

Town of Needham Other Postemployment Benefits Plan

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of June 30, 2020

As of the Measurement Date:
June 30, 2020

For the Reporting Date:
June 30, 2021

Delivered April 14, 2021



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April 14, 2021

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, 2021 with a Measurement Date of June 30, 2020 and a Valuation Date of June 30, 2020. 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,



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

April 14, 2021

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, 2020 with a Measurement Date of June 30, 2020 for the Reporting Date & fiscal year ending June 30, 2021 in accordance with Government Account Standards Board Statement No. 74 & 75 and Actuarial Standards of Practice as issued by the American Academy of Actuaries. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Numbers 74 & 75 for the determination of the liability for postemployment benefits other than pensions.

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

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

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

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

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

EXECUTIVE SUMMARY

How did plan liabilities change from FY 20 to FY 21?

Plan Experience

For the year ending on the Measurement Date of June 30, 2020, the Plan saw an experience loss of \$4,604,594 or 4.21% of the beginning Total OPEB Liability ("TOL"). This was mainly due to an increase in the number of retirees and spouses over the age of 65 remaining in Active plans. This was somewhat offset by a lower than expected increase in the average premium for Medicare Supplement plans as well the for Active plans.

Assumption Changes

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 7.00% to 6.75% increasing the disclosed liability by \$3.7 million.
- ✓ The expected long-term medical trend has been updated decreasing the disclosed liability by \$12.0 million.
- ✓ Due to updated guidance related to the implementation of ASOP 6, we have updated our methodology for calculating expected claims increasing the disclosed liability by \$8.4 million.
- ✓ Assumption changes caused Service Cost to decrease by \$84 thousand.

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

Investment Experience

- ✓ During the period there was an investment loss of \$1,839,225 due to asset performance below the expected rate of return.

Changes in Benefits Terms

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

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 6.57 years.
- ✓ Differences between projected & actual earnings on OPEB plan investments are amortized into the net OPEB expense over 5.00 years.
- ✓ Changes in benefit terms are to be recognized in full immediately.

Events Subsequent to the Measurement Date

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

Discount Rate Determinants

- ✓ Employer Current and Future Benefit Payments.
- ✓ Municipal Bond Rate – The municipal bond rate was 2.66% as of June 30, 2020.
- ✓ Current Asset Level – The Town had \$42,740,645 of OPEB assets as of June 30, 2020.
- ✓ 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 6.77% on assets based on its investment policy.

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare supplement) plans - represent 72.82% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate - We currently assume medical costs increase at 4.50% per year for Active plans and 4.50% per year for Medicare supplement plans.
- ✓ Discount Rate (6.75%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

EXECUTIVE SUMMARY

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 48 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. If you are in this situation, we encourage you to talk to your healthcare consultant to see if this might be viable.

I. Number of Retirees and Spouses Over 65 in Active Plans	48
II. Current Liability for Retirees and Spouses Over 65 in Active Plans	17,076,000
III. Potential Liability in Medicare Supplement Plan*	6,778,000
IV. Potential Reduction in Liability [II. - III.]	10,298,000

*Does not include Medicare Part A & B premiums or penalties

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, 2020	June 30, 2019
Measurement Date & Period Ending	June 30, 2020	June 30, 2019
Reporting Date/Fiscal Year End	June 30, 2021	June 30, 2020
Total OPEB Liability	119,764,082	109,486,712
Per Eligible Active Plan Participant	48,335	48,451
Per Retiree/Spouse Plan Participant	59,204	49,487
Total Annual Service Cost (Annual Benefit Accrual)	2,560,282	2,592,793
Per Eligible Active Plan Participant	1,918	1,970
Expected Employer Share of Retiree Costs	4,938,562	4,149,726
Per Retiree/Spouse Plan Participant	5,293	4,491
Net OPEB Liability as a % of Covered Payroll	82.60%	73.10%

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	Present Value at 3.00% of Total OPEB Liability		Employer Share of Premiums/Claims Including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims Including "Implicit Cost"
June 30, 2020	933	119,764,082	119,764,082	4,938,562	4,938,562
June 30, 2025	1,052	145,663,974	125,651,024	6,965,949	6,008,889
June 30, 2030	1,112	172,664,694	128,478,748	9,085,438	6,760,419
June 30, 2035	1,116	200,989,204	129,007,322	11,278,634	7,239,326
June 30, 2040	1,099	230,760,065	127,766,253	13,440,210	7,441,518
June 30, 2045	1,063	267,371,832	127,698,276	14,994,898	7,161,647
June 30, 2050	1,045	313,195,665	129,032,467	16,816,322	6,928,102

PRINCIPAL RESULTS OF THE VALUATION

Town of Needham

Assuming Funding - 6.75% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	June 30, 2020	June 30, 2019
For the Measurement Period ending on the Measurement Date of:	June 30, 2020	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2021	June 30, 2020
I. Total OPEB Liability		
A. Actives	64,526,669	63,761,018
B. Retirees/Disabled	<u>55,237,413</u>	<u>45,725,694</u>
C. Total	119,764,082	109,486,712
II. Fiduciary Net Position [Plan Assets]	42,740,645	38,337,121
III. Net OPEB Liability (Asset) [I. - II.]	77,023,437	71,149,591
IV. Funded Ratio [II. / I.]	35.69%	35.02%
V. Number of Eligible Participants		
A. Actives	1,335	1,316
B. Retirees/Disabled & Dependents	<u>933</u>	<u>924</u>
C. Total	2,268	2,240
VI. Service Cost	2,560,282	2,592,793
VII. Financial Statement Expense	10,077,668	8,470,169
VIII. Employer Contribution to the OPEB Trust	(3,529,799)	(3,626,705)
IX. Deferred Inflow of Resources	(6,967,726)	(10,328,706)
X. Deferred Outflow of Resources	20,213,396	19,309,837
XI. Money Weighted Rate of Return	4.65%	4.93%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.66%	2.79%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.77%	7.01%
XIV. Crossover Year	N/A	N/A
XV. Discount Rate	6.75%	7.00%

PRINCIPAL RESULTS OF THE VALUATION

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

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability							
A. Actives	8,977,447	43,933,194	4,349,905	5,723,972	761,091	781,060	64,526,669
B. Retirees/Disabled	<u>13,746,420</u>	<u>32,633,703</u>	<u>2,769,957</u>	<u>5,218,803</u>	<u>524,851</u>	<u>343,679</u>	<u>55,237,413</u>
C. Total	22,723,867	76,566,897	7,119,862	10,942,775	1,285,942	1,124,739	119,764,082
II. Fiduciary Net Position [Plan Assets]	8,109,549	27,324,708	2,540,891	3,905,188	458,919	401,390	42,740,645
III. Net OPEB Liability (Asset) [I. - II.]	14,614,318	49,242,189	4,578,971	7,037,587	827,023	723,349	77,023,437
IV. Number of Eligible Participants							
A. Actives	244	948	55	66	10	12	1,335
B. Retirees/Disabled	<u>286</u>	<u>516</u>	<u>49</u>	<u>66</u>	<u>10</u>	<u>6</u>	<u>933</u>
C. Total	530	1,464	104	132	20	18	2,268
For the Reporting Date and Fiscal Year Ending June 30, 2021							
V. Service Cost	373,607	1,830,624	157,954	167,055	13,924	17,118	2,560,282
VI. Financial Statement Expense	1,782,077	6,658,003	606,955	851,079	92,323	87,231	10,077,668
VII. Employer Share of Costs	(1,254,149)	(2,901,763)	(240,811)	(398,822)	(96,207)	(46,810)	(4,938,562)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(669,740)	(2,256,651)	(209,843)	(322,516)	(37,900)	(33,149)	(3,529,799)
IX. Total Employer Contribution [VII. + VIII.]	(1,923,889)	(5,158,414)	(450,654)	(721,338)	(134,107)	(79,959)	(8,468,361)

PRINCIPAL RESULTS OF THE VALUATION

Town of Needham

Assuming Funding - 6.75% discount rate

For the Period Ending on the June 30, 2020 Measurement Date

	Actives			Retirees/Disabled			Grand Total
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
Present Value of Future Benefits							
A. Participants	23,779,242	32,084,007	55,863,249	3,126,555	48,031,406	51,157,961	107,021,210
B. Spouses	<u>13,495,344</u>	<u>17,045,119</u>	<u>30,540,463</u>	<u>965,002</u>	<u>3,114,450</u>	<u>4,079,452</u>	<u>34,619,915</u>
C. Total	37,274,586	49,129,126	86,403,712	4,091,557	51,145,856	55,237,413	141,641,125
Total OPEB Liability							
A. Participants	18,088,072	23,596,375	41,684,447	3,126,555	48,031,406	51,157,961	92,842,408
B. Spouses	<u>10,374,314</u>	<u>12,467,908</u>	<u>22,842,222</u>	<u>965,002</u>	<u>3,114,450</u>	<u>4,079,452</u>	<u>26,921,674</u>
C. Total	28,462,386	36,064,283	64,526,669	4,091,557	51,145,856	55,237,413	119,764,082
Service Cost							
A. Participants	640,611	1,021,376	1,661,987	0	0	0	1,661,987
B. Spouses	<u>357,013</u>	<u>541,282</u>	<u>898,295</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>898,295</u>
C. Total	997,624	1,562,658	2,560,282	0	0	0	2,560,282

