

**Town of Needham
Other Postemployment Benefits Plan**

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of June 30, 2019

As of the Measurement Date:
June 30, 2019

For the Reporting Date:
June 30, 2020

Delivered December 27, 2019



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December 27, 2019

Personal and Confidential

Mr. David Davison
Asst Town Manager & Director of Finance
Town of Needham
1471 Highland Avenue
Needham, MA 02492

Dear Mr. Davison:

We have performed an actuarial valuation of the Town of Needham Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2020 with a Measurement Date of June 30, 2019 and a Valuation Date of June 30, 2019. The figures presented in this report reflect the adoption, by the Town of Needham, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal years ending June 30, 2017 and June 30, 2018 respectively.

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

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

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

Very truly yours,

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

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

December 27, 2019

ACTUARIAL CERTIFICATION

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

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

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

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



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

EXECUTIVE SUMMARY

What caused plan liabilities to change from FY 19 to FY 20?

For the year ending on the Measurement Date of June 30, 2019, the Plan saw an experience gain of \$123,044 or 0.12% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums for Medicare supplement plans increasing by 1.6% vs. the expected 9.0% resulting in a gain of approximately \$5.6 million. This was mostly offset by a larger than expected increase in the number of retirees and spouses with medical coverage (924 vs. an expected 903) as well as a higher than expected increase in average service. During the period there was an investment loss of \$459,776 below the expected return.

Assumption changes

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

- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females increasing the disclosed liability by \$5.1 million.
- ✓ Based on recommendations by PERAC, retirement assumptions have been updated decreasing the disclosed liability by \$450 thousand.
- ✓ Assumption changes caused Service Cost to increase by \$6,400.

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

Changes in Benefits Terms

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

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 5.99 years.
- ✓ Differences between projected & actual earnings on OPEB plan investments are amortized into the net OPEB expense over 5.00 years
- ✓ Changes in benefit terms are to be recognized in full immediately

Discount Rate for Projections

The Town has adopted an OPEB funding schedule using a 6.75% discount rate; however for purposes of financial disclosures a 7.00% discount rate was utilized.

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 \$38,604,772 of OPEB assets as of June 30, 2019.
- ✓ Funding Policy - The Town is expected to make annual contributions to the trust with the goal to be fully funded by FY 2041.
- ✓ Investment Policy - The Town is expected to earn 7.01% on assets based on its investment policy.

EXECUTIVE SUMMARY

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare supplement) plans - represent 69.27% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ We currently assume medical costs increase by 8.50% for 2020, grading down 0.50% per year for an ultimate trend rate of 4.50%.
- ✓ Discount Rate (7.00%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. Under Actuarial Standards of Practice for OPEB, we are required to reflect the projected higher healthcare costs that occur as retirees age. The Town currently has 41 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	June 30, 2019	June 30, 2018
Measurement Date & Period Ending	June 30, 2019	June 30, 2018
Reporting Date/Fiscal Year End	June 30, 2020	June 30, 2019
Total OPEB Liability	109,486,712	99,527,289
Per Eligible Active Plan Participant	48,451	44,611
Per Retiree/Spouse Plan Participant	49,487	49,511
Total Annual Service Cost (annual benefit accrual)	2,592,793	2,614,866
Per Eligible Active Plan Participant	1,970	2,057
Expected Employer Share of Retiree Costs (Including Implicit Subsidy)	4,149,726	3,975,488
Per Retiree/Spouse Plan Participant	4,491	4,596
Net OPEB Liability as a % of Covered Payroll	72.90%	71.60%
Average Annual Medical Plan Premium (Single Coverage)	6,726	6,369
Average Annual Medical Plan Premium (Family Coverage)	26,023	23,866
<u>Projected 2022 Excise Tax Thresholds</u>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	

EXECUTIVE SUMMARY

Liabilities & Benefit Payments in today's dollars

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

For the Period Ending on the Measurement Date of:	Number of Retirees, Spouses, & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums/Claims including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims including "Implicit Cost"
June 30, 2019	924	109,486,712	109,486,712	4,149,726	4,149,726
June 30, 2024	1,044	136,466,773	117,717,437	6,786,493	5,854,088
June 30, 2029	1,111	163,191,021	121,429,446	9,325,572	6,939,101
June 30, 2034	1,138	191,537,069	122,940,356	11,602,997	7,447,522
June 30, 2039	1,140	222,675,570	123,290,064	13,864,678	7,676,536
June 30, 2044	1,125	262,516,778	125,379,475	15,805,334	7,548,716
June 30, 2049	1,122	314,725,424	129,662,708	18,139,371	7,473,181

PRINCIPAL RESULTS OF THE VALUATION

Town of Needham
Assuming Funding - 7.00% discount rate
Comparison of Plan Liabilities to Prior Valuation

Valuation Date	June 30, 2019	June 30, 2018
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, 2020	June 30, 2019
I. Total OPEB Liability		
A. Actives	63,761,018	56,700,098
B. Retirees/Disabled	<u>45,725,694</u>	<u>42,827,191</u>
C. Total	109,486,712	99,527,289
II. Fiduciary Net Position [Plan Assets]	38,604,772	32,878,807
III. Net OPEB Liability (Asset) [I. - II.]	70,881,940	66,648,482
IV. Funded Ratio [II. / I.]	35.26%	33.03%
V. Number of Eligible Participants		
A. Actives	1,316	1,271
B. Retirees/Disabled & Dependents	<u>924</u>	<u>865</u>
C. Total	2,240	2,136
VI. Service Cost	2,592,793	2,614,866
VII. Financial Statement Expense	8,416,639	6,953,225
VIII. Employer Contribution to the OPEB Trust	(3,626,705)	(3,626,705)
IX. Deferred Inflow of Resources	(10,328,706)	(13,566,642)
X. Deferred Outflow of Resources	19,095,716	18,740,402
XI. Money Weighted Rate of Return	5.57%	10.18%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.79%	2.98%
XIII. Expected Long Term Rate of Return (Net of Expense)	7.01%	7.04%
XIV. Crossover Year	N/A	N/A
XV. Discount Rate	7.00%	7.00%

PRINCIPAL RESULTS OF THE VALUATION

Town of Needham Plan Liabilities as of the June 30, 2019 Measurement Date Assuming Funding - 7.00% discount rate

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	RTS Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability								
A. Actives	8,614,530	43,036,675	4,404,328	5,492,946	346,895	917,129	948,515	63,761,018
B. Retirees/Disabled	<u>10,584,288</u>	<u>27,543,554</u>	<u>2,707,699</u>	<u>4,243,587</u>	<u>71,074</u>	<u>337,682</u>	<u>237,810</u>	<u>45,725,694</u>
C. Total	19,198,818	70,580,229	7,112,027	9,736,533	417,969	1,254,811	1,186,325	109,486,712
II. Fiduciary Net Position [Plan Assets]	6,787,314	24,873,228	2,502,900	3,430,521	147,788	443,368	419,653	38,604,772
III. Net OPEB Liability (Asset) [I. - II.]	12,411,504	45,707,001	4,609,127	6,306,012	270,181	811,443	766,672	70,881,940
IV. Number of Eligible Participants								
A. Actives	235	928	51	64	10	11	17	1,316
B. Retirees/Disabled	<u>285</u>	<u>509</u>	<u>48</u>	<u>65</u>	<u>2</u>	<u>9</u>	<u>6</u>	<u>924</u>
C. Total	520	1,437	99	129	12	20	23	2,240
For the Reporting Date and Fiscal Year Ending June 30, 2020								
V. Service Cost	392,483	1,826,997	155,909	154,837	19,177	15,522	27,868	2,592,793
VI. Financial Statement Expense	1,399,323	5,599,608	534,357	668,686	42,351	80,863	91,451	8,416,639
VII. Employer Share of Costs	(1,003,029)	(2,460,827)	(250,206)	(344,392)	(4,998)	(59,627)	(26,647)	(4,149,726)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(624,010)	(2,351,091)	(235,815)	(320,664)	(14,561)	(40,629)	(39,935)	(3,626,705)
IX. Total Employer Contribution [VII. + VIII.]	(1,627,039)	(4,811,918)	(486,021)	(665,056)	(19,559)	(100,256)	(66,582)	(7,776,431)

PRINCIPAL RESULTS OF THE VALUATION

Town of Needham

Assuming Funding - 7.00% discount rate

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

	Actives			Retirees/Disabled			Grand Total
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
Present Value of Future Benefits							
A. Participants	25,138,760	30,192,498	55,331,258	2,941,184	40,174,456	43,115,640	98,446,898
B. Spouses	<u>13,830,248</u>	<u>16,409,785</u>	<u>30,240,033</u>	<u>914,581</u>	<u>1,695,473</u>	<u>2,610,054</u>	<u>32,850,087</u>
C. Total	38,969,008	46,602,283	85,571,291	3,855,765	41,869,929	45,725,694	131,296,985
Total OPEB Liability							
A. Participants	19,135,925	22,020,041	41,155,966	2,941,184	40,174,456	43,115,640	84,271,606
B. Spouses	<u>10,649,752</u>	<u>11,955,300</u>	<u>22,605,052</u>	<u>914,581</u>	<u>1,695,473</u>	<u>2,610,054</u>	<u>25,215,106</u>
C. Total	29,785,677	33,975,341	63,761,018	3,855,765	41,869,929	45,725,694	109,486,712
Service Cost							
A. Participants	688,083	994,575	1,682,658	0	0	0	1,682,658
B. Spouses	<u>370,331</u>	<u>539,804</u>	<u>910,135</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>910,135</u>
C. Total	1,058,414	1,534,379	2,592,793	0	0	0	2,592,793

