June 30.

Premium Effective Date

Medicare Supplement Plans: effective July 1, 2018

Non-Medicare Plans: effective July 1, 2018

Dental Plans: effective July 1, 2018

Creditable Service

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

Benefits Offered

Comprehensive Medical Insurance offered through Harvard Pilgrim & Blue Cross Blue Shield of Massachusetts and \$1,000 of Group Term Life Insurance.

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

Participant Contributions

Group	Individual	Family
Medical	50%	50%
Dental	100%	100%
Life	50%	N/A

APPENDIX III - ACTUARIAL METHODS & ASSUMPTIONS

Pre-Retirement Mortality

General: RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Teacher: RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females

Post-Retirement Mortality

General: RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Teachers: RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females

Disabled Mortality

General: RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB and a base year 2012 for males and females
Teachers: RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB and a base year 2012 for males and females

Assumption Experience Study

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.

Discount Rate

2.75% per annum (previously 3.50%)

Net Long Term Rate of Return

2.75% (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

	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%

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 5.00% for 2019 grading down 0.00% per year for an ultimate trend rate of 5.00%.

Non-Medicare Plans: Initial Trend of 5.00% for 2019 grading down 0.00% per year for an ultimate trend rate of 5.00%.

Dental Plans: Initial Trend of 5.00% for 2019 grading down 0.00% per year for an ultimate trend rate of 5.00%.

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

2.75% per year.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

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

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2019</u>	<u>June 30, 2018</u>
I. Actuarial Accrued Liability	81,124,133	68,268,802
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>71,891,548</u>	<u>60,496,864</u>
III. Liability from Implicit Subsidy [I. - II.]	9,232,585	7,771,938

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2019</u>	<u>June 30, 2018</u>
IV. Employer Payments (Including Implicit Subsidy)	1,715,869	1,525,583
V. Actual Employer Payments	<u>1,435,737</u>	<u>1,286,488</u>
VI. Implicit Subsidy [IV. - V.]	280,132	239,095

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	8,948	3,744	44 & Under	8,948	6,820	65 to 69	6,694	6,694
25 to 29	8,948	4,031	45 to 49	9,930	8,136	70 to 74	6,694	6,694
30 to 34	8,948	4,856	50 to 54	10,905	9,828	75 to 79	6,694	6,694
35 to 39	8,948	5,797	55 to 59	11,867	11,955	80 to 84	6,694	6,694
40 to 44	8,948	6,820	60 to 64	13,422	14,336	85 to 89	6,694	6,694
45 to 49	9,930	8,136	65 to 69	14,786	15,795	90 & Over	6,694	6,694
50 to 54	10,905	9,828	70 to 74	16,341	17,439			
55 to 59	11,867	11,955	75 to 79	17,684	18,885			
60 to 64	13,422	14,336	80 to 84	18,578	19,846			
65 to 69	14,786	15,795	85 to 89	19,532	20,862			
70 & Over	16,341	17,439	90 & Over	20,528	21,926			

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, 2017
A. Average Age at Hire	36.52
B. Average Service	<u>11.03</u>
C. Average Current Age	47.55

Retired Employees & Spouses

Valuation Date	July 1, 2017
A. Under Age 65	38
B. Age 65 & Over	<u>250</u>
C. Total	288

Average Service Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-24	5									5
25-29	37	4								41
30-34	35	15	2							52
35-39	28	10	15	2						55
40-44	14	9	14	8	3					48
45-49	10	10	7	14	15	2				58
50-54	21	16	9	10	8	1	1	1		67
55-59	12	10	16	18	12	4	4	1		77
60-64	11	1	8	12	11	2	4	1	1	51
65-69	2	6	3	5	5	3				24
70+	1		2		2				2	7
Total	176	81	76	69	56	12	9	3	3	485

APPENDIX IV – PLAN DEMOGRAPHICS

Plan Offerings

Number of Contracts

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
HMO Blue	106		194	300
Master Health Plus	2		1	3
Harvard Pilgrim	37		105	142
Medex	<u>192</u>	<u>9</u>		<u>201</u>
Total	337	9	300	646

Per Contract Costs (monthly)

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
HMO Blue	898.18		2,338.04
Master Health Plus	2,342.06		5,811.12
Harvard Pilgrim	898.18		2,338.04
Medex	557.86	1,115.72	
Dental Plan	40.97		120.78

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.