EXHIBIT A

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

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

1. OPEB Expense Development

Components of the Town's OPEB Expenses for the Fiscal Year Ending June 30, 2021	
Description	Amount
I. Service Cost	2,560,282
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	7,673,363
III. Deferred (Inflows)/Outflows from Plan Experience*	(695,108)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	3,231,402
V. Projected Earnings on OPEB Plan Investments	(2,712,950)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	20,679
VII. Financial Statement Expense Prior to Plan Design Changes [I. + II. + III. + IV. + V. + VI.]	10,077,668
VIII. Expense Related to Change in Benefit Terms***	0
IX. Financial Statement Expense [VII. + VIII.]	10,077,668

* Amortized over 6.57 years

** Amortized over 5.00 years

*** Recognized Immediately

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

2. Changes in Net OPEB Liability

Changes in Net OPEB Liability			
	Increase (Decrease)		
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
I. Balances for the June 30, 2020 Reporting Date	109,486,712	38,337,121	71,149,591
II. Prior Period Adjustment	0	0	0
III. Balances for the June 30, 2020 Reporting Date with Adjustment [I. + II.]	109,486,712	38,337,121	71,149,591
Changes for the year:			
IV. Service Cost	2,560,282	0	2,560,282
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	7,673,363	0	7,673,363
VI. Changes in Benefit Terms *	0	0	0
VII. Change in Assumptions **	377,693	0	377,693
VIII. Differences Between Actual and Expected Experience **	4,604,594	0	4,604,594
IX. Net Investment Income	0	873,725	(873,725)
X. Employer Contributions to Trust	0	8,468,361	(8,468,361)
XI. Benefit Payments Withdrawn from Trust	0	(4,938,562)	4,938,562
XII. Benefit Payments Excluding Implicit Cost	(3,517,544)	0	(3,517,544)
XIII. Implicit Cost Amount	(1,421,018)	0	(1,421,018)
XIV. Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(4,938,562)	0	(4,938,562)
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.]	10,277,370	4,403,524	5,873,846
XVIII. Balances for the June 30, 2021 Reporting Date [III.+XVII.]	119,764,082	42,740,645	77,023,437

* Recognized Immediately

** Amortized over 6.57 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Differences Between Expected & Actual Experience									
Fiscal Year	Differences Between Actual & Expected Experience	Recognition Period (Years)	Remaining Balance	2021	2022	2023	2024	2025	2026
2017									
2018	1,468,270	5.00	293,654	293,654	293,654				
2019	(9,997,742)	5.99	(4,990,526)	(1,669,072)	(1,669,072)	(1,669,072)	(1,652,382)		
2020	(123,044)	5.99	(81,962)	(20,541)	(20,541)	(20,541)	(20,541)	(20,339)	
2021	4,604,594	6.57	3,903,743	700,851	700,851	700,851	700,851	700,851	700,851
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(875,091)						
Net increase (decrease) in OPEB Expense				(695,108)	(695,108)	(988,762)	(972,072)	680,512	700,851

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Changes in Assumptions									
Fiscal Year	Differences from Changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance	2021	2022	2023	2024	2025	2026
2017									
2018	(5,893,578)	5.00	(1,178,714)	(1,178,716)	(1,178,714)				
2019	21,438,486	5.99	10,701,348	3,579,046	3,579,046	3,579,046	3,543,256		
2020	4,633,778	5.99	3,086,608	773,585	773,585	773,585	773,585	765,853	
2021	377,693	6.57	320,206	57,487	57,487	57,487	57,487	57,487	57,487
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			12,929,449						
Net increase (decrease) in OPEB Expense				3,231,402	3,231,405	4,410,118	4,374,328	823,340	57,487

EXHIBIT A

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

3. Changes in Net OPEB Expense (Continued)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of Differences Between Projected & Actual Earnings on OPEB Plan Investments									
Fiscal Year	Differences Between Actual & Expected Earnings	Recognition Period (years)	Remaining Balance	2021	2022	2023	2024	2025	2026
2017									
2018	(1,343,885)	5.00	(268,777)	(268,777)	(268,777)				
2019	(1,119,369)	5.00	(447,747)	(223,874)	(223,874)	(223,873)			
2020	727,427	5.00	436,457	145,485	145,485	145,485	145,487		
2021	1,839,225	5.00	1,471,380	367,845	367,845	367,845	367,845	367,845	
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			1,191,313						
Net increase (decrease) in OPEB Expense				20,679	20,679	289,457	513,332	367,845	0

EXHIBIT A

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

3. Changes in Net OPEB Expense (Continued)

Statement of Outflows & Inflows Arising from Current & Prior Reporting Periods for the Measurement Period Ending on June 30, 2020 to be Reported for the Fiscal Year Ending June 30, 2021			
	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	4,197,397	(5,072,488)	(875,091)
III. Changes of Assumptions	14,108,162	(1,178,714)	12,929,449
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	<u>1,907,837</u>	<u>(716,524)</u>	<u>1,191,313</u>
V. Total [I.+II.+III.+IV.]	20,213,396	(6,967,726)	13,245,671

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Annual Amortization of Deferred (Inflows)/Outflows

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

Year ending June 30:

2022	2,556,976
2023	3,710,813
2024	3,915,588
2025	1,871,697
2026	758,338
Thereafter	432,259

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 6.75% as of June 30, 2020 and 7.00% as of June 30, 2019. The projection of cash flows used to determine the discount rate assumed that contributions will be made in accordance with the Town's funding policy. Based on these assumptions, the OPEB Plan's Fiduciary Net Position is projected to be sufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets was applied to all projected future benefits payments.

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

5. Funding Policy

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the period ending on the June 30, 2020 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$4,938,562. The Town also contributed \$1,968,143 to an OPEB Trust for a total contribution during the measurement period of \$8,468,361 to be reported on the financial statement for the fiscal year ending June 30, 2021.

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	4.90%
Domestic Equity - Small/Mid Cap	3.50%	Domestic Equity - Small/Mid Cap	5.40%
International Equity - Developed Market	16.00%	International Equity - Developed Market	5.32%
International Equity-Emerging Market	6.00%	International Equity-Emerging Market	6.26%
Domestic Fixed Income	20.00%	Domestic Fixed Income	1.40%
International Fixed Income	3.00%	International Fixed Income	1.30%
Alternatives	23.00%	Alternatives	6.32%
Real Estate	14.00%	Real Estate	6.25%
Cash & Cash Equivalents	0.00%	Cash & Cash Equivalents	0.00%
Total	100.00%		
		I. Real Rate of Return**	4.77%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	7.27%
		IV. Investment Expense	0.50%
		V. Net Investment Return* [III.-IV.]	6.77%

* Based on 2020 Horizon Survey of Capital Market Assumptions

** Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

7. Schedule of The Town's Contributions

For the Fiscal Year Ending	Actuarial Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
June 30, 2021	5,160,797	(5,160,797)	0	96,074,243	5.37%
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, 2020 Measurement Date)

8. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	105,177,498	119,764,082	137,681,778
II. Fiduciary Net Position	<u>42,740,645</u>	<u>42,740,645</u>	<u>42,740,645</u>
III. Net OPEB Liability (Asset) [I.-II.]	62,436,853	77,023,437	94,941,133
IV. Service Cost	2,035,988	2,560,282	3,266,437

9. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	133,178,829	119,764,082	106,687,125
II. Fiduciary Net Position	<u>42,740,645</u>	<u>42,740,645</u>	<u>42,740,645</u>
III. Net OPEB Liability (Asset) [I.-II.]	90,438,184	77,023,437	63,946,480
IV. Service Cost	3,159,536	2,560,282	2,018,337

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

10. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - June 30, 2019	38,337,121	12	1.0000
Monthly net external cash flows:			
July	6,598,714	11	0.9167
August	(307,991)	10	0.8333
September	(307,991)	9	0.7500
October	(307,991)	8	0.6667
November	(307,991)	7	0.5833
December	(307,991)	6	0.5000
January	(307,991)	5	0.4167
February	(307,991)	4	0.3333
March	(307,991)	3	0.2500
April	(307,991)	2	0.1667
May	(307,991)	1	0.0833
<u>June</u>	<u>(1,114,552)</u>	0	0.0000
II. Total net external cash flow	2,404,252		
III. Earnings and increase in fair value	1,999,272		
IV. Ending value - June 30, 2020 [I.+II.+III.]	42,740,645		
Money Weighted Rate of Return	4.65%		
Asset Value - June 30, 2020	42,740,645		

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

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2021						
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2020	22,723,867	76,566,897	7,119,862	10,942,775	1,285,942	1,124,739	119,764,082
II. Fiduciary Net Position as of June 30, 2020	8,109,549	27,324,708	2,540,891	3,905,188	458,919	401,390	42,740,645
III. Net OPEB Liability (Asset) as of June 30, 2020 [I. - II.]	14,614,318	49,242,189	4,578,971	7,037,587	827,023	723,349	77,023,437
IV. Service Cost	373,607	1,830,624	157,954	167,055	13,924	17,118	2,560,282
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,437,848	4,927,326	458,302	698,267	80,045	71,575	7,673,363
VI. Projected Earnings on OPEB Plan Investments	(514,534)	(1,734,657)	(161,311)	(247,872)	(29,101)	(25,475)	(2,712,950)
VII. Net Recognition of Deferred (Inflows)/Outflows	485,156	1,634,710	152,010	233,629	27,455	24,013	2,556,973
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	1,782,077	6,658,003	606,955	851,079	92,323	87,231	10,077,668
X. Employer Share of Costs	(1,254,149)	(2,901,763)	(240,811)	(398,822)	(96,207)	(46,810)	(4,938,562)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(669,740)	(2,256,651)	(209,843)	(322,516)	(37,900)	(33,149)	(3,529,799)
XII. Total Employer Contribution [X. + XI.]	(1,923,889)	(5,158,414)	(450,654)	(721,338)	(134,107)	(79,959)	(8,468,361)
XIII. Net OPEB Expense [IX. + XII.]	(141,812)	1,499,589	156,301	129,741	(41,784)	7,272	1,609,307