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, 2020	
Description	Amount
I. Service Cost	2,592,793
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	7,005,622
III. Deferred (Inflows)/Outflows from Plan Experience**	(1,395,959)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions**	3,173,915
V. Projected earnings on OPEB plan investments	(2,559,036)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	(400,696)
VII. Financial Statement Expense prior to Plan Design Changes [I. + II.+ III. + IV. + V. + VI.]	8,416,639
VIII. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IX. Financial Statement Expense [VII. + VIII.]	8,416,639

* Recognized Immediately

** Amortized over 5.99 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		
	Total OPEB Liability	Increase (Decrease) Plan Fiduciary Net Position	Net OPEB Liability
I. Balances for June 30, 2018	99,527,289	32,878,807	66,648,482
II. Prior Period Adjustment	0	0	0
III. Balances for June 30, 2018 with Adjustment [I. + II.]	99,527,289	32,878,807	66,648,482
Changes for the year:			
IV. Service Cost	2,592,793	0	2,592,793
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	7,005,622	0	7,005,622
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	4,633,778	0	4,633,778
VIII. Differences between actual and expected experience **	(123,044)	0	(123,044)
IX. Net investment income	0	2,099,260	(2,099,260)
X. Employer contributions to Trust	0	7,776,431	(7,776,431)
XI. Benefit payments withdrawn from Trust	0	(4,149,726)	4,149,726
XII. Benefit payments excluding Implicit Cost	(3,168,717)	0	(3,168,717)
XIII. Implicit Cost amount	(981,009)	0	(981,009)
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	(4,149,726)	0	(4,149,726)
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.]	9,959,423	5,725,965	4,233,458
XVIII. Balances at June 30, 2019 [III.+XVII.]	109,486,712	38,604,772	70,881,940

* Recognized Immediately

** Amortized over 5.99 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	2020	2021	2022	2023	2024	2025
2017									
2018	1,468,270	5.00	587,308	293,654	293,654	293,654			
2019	(9,997,742)	5.99	(6,659,598)	(1,669,072)	(1,669,072)	(1,669,072)	(1,669,072)	(1,652,382)	
2020	(123,044)	5.99	(102,503)	(20,541)	(20,541)	(20,541)	(20,541)	(20,541)	(20,339)
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(6,174,793)						
Net increase (decrease) in OPEB expense				(1,395,959)	(1,395,959)	(1,395,959)	(1,689,613)	(1,672,923)	(20,339)

Deferred (Inflows)/Outflows in OPEB Expense arising from the recognition of the effects of changes in assumptions									
Fiscal	Differences from changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	(5,893,578)	5.00	(2,357,430)	(1,178,716)	(1,178,716)	(1,178,714)			
2019	21,438,486	5.99	14,280,394	3,579,046	3,579,046	3,579,046	3,579,046	3,543,256	
2020	4,633,778	5.99	3,860,193	773,585	773,585	773,585	773,585	773,585	765,853
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			15,783,158						
Net increase (decrease) in OPEB expense				3,173,915	3,173,915	3,173,918	4,352,631	4,316,841	765,853

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	2020	2021	2022	2023	2024	2025
2017									
2018	(1,343,885)	5.00	(537,554)	(268,777)	(268,777)	(268,777)			
2019	(1,119,369)	5.00	(671,621)	(223,874)	(223,874)	(223,874)	(223,873)		
2020	459,776	5.00	367,821	91,955	91,955	91,955	91,955	91,956	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(841,354)						
Net increase (decrease) in OPEB expense				(400,696)	(400,696)	(400,696)	(131,918)	91,956	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, 2020			
	Deferred Outflows of Resources	Deferred Inflows of Resources	Total
I. Contributions made subsequent to the measurement date	0	0	0
II. Differences between actual & expected experience	587,308	(6,762,101)	(6,174,793)
III. Changes of assumptions	18,140,587	(2,357,430)	15,783,158
IV. Net difference between projected & actual earnings on OPEB plan investments	<u>367,821</u>	<u>(1,209,175)</u>	<u>(841,354)</u>
V. Total [I.+II.+III.+IV.]	19,095,716	(10,328,705)	8,767,011

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Annual Amortization of Deferred (Inflows)/Outflows

The balance of deferred (inflows)/outflows as of June 30, 2019 will be recognized in future years as shown below.

Year ending June 30:

2021	1,377,260
2022	1,377,263
2023	2,531,100
2024	2,735,874
2025	745,514
Thereafter	0

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 7.00% as of June 30, 2019 and 7.00% as of June 30, 2018. The projection of cash flows used to determine the discount rate assumed that contributions will be made in accordance with the Town's funding policy. Based on these assumptions, the OPEB Plan's Fiduciary Net Position is projected to be sufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets was applied to all projected future benefits payments.

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

5. Funding Policy

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the period ending on the June 30, 2019 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$4,149,726. The Town also contributed \$3,626,705 to an OPEB Trust for a total contribution during the measurement period of \$7,776,431 to be reported on the financial statement for the fiscal year ending June 30, 2020.

6. Investment Policy

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

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return*
Domestic Equity - Large Cap	14.50%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	3.50%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	16.00%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	6.00%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	20.00%	Domestic Fixed Income	2.05%
International Fixed Income	3.00%	International Fixed Income	3.00%
Alternatives	23.00%	Alternatives	6.50%
Real Estate	14.00%	Real Estate	6.25%
Cash & Cash Equivalents	0.00%	Cash & Cash Equivalents	0.00%
Total	<u>100.00%</u>		
		I. Real Rate of Return**	5.01%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	7.51%
		IV. Investment Expense	0.50%
		V. Net Investment Return* [III.-IV.]	<u>7.01%</u>

* Based on 2019 Horizon Survey of Capital Market Assumptions

** Geometric Mean

EXHIBIT A

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

7. Schedule of The Town's Contributions

<u>Year</u>	<u>Actuarial Determined Contribution</u>	<u>Contributions in relation to the actuarially determined contribution</u>	<u>Contribution deficiency (excess)</u>	<u>Covered employee payroll</u>	<u>Contributions as a percentage of covered employee payroll</u>
June 30, 2020	5,034,735	(5,034,735)	0	100,203,331	5.02%
June 30, 2019	6,115,455	(6,115,455)	0	93,040,535	6.57%
June 30, 2018	6,072,283	(6,317,042)	(244,759)	89,329,181	7.07%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

8. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	96,853,873	109,486,712	124,777,846
II. Fiduciary Net Position	<u>38,604,772</u>	<u>38,604,772</u>	<u>38,604,772</u>
III. Net OPEB Liability (Asset) [I.-II.]	58,249,101	70,881,940	86,173,074
IV. Service Cost	2,114,901	2,592,793	3,214,289

9. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	122,968,624	109,486,712	96,004,800
II. Fiduciary Net Position	<u>38,604,772</u>	<u>38,604,772</u>	<u>38,604,772</u>
III. Net OPEB Liability (Asset) [I.-II.]	84,363,852	70,881,940	57,400,028
IV. Service Cost	3,242,405	2,592,793	1,943,181

EXHIBIT A

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

10. Money Weighted Rate of Return

	Plan	Periods	Period
	Investments /	Invested	Weight
	Net External		
	Cash Flows		
I. Beginning value - June 30, 2018	32,878,807	12	1.0000
Monthly net external cash flows:			
July	6,633,372	11	0.9167
August	(273,333)	10	0.8333
September	(273,333)	9	0.7500
October	(273,333)	8	0.6667
November	(273,333)	7	0.5833
December	(273,333)	6	0.5000
January	(273,333)	5	0.4167
February	(273,333)	4	0.3333
March	(273,333)	3	0.2500
April	(273,333)	2	0.1667
May	(273,333)	1	0.0833
<u>June</u>	<u>(273,333)</u>	0	0.0000
II. Total net external cash flow	3,626,705		
III. Earnings and increase in fair value	2,099,260		
IV. Ending value - June 30, 2019 [I.+II.+III.]	38,604,772		
Money Weighted Rate of Return	5.57%		
Asset Value - June 30, 2019	38,604,772		

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

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2020							Total
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	RTS Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	
I. Total OPEB Liability as of June 30, 2019	19,198,818	70,580,229	7,112,027	9,736,533	417,969	1,254,811	1,186,325	109,486,712
II. Fiduciary Net Position as of June 30, 2019	6,787,314	24,873,228	2,502,900	3,430,521	147,788	443,368	419,653	38,604,772
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	12,411,504	45,707,001	4,609,127	6,306,012	270,181	811,443	766,672	70,881,940
IV. Service Cost	392,483	1,826,997	155,909	154,837	19,177	15,522	27,868	2,592,793
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,214,870	4,534,022	454,876	618,680	27,745	78,914	76,515	7,005,622
VI. Projected Earnings on OPEB Plan Investments	(449,352)	(1,649,394)	(165,941)	(227,336)	(9,825)	(29,348)	(27,840)	(2,559,036)
VII. Net Recognition of Deferred (Inflows)/Outflows	241,322	887,983	89,513	122,505	5,254	15,775	14,908	1,377,260
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VI. + VII. + VIII.]	1,399,323	5,599,608	534,357	668,686	42,351	80,863	91,451	8,416,639
X. Employer Share of Costs	(1,003,029)	(2,460,827)	(250,206)	(344,392)	(4,998)	(59,627)	(26,647)	(4,149,726)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(624,010)	(2,351,091)	(235,815)	(320,664)	(14,561)	(40,629)	(39,935)	(3,626,705)
XII. Total Employer Contribution [X. + XI.]	(1,627,039)	(4,811,918)	(486,021)	(665,056)	(19,559)	(100,256)	(66,582)	(7,776,431)
XIII. Net OPEB Expense [IX. + XII.]	(227,716)	787,690	48,336	3,630	22,792	(19,393)	24,869	640,208