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

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

Valuation Date	June 30, 2020
For the Measurement Period ending on the Measurement Date of:	June 30, 2020
For the Reporting Period & Fiscal Year ending on:	June 30, 2021
Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(875,091)
II. Deferred (Inflow)/Outflow from Investment Experience	1,191,313
III. Deferred (Inflow)/Outflow from Changes in Assumptions	12,929,449
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	19,309,837
II. Deferred Outflow created during the period	6,821,512
III. Deferred Outflow recognized during the period	5,917,953
IV. Change in Deferred Outflow (II. - III.)	903,559
V. Deferred Outflow at end of the period (I. + IV.)	20,213,396
VI. Deferred Inflow at the beginning of the period	(10,328,706)
VII. Deferred Inflow created during the period	0
VIII. Deferred Inflow recognized during the period	(3,360,980)
IX. Change in Deferred Inflow (VII. - VIII.)	3,360,980
X. Deferred Inflow at end of the period (VI. + IX.)	(6,967,726)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	71,149,591
II. Service Cost	2,560,282
III. Interest on Total OPEB Liability, Service Cost, and Payments	7,673,363
IV. Projected Investment Income	(2,712,950)
V. Total Employer Contributions	(8,468,361)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	(947,666)
VIII. Deferred Outflow created during the period	6,821,512
IX. Deferred Inflow created during the period	0
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	77,023,437
Net OPEB Expense	
I. Service Cost	2,560,282
II. Interest on Total OPEB Liability, Service Cost, and Payments	7,673,363
III. Projected Investment Income	(2,712,950)
IV. Recognition of Deferred (Inflow)/Outflow	2,556,973
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	10,077,668
VII. Benefit Payments	(4,938,562)
VIII. Contributions to Trust	(3,529,799)
IX. Total Employer Payments (VII. + VIII.)	(8,468,361)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	1,609,307

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

The Town's Actuarially Determined Contribution (ADC) is an amount actuarially determined in accordance with the parameters of GASB Statement No. 74/75 which is composed of the service cost and an amortization of the unfunded liability. For FY 2021 and future years we have used a 30 year amortization increasing by 3.00% per year 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, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>	<u>June 30, 2017</u>
	<u>June 30, 2021</u>	<u>June 30, 2020</u>	<u>Reported for the Fiscal Year Ending: June 30, 2019</u>	<u>June 30, 2018</u>
I. Service Cost	2,733,101	2,774,289	2,614,866	2,486,847
II. Amortization	<u>2,427,696</u>	<u>2,260,446</u>	<u>3,500,589</u>	<u>3,585,436</u>
III. Actuarial Determined Contribution [I. + II.]	5,160,797	5,034,735	6,115,455	6,072,283
IV. Contributions in relation to the actuarially determined contribution	<u>(5,160,797)</u>	<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>0</u>	<u>(244,759)</u>
Covered employee payroll	96,074,243	100,203,331	93,040,535	89,329,181
Contributions as a % of covered employee payroll	5.37%	5.02%	6.57%	7.07%
Discount Rate	6.75%	7.00%	7.00%	7.50%
Money Weighted Rate of Return	4.85%	4.93%	10.18%	14.25%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Notes to Required Supplementary Information:

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

Actuarial Assumptions:

Investment Rate of Return:	6.77%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.66% as of June 30, 2020 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	6.75%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% as of June 30, 2020 and for future periods
Salary Increases:	3.00% annually as of June 30, 2020 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

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

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Plan Membership

At June 30, 2020, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	933
Active Employees:	<u>1,335</u>
Total:	2,268

Events Subsequent to the Measurement Date

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

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 7.00% to 6.75%
- ✓ The expected long-term medical trend has been updated
- ✓ Due to updated guidance related to the implementation of ASOP 6, we have updated our methodology for calculating expected claims

Contributions/Withdrawals:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed beyond the pay-as-you-go cost \$1,968,143 for the period ending on the June 30, 2020 Measurement Date. For the year ending on the June 30, 2020 Measurement Date total Town premiums plus implicit costs for the retiree medical program were \$4,938,562. \$1,421,018 of the \$4,938,562 represents implicit cost.

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Census Data Manipulation:

In the absence of data, the following was assumed:

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

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 6.75% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 6.77% 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.]
2021	June 30, 2020	119,764,082	42,740,645	77,023,437	35.69%	2,560,282	4,938,562	1,968,143	6,906,705	3,376,906	0	3,529,799
2022	June 30, 2021	125,433,613	47,589,286	77,844,327	37.94%	2,733,101	5,160,797	1,892,101	7,052,898	3,675,833	0	3,377,065
2023	June 30, 2022	131,127,290	52,641,795	78,485,495	40.15%	2,848,222	5,626,766	1,771,724	7,398,490	3,970,434	0	3,428,056
2024	June 30, 2023	135,269,605	58,065,504	77,204,101	42.93%	2,951,478	5,961,086	1,799,930	7,761,016	4,238,094	0	3,522,922
2025	June 30, 2024	140,436,147	63,646,570	76,789,577	45.32%	3,049,361	6,544,443	1,596,863	8,141,306	4,590,305	0	3,551,001
2026	June 30, 2025	145,663,974	69,582,141	76,081,833	47.77%	3,164,453	6,965,949	1,574,281	8,540,230	4,892,785	0	3,647,445
2027	June 30, 2026	150,956,778	75,934,443	75,022,335	50.30%	3,273,970	7,370,007	1,588,694	8,958,701	5,191,940	0	3,766,761
2028	June 30, 2027	156,293,661	82,696,849	73,596,812	52.91%	3,394,619	7,828,287	1,569,390	9,397,677	5,512,884	0	3,884,793
2029	June 30, 2028	161,677,137	89,933,458	71,743,679	55.63%	3,510,403	8,272,914	1,585,250	9,858,164	5,843,720	0	4,014,444
2030	June 30, 2029	167,106,297	97,693,136	69,413,161	58.46%	3,634,983	8,723,881	1,617,333	10,341,214	6,178,655	0	4,162,559
2031	June 30, 2030	172,664,694	106,128,140	66,536,554	61.46%	3,754,124	9,085,438	1,762,495	10,847,933	6,481,736	0	4,366,197
2032	June 30, 2031	178,289,219	115,234,410	63,054,809	64.63%	3,883,641	9,520,000	1,859,482	11,379,482	6,790,981	0	4,588,501
2033	June 30, 2032	183,876,147	125,030,816	58,845,331	68.00%	4,008,885	10,006,325	1,930,751	11,937,076	7,124,051	0	4,813,025
2034	June 30, 2033	189,528,207	135,774,757	53,753,450	71.64%	4,139,836	10,316,085	2,205,908	12,521,993	7,402,785	0	5,119,208
2035	June 30, 2034	195,260,894	147,427,807	47,833,087	75.50%	4,284,380	10,753,776	2,381,795	13,135,571	7,743,788	0	5,391,783
2036	June 30, 2035	200,989,204	159,992,508	40,996,696	79.60%	4,419,008	11,278,634	2,500,580	13,779,214	8,120,699	0	5,658,515
2037	June 30, 2036	206,724,004	173,514,767	33,209,237	83.94%	4,568,403	11,850,333	2,604,062	14,454,395	8,516,902	0	5,937,493
2038	June 30, 2037	212,443,581	188,289,646	24,153,935	88.63%	4,720,386	12,232,300	2,930,361	15,162,661	8,843,982	0	6,318,679
2039	June 30, 2038	218,530,459	204,442,854	14,087,605	93.55%	4,871,765	12,609,383	3,296,248	15,905,631	9,186,978	0	6,718,653
2040	June 30, 2039	224,570,969	222,009,083	2,561,886	98.86%	5,039,919	13,079,604	3,605,403	16,685,007	9,561,576	0	7,123,431
2041	June 30, 2040	230,760,065	241,236,719	(10,476,654)	104.54%	5,208,205	13,440,210	4,062,362	17,502,572	9,883,712	0	7,618,860
2042	June 30, 2041	237,497,466	249,083,758	(11,586,292)	104.88%	5,382,853	13,594,139	(8,211,286)	5,382,853	10,121,363	0	(4,738,510)
2043	June 30, 2042	244,333,673	257,250,244	(12,916,571)	105.29%	5,558,279	13,974,538	(8,416,259)	5,558,279	10,439,601	0	(4,881,322)
2044	June 30, 2043	251,738,461	265,702,613	(13,964,152)	105.55%	5,749,251	14,423,895	(8,674,644)	5,749,251	10,793,556	0	(5,044,305)
2045	June 30, 2044	259,493,687	274,829,952	(15,336,265)	105.91%	5,950,427	14,525,637	(8,575,210)	5,950,427	11,039,025	0	(5,088,598)
2046	June 30, 2045	267,371,832	284,301,000	(16,929,168)	106.33%	6,154,312	14,994,898	(8,840,586)	6,154,312	11,428,493	0	(5,274,181)
2047	June 30, 2046	275,635,033	294,094,016	(18,458,983)	106.70%	6,368,498	15,518,020	(9,149,522)	6,368,498	11,845,827	0	(5,477,329)
2048	June 30, 2047	284,566,952	304,697,749	(20,130,797)	107.07%	6,597,721	15,604,273	(9,006,552)	6,597,721	12,090,669	0	(5,492,948)
2049	June 30, 2048	293,585,285	316,001,367	(22,416,082)	107.64%	6,838,036	15,861,997	(9,023,961)	6,838,036	12,430,485	0	(5,592,449)
2050	June 30, 2049	303,089,443	327,775,962	(24,686,519)	108.14%	7,078,798	16,387,554	(9,308,756)	7,078,798	12,879,471	0	(5,800,673)
2051	June 30, 2050	313,195,665	340,178,876	(26,983,211)	108.62%	7,344,185	16,816,322	(9,472,137)	7,344,185	13,323,958	0	(5,979,773)
2052	June 30, 2051	323,727,594	353,361,574	(29,633,980)	109.15%	7,616,464	17,146,565	(9,530,101)	7,616,464	13,744,106	0	(6,127,642)

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

ALTERNATIVE FUNDING POLICY (OPEN GROUP)

Funding - 6.50% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 6.77% 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.]
2021	June 30, 2020	123,507,599	42,740,645	80,766,954	34.61%	2,732,123	4,938,562	1,968,143	6,906,705	3,376,906	0	3,529,799
2022	June 30, 2021	129,308,553	47,589,286	81,719,267	36.80%	2,909,711	5,160,797	1,892,101	7,052,898	3,675,833	0	3,377,065
2023	June 30, 2022	135,136,222	52,641,795	82,494,427	38.95%	3,032,272	5,626,766	1,771,724	7,398,490	3,970,434	0	3,428,056
2024	June 30, 2023	139,497,821	58,065,504	81,432,317	41.62%	3,142,199	5,961,086	1,799,930	7,761,016	4,238,094	0	3,522,922
2025	June 30, 2024	144,825,856	63,646,570	81,179,286	43.95%	3,246,407	6,544,443	1,596,863	8,141,306	4,590,305	0	3,551,001
2026	June 30, 2025	150,217,091	69,582,141	80,634,950	46.32%	3,368,936	6,965,949	1,574,281	8,540,230	4,892,785	0	3,647,445
2027	June 30, 2026	155,675,334	75,934,443	79,740,891	48.78%	3,485,531	7,370,007	1,588,694	8,958,701	5,191,940	0	3,766,761
2028	June 30, 2027	161,179,034	82,696,849	78,482,185	51.31%	3,613,976	7,828,287	1,569,390	9,397,677	5,512,884	0	3,884,793
2029	June 30, 2028	166,730,784	89,933,458	76,797,326	53.94%	3,737,242	8,272,914	1,585,250	9,858,164	5,843,720	0	4,014,444
2030	June 30, 2029	172,329,646	97,693,136	74,636,510	56.69%	3,869,873	8,723,881	1,617,333	10,341,214	6,178,655	0	4,162,559
2031	June 30, 2030	178,061,785	106,128,140	71,933,645	59.60%	3,996,712	9,085,438	1,762,495	10,847,933	6,481,736	0	4,366,197
2032	June 30, 2031	183,862,119	115,234,410	68,627,709	62.67%	4,134,598	9,520,000	1,859,482	11,379,482	6,790,981	0	4,588,501
2033	June 30, 2032	189,623,680	125,030,816	64,592,864	65.94%	4,267,935	10,006,325	1,930,751	11,937,076	7,124,051	0	4,813,025
2034	June 30, 2033	195,452,409	135,774,757	59,677,652	69.47%	4,407,349	10,316,085	2,205,908	12,521,993	7,402,785	0	5,119,208
2035	June 30, 2034	201,364,284	147,427,807	53,936,477	73.21%	4,561,233	10,753,776	2,381,795	13,135,571	7,743,788	0	5,391,783
2036	June 30, 2035	207,271,646	159,992,508	47,279,138	77.19%	4,704,559	11,278,634	2,500,580	13,779,214	8,120,699	0	5,658,515
2037	June 30, 2036	213,185,701	173,514,767	39,670,934	81.39%	4,863,608	11,850,333	2,604,062	14,454,395	8,516,902	0	5,937,493
2038	June 30, 2037	219,084,057	188,289,646	30,794,411	85.94%	5,025,411	12,232,300	2,930,361	15,162,661	8,843,982	0	6,318,679
2039	June 30, 2038	225,361,196	204,442,854	20,918,342	90.72%	5,186,573	12,609,383	3,296,248	15,905,631	9,186,978	0	6,718,653
2040	June 30, 2039	231,590,517	222,009,083	9,581,434	95.86%	5,365,593	13,079,604	3,605,403	16,685,007	9,561,576	0	7,123,431
2041	June 30, 2040	237,973,069	241,236,719	(3,263,650)	101.37%	5,544,754	13,440,210	4,062,362	17,502,572	9,883,712	0	7,618,860
2042	June 30, 2041	244,921,064	249,443,175	(4,522,111)	101.85%	5,730,688	13,594,139	(7,863,451)	5,730,688	10,121,363	0	(4,390,675)
2043	June 30, 2042	251,970,953	258,005,123	(6,034,170)	102.39%	5,917,449	13,974,538	(8,057,089)	5,917,449	10,439,601	0	(4,522,152)
2044	June 30, 2043	259,607,196	266,892,477	(7,285,281)	102.81%	6,120,761	14,423,895	(8,303,134)	6,120,761	10,793,556	0	(4,672,795)
2045	June 30, 2044	267,604,831	276,497,683	(8,892,852)	103.32%	6,334,937	14,525,637	(8,190,700)	6,334,937	11,039,025	0	(4,704,088)
2046	June 30, 2045	275,729,226	286,492,564	(10,763,338)	103.90%	6,551,998	14,994,898	(8,442,900)	6,551,998	11,428,493	0	(4,876,495)
2047	June 30, 2046	284,250,714	296,859,177	(12,608,463)	104.44%	6,780,024	15,518,020	(8,737,996)	6,780,024	11,845,827	0	(5,065,803)
2048	June 30, 2047	293,461,821	308,090,645	(14,628,824)	104.98%	7,024,059	15,604,273	(8,580,214)	7,024,059	12,090,669	0	(5,066,610)
2049	June 30, 2048	302,762,044	320,080,540	(17,318,496)	105.72%	7,279,902	15,861,997	(8,582,095)	7,279,902	12,430,485	0	(5,150,583)
2050	June 30, 2049	312,563,277	332,603,949	(20,040,672)	106.41%	7,536,222	16,387,554	(8,851,332)	7,536,222	12,879,471	0	(5,343,249)
2051	June 30, 2050	322,985,393	345,824,092	(22,838,699)	107.07%	7,818,758	16,816,322	(8,997,564)	7,818,758	13,323,958	0	(5,505,200)
2052	June 30, 2051	333,846,524	359,897,526	(26,051,002)	107.80%	8,108,632	17,146,565	(9,037,933)	8,108,632	13,744,106	0	(5,635,474)

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

ALTERNATIVE FUNDING POLICY (OPEN GROUP)