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

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

Valuation Date	June 30, 2019
For the Measurement Period ending on the Measurement Date of:	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2020
Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(6,174,793)
II. Deferred (Inflow)/Outflow from Investment Experience	(841,354)
III. Deferred (Inflow)/Outflow from Changes in Assumptions	15,783,158
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	18,740,402
II. Deferred Outflow created during the period	5,093,554
III. Deferred Outflow recognized during the period	4,738,240
IV. Change in Deferred Outflow (II. - III.)	355,314
V. Deferred Outflow at end of the period (I. + IV.)	19,095,716
VI. Deferred Inflow at the beginning of the period	(13,566,642)
VII. Deferred Inflow created during the period	(123,044)
VIII. Deferred Inflow recognized during the period	(3,360,980)
IX. Change in Deferred Inflow (VII. - VIII.)	3,237,936
X. Deferred Inflow at end of the period (VI. + IX.)	(10,328,706)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	66,648,482
II. Service Cost	2,592,793
III. Interest on Total OPEB Liability, Service Cost, and Payments	7,005,622
IV. Projected Investment Income	(2,559,036)
V. Total Employer Contributions	(7,776,431)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	(737,052)
VIII. Deferred Outflow created during the period	5,093,554
IX. Deferred Inflow created during the period	(123,044)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	70,881,940
Net OPEB Expense	
I. Service Cost	2,592,793
II. Interest on Total OPEB Liability, Service Cost, and Payments	7,005,622
III. Projected Investment Income	(2,559,036)
IV. Recognition of Deferred (Inflow)/Outflow	1,377,260
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	8,416,639
VII. Benefit Payments	(4,149,726)
VIII. Contributions to Trust	(3,626,705)
IX. Total Employer Payments (VII. + VIII.)	(7,776,431)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	640,208

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)			
	Contribution Made During Fiscal Year Ending:		
	<u>June 30, 2019</u>	<u>June 30, 2018</u>	<u>June 30, 2017</u>
	Reported for the Fiscal Year Ending:		
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
I. Service Cost	2,774,289	2,614,866	2,486,847
II. Amortization	<u>2,260,446</u>	<u>3,500,589</u>	<u>3,585,436</u>
III. Actuarial Determined Contribution [I. + II.]	5,034,735	6,115,455	6,072,283
IV. Contributions in relation to the actuarially determined contribution	<u>(5,034,735)</u>	<u>(6,115,455)</u>	<u>(6,317,042)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>0</u>	<u>0</u>	<u>(244,759)</u>
Covered employee payroll	100,203,331	93,040,535	89,329,181
Contributions as a % of covered employee payroll	5.02%	6.57%	7.07%
Discount Rate	7.00%	7.00%	7.50%
Money Weighted Rate of Return	5.57%	10.18%	14.25%

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 June 30, 2019.
Actuarial Cost Method:	Individual Entry Age Normal
Asset-Valuation Method:	Market Value of Assets as of the Measurement Date, June 30, 2019.

Actuarial Assumptions:

Investment Rate of Return:	7.01%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	7.00%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% as of June 30, 2019 and for future periods
Salary Increases:	3.00% annually as of June 30, 2019 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

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

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Plan Membership

At June 30, 2019, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	924
Active Employees:	<u>1,316</u>
Total:	2,240

Events Subsequent to the Measurement Date

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

Changes in Assumptions: From June 30, 2018 to June 30, 2019

- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females
- ✓ Based on recommendations by PERAC, retirement assumptions have been updated

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$2,756,979 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 \$4,149,726. \$981,009 of the \$4,149,726 represents implicit cost.

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 6.75% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 7.01% return	III. Net OPEB Liability (Asset) [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 [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]	XII. Contributions Made During the Fiscal Year
2020	June 30, 2019	112,857,190	38,604,772	74,252,418	34.21%	2,761,649	4,149,726	2,756,979	6,906,705	3,280,000	0	3,626,705	2019
2021	June 30, 2020	118,970,175	43,883,757	75,086,418	36.89%	2,948,060	4,502,453	2,404,252	6,906,705	3,390,528	0	3,516,177	2020
2022	June 30, 2021	125,118,872	49,119,645	75,999,227	39.26%	3,110,157	5,034,735	2,018,163	7,052,898	3,790,787	0	3,262,111	2021
2023	June 30, 2022	129,643,477	54,441,718	75,201,759	41.99%	3,241,906	5,642,779	1,755,711	7,398,490	4,251,524	0	3,146,966	2022
2024	June 30, 2023	135,198,708	59,994,646	75,204,062	44.38%	3,389,706	6,138,211	1,622,805	7,761,016	4,659,750	0	3,101,266	2023
2025	June 30, 2024	140,653,343	65,650,056	75,003,287	46.68%	3,526,854	6,786,493	1,354,813	8,141,306	5,132,275	0	3,009,031	2024
2026	June 30, 2025	146,126,974	71,560,322	74,566,652	48.97%	3,683,918	7,317,730	1,222,500	8,540,230	5,556,148	0	2,984,082	2025
2027	June 30, 2026	151,596,642	77,759,196	73,837,446	51.29%	3,828,662	7,853,668	1,105,033	8,958,701	5,993,612	0	2,965,089	2026
2028	June 30, 2027	157,068,089	84,272,697	72,795,392	53.65%	3,987,389	8,404,703	992,974	9,397,677	6,438,874	0	2,958,803	2027
2029	June 30, 2028	162,606,564	91,238,997	71,367,567	56.11%	4,146,667	8,868,739	989,425	9,858,164	6,836,981	0	3,021,183	2028
2030	June 30, 2029	168,197,283	98,721,689	69,475,594	58.69%	4,308,093	9,325,572	1,015,642	10,341,214	7,226,872	0	3,114,342	2029
2031	June 30, 2030	173,950,783	106,843,862	67,106,921	61.42%	4,477,046	9,724,877	1,123,056	10,847,933	7,581,356	0	3,266,577	2030
2032	June 30, 2031	179,797,415	115,613,071	64,184,344	64.30%	4,640,121	10,183,842	1,195,640	11,379,482	7,970,317	0	3,409,165	2031
2033	June 30, 2032	185,496,403	125,056,894	60,439,509	67.42%	4,828,677	10,685,467	1,251,609	11,937,076	8,377,219	0	3,559,857	2032
2034	June 30, 2033	191,430,741	135,405,361	56,025,380	70.73%	5,012,276	11,043,646	1,478,347	12,521,993	8,736,041	0	3,785,952	2033
2035	June 30, 2034	197,408,956	146,537,284	50,871,672	74.23%	5,222,410	11,602,997	1,532,574	13,135,571	9,180,453	0	3,955,118	2034
2036	June 30, 2035	203,465,999	158,573,583	44,892,416	77.94%	5,424,356	12,130,737	1,648,477	13,779,214	9,626,244	0	4,152,970	2035
2037	June 30, 2036	209,694,439	171,650,103	38,044,336	81.86%	5,645,665	12,622,312	1,832,083	14,454,395	10,058,132	0	4,396,263	2036
2038	June 30, 2037	215,938,426	185,935,194	30,003,232	86.11%	5,876,896	13,057,793	2,104,868	15,162,661	10,455,693	0	4,706,968	2037
2039	June 30, 2038	222,676,883	201,577,212	21,099,671	90.52%	6,111,206	13,468,512	2,437,119	15,905,631	10,865,189	0	5,040,442	2038
2040	June 30, 2039	229,500,691	218,725,809	10,774,882	95.31%	6,375,944	13,864,678	2,820,329	16,685,007	11,241,442	0	5,443,565	2039
2041	June 30, 2040	236,663,537	237,552,387	(888,850)	100.38%	6,640,574	14,237,551	3,265,021	17,502,572	11,624,581	0	5,877,991	2040
2042	June 30, 2041	244,558,324	248,551,258	(3,992,934)	101.63%	6,915,082	14,462,509	(5,283,199)	9,179,310	11,941,153	0	(2,761,843)	2041
2043	June 30, 2042	252,650,596	260,191,395	(7,540,799)	102.98%	7,213,086	14,933,735	(5,404,454)	9,529,281	12,355,365	0	(2,826,084)	2042
2044	June 30, 2043	261,345,365	272,460,967	(11,115,602)	104.25%	7,532,904	15,502,580	(5,578,773)	9,923,807	12,844,778	0	(2,920,971)	2043
2045	June 30, 2044	270,573,511	285,616,525	(15,043,014)	105.56%	7,870,220	15,805,334	(5,554,580)	10,250,754	13,207,035	0	(2,956,281)	2044
2046	June 30, 2045	279,968,033	299,468,126	(19,500,093)	106.97%	8,225,829	16,462,866	(5,765,926)	10,696,940	13,765,074	0	(3,068,134)	2045
2047	June 30, 2046	290,046,626	314,206,000	(24,159,374)	108.33%	8,599,005	16,949,148	(5,845,100)	11,104,048	14,233,501	0	(3,129,453)	2046
2048	June 30, 2047	300,962,279	330,056,329	(29,094,050)	109.67%	9,002,112	17,246,350	(5,770,967)	11,475,383	14,609,532	0	(3,134,149)	2047
2049	June 30, 2048	312,218,093	347,025,097	(34,807,004)	111.15%	9,427,647	17,662,098	(5,764,116)	11,897,982	15,075,433	0	(3,177,451)	2048
2050	June 30, 2049	324,399,254	365,150,851	(40,751,597)	112.56%	9,861,499	18,139,371	(5,794,510)	12,344,861	15,577,703	0	(3,232,842)	2049
2051	June 30, 2050	337,413,300	384,467,554	(47,054,254)	113.95%	10,337,840	18,722,065	(5,868,958)	12,853,107	16,167,523	0	(3,314,416)	2050

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS
ALTERNATIVE FUNDING POLICY (OPEN GROUP)

Funding - 7.00% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 7.01% return	III. Net OPEB Liability (Asset) [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 [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]	XII. Contributions Made During the Fiscal Year
2020	June 30, 2019	109,486,712	38,604,772	70,881,940	35.26%	2,592,793	4,149,726	2,756,979	6,906,705	3,280,000	0	3,626,705	2019
2021	June 30, 2020	115,461,897	43,883,757	71,578,140	38.01%	2,774,289	4,502,453	2,404,252	6,906,705	3,390,528	0	3,516,177	2020
2022	June 30, 2021	121,467,969	49,119,645	72,348,324	40.44%	2,926,831	5,034,735	2,018,163	7,052,898	3,790,787	0	3,262,111	2021
2023	June 30, 2022	125,784,475	54,426,624	71,357,851	43.27%	3,050,814	5,642,779	1,741,605	7,384,384	4,251,524	0	3,132,860	2022
2024	June 30, 2023	131,174,492	59,946,855	71,227,637	45.70%	3,189,903	6,138,211	1,593,239	7,731,450	4,659,750	0	3,071,700	2023
2025	June 30, 2024	136,466,773	65,549,179	70,917,594	48.03%	3,318,966	6,786,493	1,308,335	8,094,828	5,132,275	0	2,962,553	2024
2026	June 30, 2025	141,777,403	71,382,876	70,394,527	50.35%	3,466,772	7,317,730	1,157,555	8,475,285	5,556,148	0	2,919,137	2025
2027	June 30, 2026	147,084,124	77,478,271	69,605,853	52.68%	3,602,985	7,853,668	1,019,956	8,873,624	5,993,612	0	2,880,012	2026
2028	June 30, 2027	152,392,674	83,857,586	68,535,088	55.03%	3,752,354	8,404,703	885,981	9,290,684	6,438,874	0	2,851,810	2027
2029	June 30, 2028	157,766,345	90,654,798	67,111,547	57.46%	3,902,245	8,868,739	858,607	9,727,346	6,836,981	0	2,890,365	2028
2030	June 30, 2029	163,191,021	97,928,872	65,262,149	60.01%	4,054,155	9,325,572	858,960	10,184,532	7,226,872	0	2,957,660	2029
2031	June 30, 2030	168,773,779	105,797,790	62,975,989	62.69%	4,213,150	9,724,877	938,327	10,663,204	7,581,356	0	3,081,848	2030
2032	June 30, 2031	174,447,184	114,263,483	60,183,701	65.50%	4,366,612	10,183,842	980,533	11,164,375	7,970,317	0	3,194,058	2031
2033	June 30, 2032	179,977,379	123,347,342	56,630,037	68.53%	4,544,054	10,685,467	1,003,634	11,689,101	8,377,219	0	3,311,882	2032
2034	June 30, 2033	185,735,961	133,272,591	52,463,370	71.75%	4,716,831	11,043,646	1,194,842	12,238,488	8,736,041	0	3,502,447	2033
2035	June 30, 2034	191,537,069	143,910,570	47,626,499	75.13%	4,914,579	11,602,997	1,210,700	12,813,697	9,180,453	0	3,633,244	2034
2036	June 30, 2035	197,414,575	155,373,998	42,040,577	78.70%	5,104,621	12,130,737	1,285,204	13,415,941	9,626,244	0	3,789,697	2035
2037	June 30, 2036	203,458,170	167,789,728	35,668,442	82.47%	5,312,884	12,622,312	1,424,178	14,046,490	10,058,132	0	3,988,358	2036
2038	June 30, 2037	209,516,853	181,316,258	28,200,595	86.54%	5,530,486	13,057,793	1,648,883	14,706,676	10,455,693	0	4,250,983	2037
2039	June 30, 2038	216,054,970	196,091,154	19,963,816	90.76%	5,750,984	13,468,512	1,929,377	15,397,889	10,865,189	0	4,532,700	2038
2040	June 30, 2039	222,675,570	212,252,265	10,423,305	95.32%	6,000,118	13,864,678	2,256,912	16,121,590	11,241,442	0	4,880,148	2039
2041	June 30, 2040	229,624,305	229,958,090	(333,785)	100.15%	6,249,150	14,237,551	2,641,754	16,879,305	11,624,581	0	5,254,724	2040
2042	June 30, 2041	237,282,491	240,119,277	(2,836,786)	101.20%	6,507,477	14,462,509	(5,568,522)	8,893,987	11,941,153	0	(3,047,166)	2041
2043	June 30, 2042	245,131,939	250,849,850	(5,717,911)	102.33%	6,787,916	14,933,735	(5,702,073)	9,231,662	12,355,365	0	(3,123,703)	2042
2044	June 30, 2043	253,565,446	262,131,975	(8,566,529)	103.38%	7,088,881	15,502,580	(5,889,589)	9,612,991	12,844,778	0	(3,231,787)	2043
2045	June 30, 2044	262,516,778	274,215,974	(11,699,196)	104.46%	7,406,316	15,805,334	(5,879,313)	9,926,021	13,207,035	0	(3,281,014)	2044
2046	June 30, 2045	271,628,461	286,905,197	(15,276,736)	105.62%	7,740,962	16,462,866	(6,105,333)	10,357,533	13,765,074	0	(3,407,541)	2045
2047	June 30, 2046	281,403,593	300,382,734	(18,979,141)	106.74%	8,092,142	16,949,148	(6,199,904)	10,749,244	14,233,501	0	(3,484,257)	2046
2048	June 30, 2047	291,991,384	314,866,578	(22,875,194)	107.83%	8,471,489	17,246,350	(6,142,403)	11,103,947	14,609,532	0	(3,505,585)	2047
2049	June 30, 2048	302,909,628	330,354,282	(27,444,654)	109.06%	8,871,941	17,662,098	(6,153,110)	11,508,988	15,075,433	0	(3,566,445)	2048
2050	June 30, 2049	314,725,424	346,875,993	(32,150,569)	110.22%	9,280,220	18,139,371	(6,201,406)	11,937,965	15,577,703	0	(3,639,738)	2049
2051	June 30, 2050	327,349,810	364,455,178	(37,105,368)	111.34%	9,728,483	18,722,065	(6,295,507)	12,426,558	16,167,523	0	(3,740,965)	2050

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

ALTERNATIVE FUNDING POLICY (OPEN GROUP)