Funding - 6.25% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 6.77% 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.]
2021	June 30, 2020	127,251,116	42,740,645	84,510,471	33.59%	2,904,773	4,938,562	1,968,143	6,906,705	3,376,906	0	3,529,799
2022	June 30, 2021	133,163,899	47,589,286	85,574,613	35.74%	3,086,321	5,160,797	1,892,101	7,052,898	3,675,833	0	3,377,065
2023	June 30, 2022	139,104,046	52,641,795	86,462,251	37.84%	3,216,321	5,626,766	1,771,724	7,398,490	3,970,434	0	3,428,056
2024	June 30, 2023	143,726,002	58,065,504	85,660,498	40.40%	3,332,920	5,961,086	1,799,930	7,761,016	4,238,094	0	3,522,922
2025	June 30, 2024	149,215,531	63,646,570	85,568,961	42.65%	3,443,453	6,544,443	1,596,863	8,141,306	4,590,305	0	3,551,001
2026	June 30, 2025	154,770,175	69,582,141	85,188,034	44.96%	3,573,420	6,965,949	1,574,281	8,540,230	4,892,785	0	3,647,445
2027	June 30, 2026	160,393,858	75,934,443	84,459,415	47.34%	3,697,092	7,370,007	1,588,694	8,958,701	5,191,940	0	3,766,761
2028	June 30, 2027	166,064,375	82,696,849	83,367,526	49.80%	3,833,332	7,828,287	1,569,390	9,397,677	5,512,884	0	3,884,793
2029	June 30, 2028	171,784,398	89,933,458	81,850,940	52.35%	3,964,080	8,272,914	1,585,250	9,858,164	5,843,720	0	4,014,444
2030	June 30, 2029	177,552,962	97,693,136	79,859,826	55.02%	4,104,761	8,723,381	1,617,333	10,341,214	6,178,655	0	4,162,559
2031	June 30, 2030	183,458,842	106,128,140	77,330,702	57.85%	4,239,299	9,085,438	1,762,495	10,847,933	6,481,736	0	4,366,197
2032	June 30, 2031	189,434,984	115,234,410	74,200,574	60.83%	4,385,554	9,520,000	1,859,482	11,379,482	6,790,981	0	4,588,501
2033	June 30, 2032	195,371,178	125,030,816	70,340,362	64.00%	4,526,984	10,006,325	1,930,751	11,937,076	7,124,051	0	4,813,025
2034	June 30, 2033	201,376,576	135,774,757	65,601,819	67.42%	4,674,860	10,316,085	2,205,908	12,521,993	7,402,785	0	5,119,208
2035	June 30, 2034	207,467,640	147,427,807	60,039,833	71.06%	4,838,084	10,753,776	2,381,795	13,135,571	7,743,788	0	5,391,783
2036	June 30, 2035	213,554,054	159,992,508	53,561,546	74.92%	4,990,111	11,278,634	2,500,580	13,779,214	8,120,699	0	5,658,515
2037	June 30, 2036	219,647,364	173,514,767	46,132,597	79.00%	5,158,813	11,850,333	2,604,062	14,454,395	8,516,902	0	5,937,493
2038	June 30, 2037	225,724,500	188,289,646	37,434,854	83.42%	5,330,437	12,232,300	2,930,361	15,162,661	8,843,982	0	6,318,679
2039	June 30, 2038	232,191,899	204,442,854	27,749,045	88.05%	5,501,381	12,609,383	3,296,248	15,905,631	9,186,978	0	6,718,653
2040	June 30, 2039	238,610,032	222,009,083	16,600,949	93.04%	5,691,267	13,079,604	3,605,403	16,685,007	9,561,576	0	7,123,431
2041	June 30, 2040	245,186,039	241,236,719	3,949,320	98.39%	5,881,302	13,440,210	4,062,362	17,502,572	9,883,712	0	7,618,860
2042	June 30, 2041	252,344,628	253,006,621	(661,993)	100.26%	6,078,522	13,594,139	(4,414,829)	9,179,310	10,121,363	0	(942,053)
2043	June 30, 2042	259,608,199	262,180,943	(2,572,744)	100.99%	6,276,619	13,974,538	(7,697,919)	6,276,619	10,439,601	0	(4,162,982)
2044	June 30, 2043	267,475,897	271,734,881	(4,258,984)	101.59%	6,492,272	14,423,895	(7,931,623)	6,492,272	10,793,556	0	(4,301,284)
2045	June 30, 2044	275,715,940	282,065,230	(6,349,290)	102.30%	6,719,447	14,525,637	(7,806,190)	6,719,447	11,039,025	0	(4,319,578)
2046	June 30, 2045	284,086,586	292,847,960	(8,761,374)	103.08%	6,949,683	14,994,898	(8,045,215)	6,949,683	11,428,493	0	(4,478,810)
2047	June 30, 2046	292,866,361	304,070,060	(11,203,699)	103.83%	7,191,549	15,518,020	(8,326,471)	7,191,549	11,845,827	0	(4,654,278)
2048	June 30, 2047	302,356,657	316,230,237	(13,873,580)	104.59%	7,450,396	15,604,273	(8,153,877)	7,450,396	12,090,669	0	(4,640,273)
2049	June 30, 2048	311,938,770	329,227,760	(17,288,990)	105.54%	7,721,768	15,861,997	(8,140,229)	7,721,768	12,430,485	0	(4,708,717)
2050	June 30, 2049	322,037,079	342,843,092	(20,806,013)	106.46%	7,993,648	16,387,554	(8,393,906)	7,993,648	12,879,471	0	(4,885,823)
2051	June 30, 2050	332,775,089	357,246,799	(24,471,710)	107.35%	8,293,331	16,816,322	(8,522,991)	8,293,331	13,323,958	0	(5,030,627)
2052	June 30, 2051	343,965,421	372,602,104	(28,636,683)	108.33%	8,600,799	17,146,565	(8,545,766)	8,600,799	13,744,106	0	(5,143,307)

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Table 1: Projection of Contributions using a June 30, 2020 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2020	96,074,243	0	96,074,243	0	4,938,562	0	4,938,562
June 30, 2021	87,727,899	8,346,344	96,074,243	0	5,160,796	0	5,160,796
June 30, 2022	83,119,333	15,837,137	98,956,470	0	5,626,766	0	5,626,766
June 30, 2023	78,782,607	23,142,557	101,925,164	0	5,961,086	0	5,961,086
June 30, 2024	75,055,278	29,927,641	104,982,919	0	6,544,443	0	6,544,443
June 30, 2025	71,492,920	36,639,487	108,132,407	0	6,965,949	0	6,965,949
June 30, 2026	68,167,936	43,208,443	111,376,379	0	7,370,007	0	7,370,007
June 30, 2027	64,891,125	49,826,545	114,717,670	0	7,828,287	0	7,828,287
June 30, 2028	61,854,321	56,304,879	118,159,200	0	8,272,914	0	8,272,914
June 30, 2029	58,823,511	62,880,465	121,703,976	0	8,723,881	0	8,723,881
June 30, 2030	56,016,924	69,338,171	125,355,095	0	9,085,438	0	9,085,438
June 30, 2031	53,479,832	75,635,916	129,115,748	0	9,520,000	0	9,520,000
June 30, 2032	50,984,599	82,004,621	132,989,220	0	9,966,429	39,896	10,006,325
June 30, 2033	48,838,032	88,140,865	136,978,897	0	10,212,125	103,960	10,316,085
June 30, 2034	46,627,741	94,460,523	141,088,264	0	10,557,970	195,806	10,753,776
June 30, 2035	44,635,098	100,685,814	145,320,912	0	10,950,361	328,273	11,278,634
June 30, 2036	42,745,655	106,934,884	149,680,539	0	11,354,593	495,740	11,850,333
June 30, 2037	40,682,609	113,488,346	154,170,955	0	11,623,164	609,136	12,232,300
June 30, 2038	38,820,617	119,975,467	158,796,084	0	11,863,864	745,519	12,609,383
June 30, 2039	36,960,387	126,599,580	163,559,967	0	12,174,093	905,511	13,079,604
June 30, 2040	35,152,413	133,314,353	168,466,766	0	12,420,416	1,019,794	13,440,210
June 30, 2041	33,369,718	140,151,051	173,520,769	0	12,444,938	1,149,201	13,594,139
June 30, 2042	31,719,872	147,006,520	178,726,392	0	12,619,982	1,354,556	13,974,538
June 30, 2043	30,164,741	153,923,443	184,088,184	0	12,801,035	1,622,860	14,423,895
June 30, 2044	28,520,588	161,090,242	189,610,830	0	12,568,605	1,957,032	14,525,637
June 30, 2045	26,874,382	168,424,773	195,299,155	0	12,610,649	2,384,249	14,994,898
June 30, 2046	25,365,758	175,792,372	201,158,130	0	12,628,578	2,889,442	15,518,020
June 30, 2047	23,952,746	183,240,128	207,192,874	0	12,312,569	3,291,704	15,604,273
June 30, 2048	22,307,337	191,101,323	213,408,660	0	12,115,243	3,746,754	15,861,997
June 30, 2049	20,854,637	198,956,283	219,810,920	0	12,131,832	4,255,722	16,387,554
June 30, 2050	19,300,176	207,105,072	226,405,248	0	12,142,269	4,674,053	16,816,322
June 30, 2051	17,637,959	215,559,446	233,197,405	0	12,020,856	5,125,709	17,146,565
June 30, 2052	16,007,256	224,186,071	240,193,327	0	11,851,785	5,682,880	17,534,665
June 30, 2053	14,485,352	232,913,775	247,399,127	0	11,937,954	6,297,752	18,235,706
June 30, 2054	12,834,335	241,986,766	254,821,101	0	11,820,420	6,971,828	18,792,248
June 30, 2055	11,201,819	251,263,915	262,465,734	0	11,706,660	7,731,387	19,438,047
June 30, 2056	9,456,229	260,883,477	270,339,706	0	11,691,603	8,552,822	20,244,425
June 30, 2057	7,917,391	270,532,506	278,449,897	0	11,392,503	9,329,604	20,722,107
June 30, 2058	6,345,573	280,457,821	286,803,394	0	11,207,939	10,146,906	21,354,845
June 30, 2059	4,996,559	290,410,937	295,407,496	0	11,015,280	11,012,460	22,027,740

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Table 1: Projection of Contributions using a June 30, 2020 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2060	3,928,593	300,341,128	304,269,721	0	10,804,117	11,864,431	22,668,548
June 30, 2061	2,778,573	310,619,240	313,397,813	0	10,521,396	12,738,519	23,259,915
June 30, 2062	1,959,536	320,840,211	322,799,747	0	10,285,223	13,727,443	24,012,666
June 30, 2063	1,291,793	331,191,946	332,483,739	0	10,055,936	14,783,472	24,839,408
June 30, 2064	827,733	341,630,518	342,458,251	0	9,961,697	15,915,932	25,877,629
June 30, 2065	434,190	352,297,809	352,731,999	0	9,755,219	17,143,949	26,899,168
June 30, 2066	180,761	363,133,198	363,313,959	0	9,577,674	18,448,229	28,025,903
June 30, 2067	50,140	374,163,238	374,213,378	0	9,479,950	19,765,611	29,245,561
June 30, 2068	23,395	385,416,384	385,439,779	0	9,306,482	21,136,420	30,442,902
June 30, 2069	0	397,002,972	397,002,972	0	9,119,236	22,576,887	31,696,123
June 30, 2070	0	408,913,061	408,913,061	0	8,893,140	23,993,669	32,886,809
June 30, 2071	0	421,180,453	421,180,453	0	8,648,212	25,449,086	34,097,298
June 30, 2072	0	433,815,867	433,815,867	0	8,428,250	26,986,482	35,414,732
June 30, 2073	0	446,830,343	446,830,343	0	8,144,160	28,569,910	36,714,070
June 30, 2074	0	460,235,253	460,235,253	0	7,863,462	30,209,966	38,073,428
June 30, 2075	0	474,042,311	474,042,311	0	7,547,016	31,901,942	39,448,958
June 30, 2076	0	488,263,580	488,263,580	0	7,205,675	33,649,706	40,855,381
June 30, 2077	0	502,911,487	502,911,487	0	6,884,120	35,494,326	42,378,446
June 30, 2078	0	517,998,832	517,998,832	0	6,527,086	37,375,447	43,902,533
June 30, 2079	0	533,538,797	533,538,797	0	6,152,067	39,321,644	45,473,711
June 30, 2080	0	549,544,961	549,544,961	0	5,765,994	41,343,925	47,109,919
June 30, 2081	0	566,031,310	566,031,310	0	5,377,753	43,409,383	48,787,136
June 30, 2082	0	583,012,249	583,012,249	0	4,984,769	45,548,313	50,533,082
June 30, 2083	0	600,502,616	600,502,616	0	4,587,983	47,756,199	52,344,182
June 30, 2084	0	618,517,694	618,517,694	0	4,186,353	50,035,170	54,221,523
June 30, 2085	0	637,073,225	637,073,225	0	3,798,781	52,387,097	56,185,878
June 30, 2086	0	656,185,422	656,185,422	0	3,420,478	54,818,821	58,239,299
June 30, 2087	0	675,870,985	675,870,985	0	3,056,075	57,355,815	60,411,890
June 30, 2088	0	696,147,115	696,147,115	0	2,710,074	59,960,453	62,670,527
June 30, 2089	0	717,031,528	717,031,528	0	2,383,174	62,657,473	65,040,647
June 30, 2090	0	738,542,474	738,542,474	0	2,077,343	65,457,591	67,534,934
June 30, 2091	0	760,698,748	760,698,748	0	1,793,591	68,337,858	70,131,449
June 30, 2092	0	783,519,710	783,519,710	0	1,532,627	71,311,818	72,844,445
June 30, 2093	0	807,025,301	807,025,301	0	1,295,069	74,393,473	75,688,542
June 30, 2094	0	831,236,060	831,236,060	0	1,081,053	77,582,532	78,663,585

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a June 30, 2020 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2020	38,337,121	4,938,562	1,968,143	6,906,705	0	3,376,906	3,376,906	1,999,272	42,740,645
June 30, 2021	42,740,645	5,160,796	3,083,686	8,244,482	0	3,675,832	3,675,832	2,699,694	48,524,025
June 30, 2022	48,524,025	5,626,766	1,473,364	7,100,130	0	3,970,434	3,970,434	3,334,133	53,331,522
June 30, 2023	53,331,522	5,961,086	1,362,689	7,323,775	0	4,238,094	4,238,094	3,655,916	58,350,127
June 30, 2024	58,350,127	6,544,443	1,100,127	7,644,570	0	4,590,305	4,590,305	3,986,933	63,437,187
June 30, 2025	63,437,187	6,965,949	987,218	7,953,167	0	4,892,785	4,892,785	4,327,568	68,751,973
June 30, 2026	68,751,973	7,370,007	907,333	8,277,340	0	5,191,940	5,191,940	4,684,719	74,344,025
June 30, 2027	74,344,025	7,828,287	812,178	8,640,465	0	5,512,884	5,512,884	5,060,133	80,216,336
June 30, 2028	80,216,336	8,272,914	744,372	9,017,286	0	5,843,720	5,843,720	5,455,430	86,416,138
June 30, 2029	86,416,138	8,723,881	687,205	9,411,086	0	6,178,655	6,178,655	5,873,254	92,976,597
June 30, 2030	92,976,597	9,085,438	684,609	9,770,047	0	6,481,736	6,481,736	6,317,310	99,978,516
June 30, 2031	99,978,516	9,520,000	659,065	10,179,065	0	6,790,981	6,790,981	6,790,490	107,428,071
June 30, 2032	107,428,071	9,966,429	621,648	10,588,077	0	7,095,647	7,095,647	7,293,579	115,303,402
June 30, 2033	115,303,402	10,212,125	660,468	10,872,593	0	7,328,184	7,328,184	7,828,031	123,687,941
June 30, 2034	123,687,941	10,557,970	654,561	11,212,531	0	7,602,788	7,602,788	8,395,468	132,542,164
June 30, 2035	132,542,164	10,950,361	629,006	11,579,367	0	7,884,340	7,884,340	8,994,048	141,836,945
June 30, 2036	141,836,945	11,354,593	598,538	11,953,131	0	8,160,611	8,160,611	9,622,290	151,562,033
June 30, 2037	151,562,033	11,623,164	623,391	12,246,555	0	8,403,575	8,403,575	10,281,506	161,857,794
June 30, 2038	161,857,794	11,863,864	651,258	12,515,122	0	8,643,806	8,643,806	10,979,457	172,742,990
June 30, 2039	172,742,990	12,174,093	656,222	12,830,315	0	8,899,621	8,899,621	11,716,550	184,210,251
June 30, 2040	184,210,251	12,420,416	685,784	13,106,200	0	9,133,772	9,133,772	12,493,868	196,370,109
June 30, 2041	196,370,109	12,444,938	752,020	13,196,958	0	9,265,738	9,265,738	13,319,295	209,292,223
June 30, 2042	209,292,223	12,619,982	(2,480,163)	10,139,819	0	9,427,687	9,427,687	14,086,505	219,544,009
June 30, 2043	219,544,009	12,801,035	(2,363,503)	10,437,532	0	9,579,152	9,579,152	14,784,435	230,342,081
June 30, 2044	230,342,081	12,568,605	(2,184,895)	10,383,710	0	9,551,743	9,551,743	15,521,411	241,721,565
June 30, 2045	241,721,565	12,610,649	(2,063,392)	10,547,257	0	9,611,317	9,611,317	16,295,848	253,569,772
June 30, 2046	253,569,772	12,628,578	(1,956,801)	10,671,777	0	9,640,144	9,640,144	17,101,521	265,825,050
June 30, 2047	265,825,050	12,312,569	(1,803,948)	10,508,621	0	9,540,156	9,540,156	17,936,292	278,665,690
June 30, 2048	278,665,690	12,115,243	(1,658,034)	10,457,209	0	9,494,287	9,494,287	18,810,462	292,071,364
June 30, 2049	292,071,364	12,131,832	(1,554,775)	10,577,057	0	9,534,771	9,534,771	19,721,464	305,982,331
June 30, 2050	305,982,331	12,142,269	(1,433,527)	10,708,742	0	9,620,598	9,620,598	20,667,274	320,542,025
June 30, 2051	320,542,025	12,020,856	(1,296,886)	10,723,970	0	9,635,511	9,635,511	21,657,514	335,776,944
June 30, 2052	335,776,944	11,851,785	(1,168,566)	10,683,219	0	9,594,516	9,594,516	22,693,191	351,618,689
June 30, 2053	351,618,689	11,937,954	(1,067,710)	10,870,244	0	9,688,308	9,688,308	23,769,035	368,022,262
June 30, 2054	368,022,262	11,820,420	(946,492)	10,873,928	0	9,650,955	9,650,955	24,883,593	384,987,535
June 30, 2055	384,987,535	11,706,660	(829,600)	10,877,060	0	9,596,547	9,596,547	26,036,034	402,462,582
June 30, 2056	402,462,582	11,691,603	(708,131)	10,983,472	0	9,584,306	9,584,306	27,223,139	420,424,768
June 30, 2057	420,424,768	11,392,503	(589,208)	10,803,295	0	9,404,195	9,404,195	28,443,139	438,949,095
June 30, 2058	438,949,095	11,207,939	(472,480)	10,735,459	0	9,285,314	9,285,314	29,701,122	458,030,831
June 30, 2059	458,030,831	11,015,280	(372,580)	10,642,700	0	9,144,214	9,144,214	30,996,282	477,642,073