Funding - 6.90% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 7.01% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [II. / I.]	V. Service Cost	VI. Employer Share of Benefit Payments (With Implicit Cost)	VII. Trust Contributions Beyond Pay-as-you-go	VIII. Gross Trust Contributions [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]	XII. Contributions Made During the Fiscal Year
2020	June 30, 2019	110,834,903	38,604,772	72,230,131	34.83%	2,660,240	4,149,726	2,756,979	6,906,705	3,280,000	0	3,626,705	2019
2021	June 30, 2020	116,867,334	43,883,757	72,983,577	37.55%	2,843,797	4,502,453	2,404,252	6,906,705	3,390,528	0	3,516,177	2020
2022	June 30, 2021	122,932,817	49,119,645	73,813,172	39.96%	3,000,162	5,034,735	2,018,163	7,052,898	3,790,787	0	3,262,111	2021
2023	June 30, 2022	127,328,079	54,432,284	72,895,795	42.75%	3,127,251	5,642,779	1,746,895	7,389,674	4,251,524	0	3,138,150	2022
2024	June 30, 2023	132,784,181	59,964,770	72,819,411	45.16%	3,269,824	6,138,211	1,604,320	7,742,531	4,659,750	0	3,082,781	2023
2025	June 30, 2024	138,141,404	65,586,979	72,554,425	47.48%	3,402,121	6,786,493	1,325,744	8,112,237	5,132,275	0	2,979,962	2024
2026	June 30, 2025	143,517,235	71,449,341	72,067,894	49.78%	3,553,630	7,317,730	1,181,866	8,499,596	5,556,148	0	2,943,448	2025
2027	June 30, 2026	148,889,135	77,583,454	71,305,681	52.11%	3,693,256	7,853,668	1,051,784	8,905,452	5,993,612	0	2,911,840	2026
2028	June 30, 2027	154,262,844	84,012,950	70,249,894	54.46%	3,846,368	8,404,703	925,984	9,330,687	6,438,874	0	2,891,813	2027
2029	June 30, 2028	159,702,438	90,873,361	68,829,077	56.90%	4,000,014	8,868,739	907,488	9,776,227	6,836,981	0	2,939,246	2028
2030	June 30, 2029	165,193,530	98,225,368	66,968,162	59.46%	4,155,730	9,325,572	917,470	10,243,042	7,226,872	0	3,016,170	2029
2031	June 30, 2030	170,844,585	106,188,846	64,655,739	62.16%	4,318,707	9,724,877	1,007,270	10,732,147	7,581,356	0	3,150,791	2030
2032	June 30, 2031	176,587,280	114,767,809	61,819,471	64.99%	4,476,016	10,183,842	1,060,765	11,244,607	7,970,317	0	3,274,290	2031
2033	June 30, 2032	182,184,993	123,985,937	58,199,056	68.05%	4,657,903	10,685,467	1,096,070	11,781,537	8,377,219	0	3,404,318	2032
2034	June 30, 2033	188,013,878	134,068,973	53,944,905	71.31%	4,835,009	11,043,646	1,300,460	12,344,106	8,736,041	0	3,608,065	2033
2035	June 30, 2034	193,885,829	144,891,019	48,994,810	74.73%	5,037,711	11,602,997	1,330,540	12,933,537	9,180,453	0	3,753,084	2034
2036	June 30, 2035	199,835,150	156,567,824	43,267,326	78.35%	5,232,515	12,130,737	1,420,376	13,551,113	9,626,244	0	3,924,869	2035
2037	June 30, 2036	205,952,682	169,229,564	36,723,118	82.17%	5,445,996	12,622,312	1,575,867	14,198,179	10,058,132	0	4,140,047	2036
2038	June 30, 2037	212,085,487	183,038,372	29,047,115	86.30%	5,669,049	13,057,793	1,818,349	14,876,142	10,455,693	0	4,420,449	2037
2039	June 30, 2038	218,703,740	198,135,797	20,567,943	90.60%	5,895,073	13,468,512	2,117,966	15,586,478	10,865,189	0	4,721,289	2038
2040	June 30, 2039	225,405,624	214,664,041	10,741,583	95.23%	6,150,449	13,864,678	2,466,054	16,330,732	11,241,442	0	5,089,290	2039
2041	June 30, 2040	232,440,004	232,786,360	(346,356)	100.15%	6,405,720	14,237,551	2,872,974	17,110,525	11,624,581	0	5,485,944	2040
2042	June 30, 2041	240,192,830	243,267,938	(3,075,108)	101.28%	6,670,519	14,462,509	(5,454,393)	9,008,116	11,941,153	0	(2,933,037)	2041
2043	June 30, 2042	248,139,408	254,346,624	(6,207,216)	102.50%	6,957,984	14,933,735	(5,583,026)	9,350,709	12,355,365	0	(3,004,656)	2042
2044	June 30, 2043	256,677,420	266,006,915	(9,329,495)	103.63%	7,266,491	15,502,580	(5,765,262)	9,737,318	12,844,778	0	(3,107,460)	2043
2045	June 30, 2044	265,739,477	278,501,546	(12,762,069)	104.80%	7,591,878	15,805,334	(5,749,419)	10,055,915	13,207,035	0	(3,151,120)	2044
2046	June 30, 2045	274,964,295	291,636,468	(16,672,173)	106.06%	7,934,909	16,462,866	(5,969,570)	10,493,296	13,765,074	0	(3,271,778)	2045
2047	June 30, 2046	284,860,812	305,597,538	(20,736,726)	107.28%	8,294,888	16,949,148	(6,057,982)	10,891,166	14,233,501	0	(3,342,335)	2046
2048	June 30, 2047	295,579,748	320,605,930	(25,026,182)	108.47%	8,683,738	17,246,350	(5,993,828)	11,252,522	14,609,532	0	(3,357,010)	2047
2049	June 30, 2048	306,633,020	336,662,468	(30,029,448)	109.79%	9,094,224	17,662,098	(5,997,512)	11,664,586	15,075,433	0	(3,410,847)	2048
2050	June 30, 2049	318,594,963	353,800,550	(35,205,587)	111.05%	9,512,731	18,139,371	(6,038,648)	12,100,723	15,577,703	0	(3,476,980)	2049
2051	June 30, 2050	331,375,211	372,047,727	(40,672,516)	112.27%	9,972,226	18,722,065	(6,124,887)	12,597,178	16,167,523	0	(3,570,345)	2050

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Projection of Contributions using a June 30, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for		III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
	current employees	II. Payroll for future employees			Payments for current plan members		
June 30, 2019	97,284,787	0	97,284,787	0	4,149,726	0	4,149,726
June 30, 2020	91,153,867	9,049,464	100,203,331	0	4,502,454	0	4,502,454
June 30, 2021	85,839,007	17,370,424	103,209,431	0	5,034,735	0	5,034,735
June 30, 2022	81,574,216	24,731,498	106,305,714	0	5,642,779	0	5,642,779
June 30, 2023	77,439,005	32,055,880	109,494,885	0	6,138,211	0	6,138,211
June 30, 2024	73,943,791	38,835,941	112,779,732	0	6,786,493	0	6,786,493
June 30, 2025	70,497,669	45,665,455	116,163,124	0	7,317,730	0	7,317,730
June 30, 2026	67,216,668	52,431,350	119,648,018	0	7,853,668	0	7,853,668
June 30, 2027	63,996,947	59,240,512	123,237,459	0	8,404,703	0	8,404,703
June 30, 2028	60,802,236	66,132,347	126,934,583	0	8,868,739	0	8,868,739
June 30, 2029	57,622,462	73,120,158	130,742,620	0	9,325,572	0	9,325,572
June 30, 2030	54,616,212	80,048,687	134,664,899	0	9,724,877	0	9,724,877
June 30, 2031	51,844,720	86,860,126	138,704,846	0	10,117,733	66,109	10,183,842
June 30, 2032	49,001,261	93,864,730	142,865,991	0	10,521,514	163,953	10,685,467
June 30, 2033	46,537,175	100,614,796	147,151,971	0	10,740,592	303,054	11,043,646
June 30, 2034	43,972,687	107,593,843	151,566,530	0	11,105,442	497,555	11,602,997
June 30, 2035	41,517,700	114,595,826	156,113,526	0	11,388,077	742,660	12,130,737
June 30, 2036	39,170,581	121,626,351	160,796,932	0	11,703,985	918,327	12,622,312
June 30, 2037	36,612,366	129,008,474	165,620,840	0	11,925,169	1,132,624	13,057,793
June 30, 2038	34,320,859	136,268,606	170,589,465	0	12,095,287	1,373,225	13,468,512
June 30, 2039	31,943,228	143,763,921	175,707,149	0	12,301,567	1,563,111	13,864,678
June 30, 2040	29,759,072	151,219,291	180,978,363	0	12,461,634	1,775,917	14,237,551
June 30, 2041	27,535,867	158,871,847	186,407,714	0	12,378,021	2,084,488	14,462,509
June 30, 2042	25,524,950	166,474,995	191,999,945	0	12,454,459	2,479,276	14,933,735
June 30, 2043	23,582,754	174,177,189	197,759,943	0	12,540,693	2,961,887	15,502,580
June 30, 2044	21,636,249	182,056,492	203,692,741	0	12,240,423	3,564,911	15,805,334
June 30, 2045	19,682,122	190,121,401	209,803,523	0	12,190,136	4,272,730	16,462,866
June 30, 2046	17,944,381	198,153,248	216,097,629	0	12,110,533	4,838,615	16,949,148
June 30, 2047	16,390,598	206,189,960	222,580,558	0	11,760,946	5,485,404	17,246,350
June 30, 2048	14,616,829	214,641,146	229,257,975	0	11,466,070	6,196,028	17,662,098
June 30, 2049	13,136,639	222,999,075	236,135,714	0	11,323,654	6,815,717	18,139,371
June 30, 2050	11,625,465	231,594,320	243,219,785	0	11,230,611	7,491,454	18,722,065
June 30, 2051	10,112,656	240,403,723	250,516,379	0	10,997,810	8,273,055	19,270,865
June 30, 2052	8,726,498	249,305,372	258,031,870	0	10,703,734	9,123,598	19,827,332
June 30, 2053	7,524,131	258,248,695	265,772,826	0	10,544,269	10,046,013	20,590,282
June 30, 2054	6,338,666	267,407,345	273,746,011	0	10,177,157	11,051,320	21,228,477
June 30, 2055	5,242,841	276,715,550	281,958,391	0	9,926,360	12,139,607	22,065,967
June 30, 2056	4,162,320	286,254,823	290,417,143	0	9,728,317	13,198,397	22,926,714
June 30, 2057	3,263,402	295,866,255	299,129,657	0	9,311,879	14,323,025	23,634,904
June 30, 2058	2,430,935	305,672,612	308,103,547	0	9,045,357	15,515,967	24,561,324

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Projection of Contributions using a June 30, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2059	1,785,071	315,561,582	317,346,653	0	8,844,535	16,733,093	25,577,628
June 30, 2060	1,345,895	325,521,158	326,867,053	0	8,606,270	18,016,540	26,622,810
June 30, 2061	888,687	335,784,378	336,673,065	0	8,355,936	19,386,886	27,742,822
June 30, 2062	547,268	346,225,989	346,773,257	0	8,113,424	20,835,952	28,949,376
June 30, 2063	303,164	356,873,291	357,176,455	0	7,902,939	22,372,523	30,275,462
June 30, 2064	176,132	367,715,617	367,891,749	0	7,691,897	23,996,027	31,687,924
June 30, 2065	81,350	378,847,151	378,928,501	0	7,458,432	25,712,011	33,170,443
June 30, 2066	22,118	390,274,238	390,296,356	0	7,225,953	27,475,944	34,701,897
June 30, 2067	5,329	401,999,918	402,005,247	0	6,986,633	29,317,781	36,304,414
June 30, 2068	0	414,065,404	414,065,404	0	6,733,625	31,247,859	37,981,484
June 30, 2069	0	426,487,366	426,487,366	0	6,469,913	33,234,888	39,704,801
June 30, 2070	0	439,281,987	439,281,987	0	6,196,827	35,305,063	41,501,890
June 30, 2071	0	452,460,447	452,460,447	0	5,915,750	37,463,881	43,379,631
June 30, 2072	0	466,034,260	466,034,260	0	5,627,822	39,712,971	45,340,793
June 30, 2073	0	480,015,288	480,015,288	0	5,334,087	42,060,239	47,394,326
June 30, 2074	0	494,415,747	494,415,747	0	5,035,969	44,507,852	49,543,821
June 30, 2075	0	509,248,219	509,248,219	0	4,734,867	47,052,439	51,787,306
June 30, 2076	0	524,525,666	524,525,666	0	4,432,117	49,712,234	54,144,351
June 30, 2077	0	540,261,436	540,261,436	0	4,129,362	52,471,935	56,601,297
June 30, 2078	0	556,469,279	556,469,279	0	3,828,124	55,339,778	59,167,902
June 30, 2079	0	573,163,357	573,163,357	0	3,530,110	58,332,445	61,862,555
June 30, 2080	0	590,358,258	590,358,258	0	3,256,961	61,443,507	64,700,468
June 30, 2081	0	608,069,006	608,069,006	0	3,006,698	64,680,433	67,687,131
June 30, 2082	0	626,311,076	626,311,076	0	2,761,389	68,055,816	70,817,205
June 30, 2083	0	645,100,408	645,100,408	0	2,519,158	71,578,392	74,097,550
June 30, 2084	0	664,453,420	664,453,420	0	2,282,028	75,255,870	77,537,898
June 30, 2085	0	684,387,023	684,387,023	0	2,051,832	79,090,921	81,142,753
June 30, 2086	0	704,918,634	704,918,634	0	1,830,113	83,099,180	84,929,293
June 30, 2087	0	726,066,193	726,066,193	0	1,618,601	87,280,002	88,898,603
June 30, 2088	0	747,848,179	747,848,179	0	1,418,810	91,642,745	93,061,555
June 30, 2089	0	770,283,624	770,283,624	0	1,231,907	96,204,436	97,436,343
June 30, 2090	0	793,392,133	793,392,133	0	1,058,833	100,969,011	102,027,844
June 30, 2091	0	817,193,897	817,193,897	0	900,226	105,946,955	106,847,181
June 30, 2092	0	841,709,714	841,709,714	0	756,496	111,151,793	111,908,289
June 30, 2093	0	866,961,005	866,961,005	0	627,840	116,595,236	117,223,076

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Projection of OPEB Plan's Fiduciary Net Position using a June 30, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you-go	IV. Gross Contributions to Trust for Current Plan Members [III. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2019	32,878,807	4,149,726	2,756,979	6,906,705	0	3,280,000	3,280,000	2,099,260	38,604,772
June 30, 2020	38,604,772	4,502,454	3,198,628	7,701,082	0	3,390,529	3,390,529	2,615,113	44,418,513
June 30, 2021	44,418,513	5,034,735	2,713,089	7,747,824	0	3,790,787	3,790,787	3,303,925	50,435,527
June 30, 2022	50,435,527	5,642,779	1,336,429	6,979,208	0	4,251,524	4,251,524	3,629,214	55,401,170
June 30, 2023	55,401,170	6,138,211	1,126,800	7,265,011	0	4,659,750	4,659,750	3,962,611	60,490,581
June 30, 2024	60,490,581	6,786,493	857,807	7,644,300	0	5,132,275	5,132,275	4,300,522	65,648,910
June 30, 2025	65,648,910	7,317,730	702,503	8,020,233	0	5,556,148	5,556,148	4,651,234	71,002,647
June 30, 2026	71,002,647	7,853,668	572,998	8,426,666	0	5,993,612	5,993,612	5,017,453	76,593,098
June 30, 2027	76,593,098	8,404,703	460,088	8,864,791	0	6,438,874	6,438,874	5,401,428	82,454,614
June 30, 2028	82,454,614	8,868,739	411,277	9,280,016	0	6,836,981	6,836,981	5,808,899	88,674,790
June 30, 2029	88,674,790	9,325,572	378,571	9,704,143	0	7,226,872	7,226,872	6,242,641	95,296,002
June 30, 2030	95,296,002	9,724,877	380,559	10,105,436	0	7,581,356	7,581,356	6,706,927	102,383,488
June 30, 2031	102,383,488	10,117,733	366,501	10,484,234	0	7,918,577	7,918,577	7,202,774	109,886,654
June 30, 2032	109,886,654	10,521,514	344,234	10,865,748	0	8,248,683	8,248,683	7,727,185	117,794,120
June 30, 2033	117,794,120	10,740,592	377,872	11,118,464	0	8,496,311	8,496,311	8,283,857	126,152,795
June 30, 2034	126,152,795	11,105,442	351,250	11,456,692	0	8,786,781	8,786,781	8,867,934	134,874,424
June 30, 2035	134,874,424	11,388,077	341,794	11,729,871	0	9,036,912	9,036,912	9,478,657	143,952,215
June 30, 2036	143,952,215	11,703,985	346,934	12,050,919	0	9,326,360	9,326,360	10,115,370	153,496,192
June 30, 2037	153,496,192	11,925,169	364,504	12,289,673	0	9,548,773	9,548,773	10,785,635	163,513,707
June 30, 2038	163,513,707	12,095,287	388,171	12,483,458	0	9,757,394	9,757,394	11,489,522	174,018,175
June 30, 2039	174,018,175	12,301,567	410,302	12,711,869	0	9,974,076	9,974,076	12,227,436	185,092,802
June 30, 2040	185,092,802	12,461,634	434,395	12,896,029	0	10,174,592	10,174,592	13,005,457	196,756,737
June 30, 2041	196,756,737	12,378,021	(2,136,380)	10,241,641	0	10,220,069	10,220,069	13,642,887	206,178,756
June 30, 2042	206,178,756	12,454,459	(1,985,328)	10,469,131	0	10,304,146	10,304,146	14,313,959	216,028,111
June 30, 2043	216,028,111	12,540,693	(1,848,673)	10,692,020	0	10,390,684	10,390,684	15,013,979	226,231,530
June 30, 2044	226,231,530	12,240,423	(1,678,843)	10,561,580	0	10,228,173	10,228,173	15,741,143	236,728,919
June 30, 2045	236,728,919	12,190,136	(1,544,417)	10,645,719	0	10,192,522	10,192,522	16,486,434	247,398,206
June 30, 2046	247,398,206	12,110,533	(1,407,429)	10,703,104	0	10,170,144	10,170,144	17,243,953	258,396,115
June 30, 2047	258,396,115	11,760,946	(1,270,003)	10,490,943	0	9,962,799	9,962,799	18,024,540	269,665,248
June 30, 2048	269,665,248	11,466,070	(1,126,085)	10,339,985	0	9,786,831	9,786,831	18,824,595	281,167,730
June 30, 2049	281,167,730	11,323,654	(1,009,125)	10,314,529	0	9,724,511	9,724,511	19,639,118	292,982,006
June 30, 2050	292,982,006	11,230,611	(894,881)	10,335,730	0	9,698,244	9,698,244	20,475,307	305,070,978
June 30, 2051	305,070,978	10,997,810	(777,912)	10,219,898	0	9,568,691	9,568,691	21,330,944	317,350,955
June 30, 2052	317,350,955	10,703,734	(670,550)	10,033,184	0	9,374,982	9,374,982	22,199,296	329,756,103
June 30, 2053	329,756,103	10,544,269	(582,919)	9,961,350	0	9,272,277	9,272,277	23,075,040	342,202,211
June 30, 2054	342,202,211	10,177,157	(491,551)	9,685,606	0	9,006,243	9,006,243	23,953,917	354,613,257
June 30, 2055	354,613,257	9,926,360	(410,303)	9,516,057	0	8,811,954	8,811,954	24,829,627	366,892,974
June 30, 2056	366,892,974	9,728,317	(328,591)	9,399,726	0	8,663,135	8,663,135	25,696,163	379,062,149
June 30, 2057	379,062,149	9,311,879	(257,849)	9,054,030	0	8,346,458	8,346,458	26,554,181	391,035,456
June 30, 2058	391,035,456	9,045,357	(193,789)	8,851,568	0	8,129,207	8,129,207	27,398,001	402,723,701