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a June 30, 2020 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, 2060	477,642,073	10,804,117	(292,686)	10,511,431	0	8,996,990	8,996,990	32,326,623	467,255,343
June 30, 2061	467,255,343	10,521,396	(206,222)	10,315,174	0	8,793,194	8,793,194	31,626,320	457,014,344
June 30, 2062	457,014,344	10,285,223	(145,767)	10,139,456	0	8,594,996	8,594,996	30,935,018	446,916,911
June 30, 2063	446,916,911	10,055,936	(96,508)	9,959,428	0	8,399,228	8,399,228	30,253,062	436,978,516
June 30, 2064	436,978,516	9,961,697	(62,547)	9,899,150	0	8,279,396	8,279,396	29,581,363	427,088,318
June 30, 2065	427,088,318	9,755,219	(33,111)	9,722,108	0	8,083,480	8,083,480	28,912,777	417,368,689
June 30, 2066	417,368,689	9,577,674	(13,944)	9,563,730	0	7,906,142	7,906,142	28,255,396	407,805,073
June 30, 2067	407,805,073	9,479,950	(3,919)	9,476,031	0	7,775,305	7,775,305	27,608,273	398,328,822
June 30, 2068	398,328,822	9,306,482	(1,848)	9,304,634	0	7,602,795	7,602,795	26,966,800	389,023,977
June 30, 2069	389,023,977	9,119,236	0	9,119,236	0	7,419,892	7,419,892	26,336,923	379,904,741
June 30, 2070	379,904,741	8,893,140	0	8,893,140	0	7,222,987	7,222,987	25,719,551	371,011,601
June 30, 2071	371,011,601	8,648,212	0	8,648,212	0	7,016,145	7,016,145	25,117,485	362,363,389
June 30, 2072	362,363,389	8,428,250	0	8,428,250	0	6,820,787	6,820,787	24,532,001	353,935,139
June 30, 2073	353,935,139	8,144,160	0	8,144,160	0	6,587,134	6,587,134	23,961,409	345,790,979
June 30, 2074	345,790,979	7,863,462	0	7,863,462	0	6,354,011	6,354,011	23,410,049	337,927,517
June 30, 2075	337,927,517	7,547,016	0	7,547,016	0	6,097,542	6,097,542	22,877,693	330,380,501
June 30, 2076	330,380,501	7,205,675	0	7,205,675	0	5,824,231	5,824,231	22,366,760	323,174,826
June 30, 2077	323,174,826	6,884,120	0	6,884,120	0	5,558,760	5,558,760	21,878,936	316,290,706
June 30, 2078	316,290,706	6,527,086	0	6,527,086	0	5,271,204	5,271,204	21,412,881	309,763,620
June 30, 2079	309,763,620	6,152,067	0	6,152,067	0	4,970,628	4,970,628	20,970,997	303,611,553
June 30, 2080	303,611,553	5,765,994	0	5,765,994	0	4,660,879	4,660,879	20,554,502	297,845,559
June 30, 2081	297,845,559	5,377,753	0	5,377,753	0	4,350,332	4,350,332	20,164,144	292,467,806
June 30, 2082	292,467,806	4,984,769	0	4,984,769	0	4,035,090	4,035,090	19,800,070	287,483,037
June 30, 2083	287,483,037	4,587,983	0	4,587,983	0	3,716,996	3,716,996	19,462,602	282,895,054
June 30, 2084	282,895,054	4,186,353	0	4,186,353	0	3,394,926	3,394,926	19,151,995	278,708,701
June 30, 2085	278,708,701	3,798,781	0	3,798,781	0	3,083,019	3,083,019	18,868,579	274,909,920
June 30, 2086	274,909,920	3,420,478	0	3,420,478	0	2,777,971	2,777,971	18,611,402	271,489,442
June 30, 2087	271,489,442	3,056,075	0	3,056,075	0	2,482,703	2,482,703	18,379,835	268,433,367
June 30, 2088	268,433,367	2,710,074	0	2,710,074	0	2,202,223	2,202,223	18,172,939	265,723,293
June 30, 2089	265,723,293	2,383,174	0	2,383,174	0	1,936,851	1,936,851	17,989,467	263,340,119
June 30, 2090	263,340,119	2,077,343	0	2,077,343	0	1,688,113	1,688,113	17,828,126	261,262,776
June 30, 2091	261,262,776	1,793,591	0	1,793,591	0	1,457,360	1,457,360	17,687,490	259,469,185
June 30, 2092	259,469,185	1,532,627	0	1,532,627	0	1,245,103	1,245,103	17,566,064	257,936,558
June 30, 2093	257,936,558	1,295,069	0	1,295,069	0	1,051,800	1,051,800	17,462,305	256,641,489
June 30, 2094	256,641,489	1,081,053	0	1,081,053	0	877,666	877,666	17,374,629	255,560,436

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Table 3: Actuarial Present Values of Projected Benefit Payments using a June 30, 2020 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.77%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [6.77%]	
June 30, 2020	38,337,121	4,938,562	4,938,562	0	4,938,562	0	4,938,562	Sum of Column V.
June 30, 2021	42,740,645	5,160,796	5,160,796	0	4,833,564	0	4,833,564	137,304,130
June 30, 2022	48,524,025	5,626,766	5,626,766	0	4,935,832	0	4,935,832	
June 30, 2023	53,331,522	5,961,086	5,961,086	0	4,897,536	0	4,897,536	Sum of Column VI.
June 30, 2024	58,350,127	6,544,443	6,544,443	0	5,035,884	0	5,035,884	0
June 30, 2025	63,437,187	6,965,949	6,965,949	0	5,020,351	0	5,020,351	
June 30, 2026	68,751,973	7,370,007	7,370,007	0	4,974,764	0	4,974,764	Sum of Column VII.
June 30, 2027	74,344,025	7,828,287	7,828,287	0	4,949,052	0	4,949,052	[V. + VI.]
June 30, 2028	80,216,336	8,272,914	8,272,914	0	4,898,516	0	4,898,516	137,304,130
June 30, 2029	86,416,138	8,723,881	8,723,881	0	4,838,008	0	4,838,008	
June 30, 2030	92,976,597	9,085,438	9,085,438	0	4,719,038	0	4,719,038	
June 30, 2031	99,978,516	9,520,000	9,520,000	0	4,631,219	0	4,631,219	
June 30, 2032	107,428,071	9,966,429	9,966,429	0	4,540,970	0	4,540,970	
June 30, 2033	115,303,402	10,212,125	10,212,125	0	4,357,887	0	4,357,887	
June 30, 2034	123,687,941	10,557,970	10,557,970	0	4,219,792	0	4,219,792	
June 30, 2035	132,542,164	10,950,361	10,950,361	0	4,099,112	0	4,099,112	
June 30, 2036	141,836,945	11,354,593	11,354,593	0	3,980,922	0	3,980,922	
June 30, 2037	151,562,033	11,623,164	11,623,164	0	3,816,693	0	3,816,693	
June 30, 2038	161,857,794	11,863,864	11,863,864	0	3,648,714	0	3,648,714	
June 30, 2039	172,742,990	12,174,093	12,174,093	0	3,506,719	0	3,506,719	
June 30, 2040	184,210,251	12,420,416	12,420,416	0	3,350,821	0	3,350,821	
June 30, 2041	196,370,109	12,444,938	12,444,938	0	3,144,551	0	3,144,551	
June 30, 2042	209,292,223	12,619,982	12,619,982	0	2,986,589	0	2,986,589	
June 30, 2043	219,544,009	12,801,035	12,801,035	0	2,837,347	0	2,837,347	
June 30, 2044	230,342,081	12,568,605	12,568,605	0	2,609,187	0	2,609,187	
June 30, 2045	241,721,565	12,610,649	12,610,649	0	2,451,920	0	2,451,920	
June 30, 2046	253,569,772	12,628,578	12,628,578	0	2,299,716	0	2,299,716	
June 30, 2047	265,825,050	12,312,569	12,312,569	0	2,099,999	0	2,099,999	
June 30, 2048	278,665,690	12,115,243	12,115,243	0	1,935,322	0	1,935,322	
June 30, 2049	292,071,364	12,131,832	12,131,832	0	1,815,091	0	1,815,091	
June 30, 2050	305,982,331	12,142,269	12,142,269	0	1,701,463	0	1,701,463	
June 30, 2051	320,542,025	12,020,856	12,020,856	0	1,577,643	0	1,577,643	
June 30, 2052	335,776,944	11,851,785	11,851,785	0	1,456,827	0	1,456,827	
June 30, 2053	351,618,689	11,937,954	11,937,954	0	1,374,374	0	1,374,374	
June 30, 2054	368,022,262	11,820,420	11,820,420	0	1,274,555	0	1,274,555	
June 30, 2055	384,987,535	11,706,660	11,706,660	0	1,182,251	0	1,182,251	
June 30, 2056	402,462,582	11,691,603	11,691,603	0	1,105,863	0	1,105,863	
June 30, 2057	420,424,768	11,392,503	11,392,503	0	1,009,246	0	1,009,246	
June 30, 2058	438,949,095	11,207,939	11,207,939	0	929,939	0	929,939	
June 30, 2059	458,030,831	11,015,280	11,015,280	0	856,003	0	856,003	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Table 3: Actuarial Present Values of Projected Benefit Payments using a June 30, 2020 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.77%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [6.77%]
June 30, 2060	477,642,073	10,804,117	10,804,117	0	786,357	0	786,357
June 30, 2061	467,255,343	10,521,396	10,521,396	0	717,223	0	717,223
June 30, 2062	457,014,344	10,285,223	10,285,223	0	656,667	0	656,667
June 30, 2063	446,916,911	10,055,936	10,055,936	0	601,319	0	601,319
June 30, 2064	436,978,516	9,961,697	9,961,697	0	557,913	0	557,913
June 30, 2065	427,088,318	9,755,219	9,755,219	0	511,707	0	511,707
June 30, 2066	417,368,689	9,577,674	9,577,674	0	470,538	0	470,538
June 30, 2067	407,805,073	9,479,950	9,479,950	0	436,206	0	436,206
June 30, 2068	398,328,822	9,306,482	9,306,482	0	401,072	0	401,072
June 30, 2069	389,023,977	9,119,236	9,119,236	0	368,083	0	368,083
June 30, 2070	379,904,741	8,893,140	8,893,140	0	336,196	0	336,196
June 30, 2071	371,011,601	8,648,212	8,648,212	0	306,207	0	306,207
June 30, 2072	362,363,389	8,428,250	8,428,250	0	279,497	0	279,497
June 30, 2073	353,935,139	8,144,160	8,144,160	0	252,951	0	252,951
June 30, 2074	345,790,979	7,863,462	7,863,462	0	228,747	0	228,747
June 30, 2075	337,927,517	7,547,016	7,547,016	0	205,621	0	205,621
June 30, 2076	330,380,501	7,205,675	7,205,675	0	183,873	0	183,873
June 30, 2077	323,174,826	6,884,120	6,884,120	0	164,529	0	164,529
June 30, 2078	316,290,706	6,527,086	6,527,086	0	146,104	0	146,104
June 30, 2079	309,763,620	6,152,067	6,152,067	0	128,978	0	128,978
June 30, 2080	303,611,553	5,765,994	5,765,994	0	113,219	0	113,219
June 30, 2081	297,845,559	5,377,753	5,377,753	0	98,900	0	98,900
June 30, 2082	292,467,806	4,984,769	4,984,769	0	85,860	0	85,860
June 30, 2083	287,483,037	4,587,983	4,587,983	0	74,015	0	74,015
June 30, 2084	282,895,054	4,186,353	4,186,353	0	63,253	0	63,253
June 30, 2085	278,708,701	3,798,781	3,798,781	0	53,758	0	53,758
June 30, 2086	274,909,920	3,420,478	3,420,478	0	45,335	0	45,335
June 30, 2087	271,489,442	3,056,075	3,056,075	0	37,937	0	37,937
June 30, 2088	268,433,367	2,710,074	2,710,074	0	31,509	0	31,509
June 30, 2089	265,723,293	2,383,174	2,383,174	0	25,951	0	25,951
June 30, 2090	263,340,119	2,077,343	2,077,343	0	21,187	0	21,187
June 30, 2091	261,262,776	1,793,591	1,793,591	0	17,133	0	17,133
June 30, 2092	259,469,185	1,532,627	1,532,627	0	13,712	0	13,712
June 30, 2093	257,936,558	1,295,069	1,295,069	0	10,852	0	10,852
June 30, 2094	256,641,489	1,081,053	1,081,053	0	8,484	0	8,484

APPENDIX II – PLAN PROVISIONS

Plan Year

July 1 through June 30.