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Projection of OPEB Plan's Fiduciary Net Position using a June 30, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. +VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2059	402,723,701	8,844,535	(143,874)	8,700,661	0	7,962,148	7,962,148	28,220,846	394,037,908
June 30, 2060	394,037,908	8,606,270	(109,621)	8,496,649	0	7,762,799	7,762,799	27,614,373	385,545,342
June 30, 2061	385,545,342	8,355,936	(73,230)	8,282,706	0	7,548,312	7,548,312	27,021,595	377,260,732
June 30, 2062	377,260,732	8,113,424	(45,687)	8,067,737	0	7,336,259	7,336,259	26,442,775	369,189,040
June 30, 2063	369,189,040	7,902,939	(25,697)	7,877,242	0	7,145,542	7,145,542	25,878,350	361,308,066
June 30, 2064	361,308,066	7,691,897	(15,171)	7,676,726	0	6,951,298	6,951,298	25,326,632	353,628,294
June 30, 2065	353,628,294	7,458,432	(7,121)	7,451,311	0	6,735,500	6,735,500	24,788,844	346,175,184
June 30, 2066	346,175,184	7,225,953	(1,967)	7,223,986	0	6,521,688	6,521,688	24,266,742	338,950,606
June 30, 2067	338,950,606	6,986,633	(481)	6,986,152	0	6,301,953	6,301,953	23,760,404	331,964,288
June 30, 2068	331,964,288	6,733,625	0	6,733,625	0	6,069,817	6,069,817	23,270,697	325,230,663
June 30, 2069	325,230,663	6,469,913	0	6,469,913	0	5,830,439	5,830,439	22,798,669	318,760,750
June 30, 2070	318,760,750	6,196,827	0	6,196,827	0	5,582,944	5,582,944	22,345,129	312,563,923
June 30, 2071	312,563,923	5,915,750	0	5,915,750	0	5,328,703	5,328,703	21,910,731	306,648,173
June 30, 2072	306,648,173	5,627,822	0	5,627,822	0	5,068,554	5,068,554	21,496,037	301,020,351
June 30, 2073	301,020,351	5,334,087	0	5,334,087	0	4,803,124	4,803,124	21,101,527	295,686,264
June 30, 2074	295,686,264	5,035,969	0	5,035,969	0	4,533,818	4,533,818	20,727,607	290,650,295
June 30, 2075	290,650,295	4,734,867	0	4,734,867	0	4,262,134	4,262,134	20,374,586	285,915,428
June 30, 2076	285,915,428	4,432,117	0	4,432,117	0	3,988,765	3,988,765	20,042,671	281,483,311
June 30, 2077	281,483,311	4,129,362	0	4,129,362	0	3,715,953	3,715,953	19,731,980	277,353,949
June 30, 2078	277,353,949	3,828,124	0	3,828,124	0	3,444,830	3,444,830	19,442,512	273,525,825
June 30, 2079	273,525,825	3,530,110	0	3,530,110	0	3,176,541	3,176,541	19,174,160	269,995,715
June 30, 2080	269,995,715	3,256,961	0	3,256,961	0	2,930,984	2,930,984	18,926,700	266,738,754
June 30, 2081	266,738,754	3,006,698	0	3,006,698	0	2,706,163	2,706,163	18,698,387	263,732,056
June 30, 2082	263,732,056	2,761,389	0	2,761,389	0	2,485,802	2,485,802	18,487,617	260,970,667
June 30, 2083	260,970,667	2,519,158	0	2,519,158	0	2,268,135	2,268,135	18,294,044	258,451,509
June 30, 2084	258,451,509	2,282,028	0	2,282,028	0	2,054,966	2,054,966	18,117,451	256,169,481
June 30, 2085	256,169,481	2,051,832	0	2,051,832	0	1,848,003	1,848,003	17,957,481	254,117,649
June 30, 2086	254,117,649	1,830,113	0	1,830,113	0	1,648,569	1,648,569	17,813,647	252,287,536
June 30, 2087	252,287,536	1,618,601	0	1,618,601	0	1,458,313	1,458,313	17,685,356	250,668,935
June 30, 2088	250,668,935	1,418,810	0	1,418,810	0	1,278,591	1,278,591	17,571,892	249,250,125
June 30, 2089	249,250,125	1,231,907	0	1,231,907	0	1,110,390	1,110,390	17,472,434	248,018,218
June 30, 2090	248,018,218	1,058,833	0	1,058,833	0	954,603	954,603	17,386,077	246,959,385
June 30, 2091	246,959,385	900,226	0	900,226	0	811,801	811,801	17,311,853	246,059,159
June 30, 2092	246,059,159	756,496	0	756,496	0	682,353	682,353	17,248,747	245,302,663
June 30, 2093	245,302,663	627,840	0	627,840	0	566,445	566,445	17,195,717	244,674,823

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Actuarial Present Values of Projected Benefit Payments using a June 30, 2019 Valuation Date
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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	32,878,807	4,149,726	4,149,726	0	4,149,726	0	4,149,726
June 30, 2020	38,604,772	4,502,454	4,502,454	0	4,207,508	0	4,207,508
June 30, 2021	44,418,513	5,034,735	5,034,735	0	4,396,711	0	4,396,711
June 30, 2022	50,435,527	5,642,779	5,642,779	0	4,604,897	0	4,604,897
June 30, 2023	55,401,170	6,138,211	6,138,211	0	4,681,062	0	4,681,062
June 30, 2024	60,490,581	6,786,493	6,786,493	0	4,836,415	0	4,836,415
June 30, 2025	65,648,910	7,317,730	7,317,730	0	4,873,379	0	4,873,379
June 30, 2026	71,002,647	7,853,668	7,853,668	0	4,887,671	0	4,887,671
June 30, 2027	76,593,098	8,404,703	8,404,703	0	4,887,958	0	4,887,958
June 30, 2028	82,454,614	8,868,739	8,868,739	0	4,819,951	0	4,819,951
June 30, 2029	88,674,790	9,325,572	9,325,572	0	4,736,220	0	4,736,220
June 30, 2030	95,296,002	9,724,877	9,724,877	0	4,615,472	0	4,615,472
June 30, 2031	102,383,488	10,117,733	10,117,733	0	4,487,359	0	4,487,359
June 30, 2032	109,886,654	10,521,514	10,521,514	0	4,360,753	0	4,360,753
June 30, 2033	117,794,120	10,740,592	10,740,592	0	4,159,941	0	4,159,941
June 30, 2034	126,152,795	11,105,442	11,105,442	0	4,019,485	0	4,019,485
June 30, 2035	134,874,424	11,388,077	11,388,077	0	3,851,772	0	3,851,772
June 30, 2036	143,952,215	11,703,985	11,703,985	0	3,699,300	0	3,699,300
June 30, 2037	153,496,192	11,925,169	11,925,169	0	3,522,297	0	3,522,297
June 30, 2038	163,513,707	12,095,287	12,095,287	0	3,338,514	0	3,338,514
June 30, 2039	174,018,175	12,301,567	12,301,567	0	3,173,023	0	3,173,023
June 30, 2040	185,092,802	12,461,634	12,461,634	0	3,003,747	0	3,003,747
June 30, 2041	196,756,737	12,378,021	12,378,021	0	2,788,144	0	2,788,144
June 30, 2042	206,178,756	12,454,459	12,454,459	0	2,621,588	0	2,621,588
June 30, 2043	216,028,111	12,540,693	12,540,693	0	2,466,816	0	2,466,816
June 30, 2044	226,231,530	12,240,423	12,240,423	0	2,250,025	0	2,250,025
June 30, 2045	236,728,919	12,190,136	12,190,136	0	2,093,992	0	2,093,992
June 30, 2046	247,398,206	12,110,533	12,110,533	0	1,944,041	0	1,944,041
June 30, 2047	258,396,115	11,760,946	11,760,946	0	1,764,250	0	1,764,250
June 30, 2048	269,665,248	11,466,070	11,466,070	0	1,607,341	0	1,607,341
June 30, 2049	281,167,730	11,323,654	11,323,654	0	1,483,391	0	1,483,391
June 30, 2050	292,982,006	11,230,611	11,230,611	0	1,374,827	0	1,374,827
June 30, 2051	305,070,978	10,997,810	10,997,810	0	1,258,133	0	1,258,133
June 30, 2052	317,350,955	10,703,734	10,703,734	0	1,144,277	0	1,144,277
June 30, 2053	329,756,103	10,544,269	10,544,269	0	1,053,387	0	1,053,387
June 30, 2054	342,202,211	10,177,157	10,177,157	0	950,110	0	950,110
June 30, 2055	354,613,257	9,926,360	9,926,360	0	865,990	0	865,990
June 30, 2056	366,892,974	9,728,317	9,728,317	0	793,115	0	793,115
June 30, 2057	379,062,149	9,311,879	9,311,879	0	709,433	0	709,433
June 30, 2058	391,035,456	9,045,357	9,045,357	0	643,985	0	643,985

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a June 30, 2019 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	402,723,701	8,844,535	8,844,535	0	588,438	0	588,438
June 30, 2060	394,037,908	8,606,270	8,606,270	0	535,077	0	535,077
June 30, 2061	385,545,342	8,355,936	8,355,936	0	485,481	0	485,481
June 30, 2062	377,260,732	8,113,424	8,113,424	0	440,511	0	440,511
June 30, 2063	369,189,040	7,902,939	7,902,939	0	400,974	0	400,974
June 30, 2064	361,308,066	7,691,897	7,691,897	0	364,701	0	364,701
June 30, 2065	353,628,294	7,458,432	7,458,432	0	330,466	0	330,466
June 30, 2066	346,175,184	7,225,953	7,225,953	0	299,192	0	299,192
June 30, 2067	338,950,606	6,986,633	6,986,633	0	270,333	0	270,333
June 30, 2068	331,964,288	6,733,625	6,733,625	0	243,475	0	243,475
June 30, 2069	325,230,663	6,469,913	6,469,913	0	218,615	0	218,615
June 30, 2070	318,760,750	6,196,827	6,196,827	0	195,671	0	195,671
June 30, 2071	312,563,923	5,915,750	5,915,750	0	174,559	0	174,559
June 30, 2072	306,648,173	5,627,822	5,627,822	0	155,185	0	155,185
June 30, 2073	301,020,351	5,334,087	5,334,087	0	137,450	0	137,450
June 30, 2074	295,686,264	5,035,969	5,035,969	0	121,267	0	121,267
June 30, 2075	290,650,295	4,734,867	4,734,867	0	106,548	0	106,548
June 30, 2076	285,915,428	4,432,117	4,432,117	0	93,201	0	93,201
June 30, 2077	281,483,311	4,129,362	4,129,362	0	81,147	0	81,147
June 30, 2078	277,353,949	3,828,124	3,828,124	0	70,299	0	70,299
June 30, 2079	273,525,825	3,530,110	3,530,110	0	60,580	0	60,580
June 30, 2080	269,995,715	3,256,961	3,256,961	0	52,231	0	52,231
June 30, 2081	266,738,754	3,006,698	3,006,698	0	45,059	0	45,059
June 30, 2082	263,732,056	2,761,389	2,761,389	0	38,672	0	38,672
June 30, 2083	260,970,667	2,519,158	2,519,158	0	32,968	0	32,968
June 30, 2084	258,451,509	2,282,028	2,282,028	0	27,909	0	27,909
June 30, 2085	256,169,481	2,051,832	2,051,832	0	23,450	0	23,450
June 30, 2086	254,117,649	1,830,113	1,830,113	0	19,545	0	19,545
June 30, 2087	252,287,536	1,618,601	1,618,601	0	16,154	0	16,154
June 30, 2088	250,668,935	1,418,810	1,418,810	0	13,233	0	13,233
June 30, 2089	249,250,125	1,231,907	1,231,907	0	10,737	0	10,737
June 30, 2090	248,018,218	1,058,833	1,058,833	0	8,624	0	8,624
June 30, 2091	246,959,385	900,226	900,226	0	6,852	0	6,852
June 30, 2092	246,059,159	756,496	756,496	0	5,381	0	5,381
June 30, 2093	245,302,663	627,840	627,840	0	4,173	0	4,173

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, 2018

Plan Year

July 1 through June 30.

Premium Effective Date

Medicare Supplement Plans: effective January 1, 2020

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 Insurance as well as \$2,000 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

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

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

Surviving Spouse Coverage

Surviving spouses pay 100% of premiums.

APPENDIX II – PLAN PROVISIONS

Eligibility

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

Participant Contributions

Group	Individual	Two-Person / Family
Medical	Varies by plan elected and coverage level	Varies by plan elected and coverage level
Dental	100%	100%
Life	50%	N/A

APPENDIX III - ACTUARIAL METHODS & ASSUMPTIONS

<u>Pre-Retirement Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females
<u>Post-Retirement Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
<u>Disabled Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
<u>Assumption Experience Study</u>	The actuarial assumptions used to calculate the actuarial accrued liability and the service cost primarily reflect the latest experience studies of the Massachusetts PERAC issued in 2014 and their most recent analysis of retiree mortality during 2015 and 2016.
<u>Discount Rate</u>	7.00% per annum (previously 7.00%)
<u>Net Long Term Rate of Return</u>	7.01% (based on investment policy)
<u>Municipal Bond Rate</u>	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
<u>Actuarial Cost Method</u>	Individual Entry Age Normal
<u>Asset-Valuation Method</u>	Market Value of Assets as of the Measurement Date, June 30, 2019

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Excise Tax

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

Employee Termination

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

Non-Public Safety Employees

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

Public Safety Employees

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Retirement Rates for Eligible Employees

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

Permanent Disability Rates

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONSTrend Rate

Medicare Supplement Plans: Initial Trend of 8.50% for 2020 grading down 0.50% per year for an ultimate trend rate of 4.50%.

Non-Medicare Plans: Initial Trend of 8.50% for 2020 grading down 0.50% per year for an ultimate trend rate of 4.50%.

Dental Plans: Initial Trend of 8.50% for 2020 grading down 0.50% per year for an ultimate trend rate of 4.50%.

Participation Rate

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

Spouse Participation Rate

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

Spouse Demographics

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

School Demographics

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

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

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

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2019</u>	<u>June 30, 2018</u>
I. Actuarial Accrued Liability	109,486,712	99,527,289
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>89,413,404</u>	<u>81,161,402</u>
III. Liability from Implicit Subsidy [I. - II.]	20,073,308	18,365,887

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2019</u>	<u>June 30, 2018</u>
IV. Employer Payments (Including Implicit Subsidy)	4,149,726	3,975,488
V. Actual Employer Payments	<u>3,168,717</u>	<u>3,280,000</u>
VI. Implicit Subsidy [IV. - V.]	981,009	695,488

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		
Age Bracket	Female	Male
24 & Under	4,491	2,831
25 to 29	6,625	2,946
30 to 34	8,372	3,697
35 to 39	8,624	4,642
40 to 44	8,827	5,784
45 to 49	9,695	7,303
50 to 54	11,405	9,618
55 to 59	13,185	12,504
60 to 64	15,690	16,046
65 to 69	18,808	20,015
70 & Over	22,179	23,985

RETIREE - NOT MEDICARE ELIGIBLE		
Age Bracket	Female	Male
44 & Under	8,827	5,784
45 to 49	9,695	7,303
50 to 54	11,405	9,618
55 to 59	13,185	12,504
60 to 64	15,690	16,046
65 to 69	18,808	20,015
70 to 74	22,179	23,985
75 to 79	25,758	28,328
80 to 84	29,533	32,561
85 to 89	33,711	37,271
90 & Over	33,711	37,271

RETIREE - MEDICARE ELIGIBLE		
Age Bracket	Female	Male
65 to 69	4,518	4,518
70 to 74	4,518	4,518
75 to 79	4,518	4,518
80 to 84	4,518	4,518
85 to 89	4,518	4,518
90 & Over	4,518	4,518

*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	June 30, 2019	June 30, 2018
A. Average Age at Hire	35.25	35.37
B. Average Service	<u>10.33</u>	<u>9.92</u>
C. Average Current Age	45.58	45.29

Retired Employees & Spouses

Valuation Date	June 30, 2019	June 30, 2018
A. Under Age 65	82	98
B. Age 65 & Over	<u>842</u>	<u>767</u>
C. Total	924	865

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	34									34
25-29	108	13								121
30-34	89	67	8							164
35-39	55	41	46	6						148
40-44	47	33	51	33	7					171
45-49	45	36	26	35	24	1				167
50-54	37	38	23	29	19	13	5			164
55-59	24	36	41	18	28	17	7		1	172
60-64	18	16	27	29	12	8	7	2	2	121
65-69	3	9	3	10	4	2	1		1	33
70+	2	2	3	3	3	1	3		4	21
Total	462	291	228	163	97	42	23	2	8	1316

APPENDIX IV - PLAN DEMOGRAPHICS

<u>Plan Offerings</u>	<u>Number of Contracts</u>			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
Fallon Select HDHP	32		41	73
Fallon Direct HDHP	5			5
Harvard Pilgrim HDHP	156		229	385
BCBS Network Blue HDHP	16		26	42
Tufts HDHP	24		26	50
Fallon Select Benchmark	23		14	37
Fallon Direct Benchmark	9		1	10
Harvard Pilgrim Benchmark	131		142	273
BCBS Network Blue Benchmark	45		14	59
Tufts Navigator Benchmark	53		20	73
Harvard Pilgrim PPO	2			2
BCBS Managed Blue	118			118
BCBS Medex Enhanced	192			192
Harvard Pilgrim Medicare Enhanced	23			23
Tufts Medicare Preferred	44			44
Tufts Medicare Plus	448			448
Total	1,321	0	513	1,834

	<u>Per Contract Costs (monthly)</u>		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Fallon Select HDHP	635.00		1,713.00
Fallon Direct HDHP	592.00		1,595.00
Harvard Pilgrim HDHP	750.00		1,957.00
BCBS Network Blue HDHP	831.00		2,231.00
Tufts HDHP	801.00		2,098.00
Fallon Select Benchmark	754.00		2,032.00
Fallon Direct Benchmark	702.00		1,890.00
Harvard Pilgrim Benchmark	969.00		2,524.00
BCBS Network Blue Benchmark	1,029.00		2,759.00
Tufts Navigator Benchmark	1,035.00		2,709.00
Harvard Pilgrim PPO	2,612.00		5,800.00
BCBS Managed Blue	375.74	751.48	
BCBS Medex Enhanced	405.00	810.00	
Harvard Pilgrim Medicare Enhanced	382.00	764.00	
Tufts Medicare Preferred	327.00	654.00	
Tufts Medicare Plus	369.00	738.00	
Dental Plan	N/A		N/A

APPENDIX V - OVERVIEW OF GASB 74 & 75

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

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

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

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

APPENDIX V – OVERVIEW OF GASB 74 & 75

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

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

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

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

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

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

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

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

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

GLOSSARY

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

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

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

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

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

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

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

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

GLOSSARY

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

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

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

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

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

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

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

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

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