Premium Effective Date

Medicare Supplement Plans: effective January 1, 2021

Non-Medicare Plans: effective June 30, 2020

Dental Plans: N/A

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.

Medicare Part A

To the best of our knowledge the Town does not pay any Medicare Part A premiums or penalties.

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	• Age 55 with 10 years of creditable service • 20 years of service regardless of age
On or after April 2, 2012	• 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 & ASSUMPTIONSPre-Retirement Mortality

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

Post-Retirement Mortality

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

Disabled Mortality

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

Assumption Experience Study

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

Discount Rate

6.75% per annum (previously 7.00%, used in the calculation of the Interest Cost)

Net Long Term Rate of Return

6.77% (based on investment policy)

Municipal Bond Rate

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

Actuarial Cost Method

Individual Entry Age Normal

Asset-Valuation Method

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Employee Termination

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

Non-Public Safety Employees

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

Public Safety Employees

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Retirement Rates for Eligible Employees

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

Permanent Disability Rates

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Trend Rate

Dental Plans: N/A

Medicare Part A & B Premiums & Penalties: N/A

Medical Plans: Rates were developed using the SOA Getzen Model of Long-Run Medical Cost Trends with the following model input variables:

Inflation (CPI):	2.50%
Real GDP (per capita):	1.10%
Excess Medical Cost Growth:	1.10%
Expected Health Share of GDP in 2029:	20%
Health Share of GDP Resistance Point:	22.5%
Year for Limiting Cost Growth to GDP Growth:	2060

See below for a table of trend rates for select years:

Year	Rate
2020 - 2023	4.50%
2024	4.54%
2025	4.59%
2026	4.63%
2027	4.68%
2028	4.72%
2029 - 2040	4.77%
2045	4.53%
2050	4.43%
2055	4.00%
2060	3.63%
2061+	3.60%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

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.

Medicare Eligibility

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

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

COVID-19

We recognize that COVID-19 may impact plan experience. We have reviewed the assumptions used in this report. Based on the data that is currently available, we have not made any adjustments to these assumptions to reflect the impact of COVID-19. We will continue to monitor the impact of COVID-19 to determine if adjustments to valuation assumptions are warranted.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

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

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2020</u>	<u>June 30, 2019</u>
I. Total OPEB Liability	119,764,082	109,486,712
II. Total OPEB Liability (Excluding Implicit Subsidy)	<u>85,406,889</u>	<u>89,413,404</u>
III. Liability from Implicit Subsidy [I. - II.]	34,357,193	20,073,308

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2020</u>	<u>June 30, 2019</u>
IV. Employer Payments (Including Implicit Subsidy)	4,938,562	4,149,726
V. Actual Employer Payments	<u>3,517,544</u>	<u>3,168,717</u>
VI. Implicit Subsidy [IV. - V.]	1,421,018	981,009

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-65 and post-65 per capita costs were developed using fully insured premium rates.

ANNUAL PER CAPITA CLAIMS*

ACTIVE EMPLOYEES			RETIREE - NOT MEDICARE ELIGIBLE			RETIREE - MEDICARE ELIGIBLE		
Age Bracket	Female	Male	Age Bracket	Female	Male	Age Bracket	Female	Male
24 & Under	4,918	3,100	44 & Under	9,667	6,335	65 to 69	3,311	3,399
25 to 29	7,256	3,226	45 to 49	10,618	7,998	70 to 74	3,905	4,073
30 to 34	9,169	4,049	50 to 54	12,491	10,533	75 to 79	4,530	4,810
35 to 39	9,445	5,084	55 to 59	14,440	13,694	80 to 84	5,196	5,529
40 to 44	9,667	6,335	60 to 64	17,184	17,573	85 to 89	5,808	6,158
45 to 49	10,618	7,998	65 to 69	20,599	21,920	90 & Over	5,808	6,158
50 to 54	12,491	10,533	70 to 74	24,291	26,268			
55 to 59	14,440	13,694	75 to 79	28,210	31,025			
60 to 64	17,184	17,573	80 to 84	32,344	35,661			
65 to 69	20,599	21,920	85 to 89	36,921	40,819			
70 & Over	24,291	26,268	90 & Over	36,921	40,819			

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

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Open Group Forecast

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

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

Additional Comments

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

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

APPENDIX IV – PLAN DEMOGRAPHICS

Active Employees

Valuation Date	June 30, 2020	June 30, 2019
A. Average Age at Hire	35.01	35.25
B. Average Service	<u>10.26</u>	<u>10.33</u>
C. Average Current Age	45.27	45.58

Retired Employees & Spouses

Valuation Date	June 30, 2020	June 30, 2019
A. Under Age 65	87	82
B. Age 65 & Over	<u>846</u>	<u>842</u>
C. Total	933	924

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	37	2								39
25-29	116	27	3							146
30-34	78	61	12							151
35-39	59	45	43	7						154
40-44	44	38	43	36	6					167
45-49	50	28	33	27	33	1				172
50-54	28	47	26	19	25	16	5			166
55-59	27	28	38	25	25	18	9			170
60-64	17	19	20	24	16	16	7	2	2	123
65-69	2	11	5	6	3	3				30
70+	1	3	1	2	3	2	1		4	17
Total	459	309	224	146	111	56	22	2	6	1335

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	28		39	67
Fallon Direct HDHP	5			5
Harvard Pilgrim HDHP	149		203	352
BCBS Network Blue HDHP	24		32	56
Tufts HDHP	24		23	47
Fallon Select Benchmark	29		16	45
Fallon Direct Benchmark	11		2	13
Harvard Pilgrim Benchmark	129		142	271
BCBS Network Blue Benchmark	50		19	69
Tufts Navigator Benchmark	51		14	65
Harvard Pilgrim PPO	2			2
BCBS Managed Blue	108			108
BCBS Medex Enhanced	167			167
Harvard Pilgrim Medicare Enhanced	27			27
Tufts Medicare Preferred HMO	34			34
Tufts Medicare Supplement PDP Plus	455			455
Total	1,293	0	490	1,783

<u>Per Contract Costs (monthly)</u>			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Fallon Select HDHP	665.00		1,795.00
Fallon Direct HDHP	620.00		1,671.00
Harvard Pilgrim HDHP	797.00		2,080.00
BCBS Network Blue HDHP	862.00		2,315.00
Tufts HDHP	839.00		2,198.00
Fallon Select Benchmark	790.00		2,129.00
Fallon Direct Benchmark	736.00		1,980.00
Harvard Pilgrim Benchmark	1,030.00		2,683.00
BCBS Network Blue Benchmark	1,068.00		2,863.00
Tufts Navigator Benchmark	1,084.00		2,838.00
Harvard Pilgrim PPO	2,658.00		5,902.00
BCBS Managed Blue	383.00	766.00	
BCBS Medex Enhanced	405.00	810.00	
Harvard Pilgrim Medicare Enhanced	382.00	764.00	
Tufts Medicare Preferred HMO	341.00	682.00	
Tufts Medicare Supplement PDP Plus	375.00	750.00	
Dental Plan	N/A		N/A

APPENDIX IV – PLAN DEMOGRAPHICS

	Active Plan Average Premium Calculation					
	Single	Two-Person	Family	Number of Participants	Total Premiums Paid	Claims Without Children
Fallon Select HDHP	28		39	106	1,063,500.00	845,880.00
Fallon Direct HDHP	5			5	37,200.00	37,200.00
Harvard Pilgrim HDHP	149		203	555	6,491,916.00	5,308,020.00
BCBS Network Blue HDHP	24		32	88	1,137,216.00	910,272.00
Tufts HDHP	24		23	70	848,280.00	704,760.00
Fallon Select Benchmark	29		16	61	683,688.00	578,280.00
Fallon Direct Benchmark	11		2	15	144,672.00	132,480.00
Harvard Pilgrim Benchmark	129		142	413	6,166,272.00	5,104,680.00
BCBS Network Blue Benchmark	50		19	88	1,293,564.00	1,127,808.00
Tufts Navigator Benchmark	51		14	79	1,140,192.00	1,027,632.00
Harvard Pilgrim PPO	2			2	63,792.00	63,792.00
Total	502	0	490	1,482	19,070,292.00	15,840,804.00
Blended Average Monthly Rate:						\$ 890.73

	Medicare Supplement Plan Average Premium Calculation					
	Single	Two-Person	Family	Number of Participants	Total Premiums Paid	Claims Without Children
BCBS Managed Blue	108			108	496,368.00	496,368.00
BCBS Medex Enhanced	167			167	811,620.00	811,620.00
Harvard Pilgrim Medicare Enhanced	27			27	123,768.00	123,768.00
Tufts Medicare Preferred HMO	34			34	139,128.00	139,128.00
Tufts Medicare Supplement PDP Plus	455			455	2,047,500.00	2,047,500.00
Total	791	0	0	791	3,618,384.00	3,618,384.00
Blended Average Monthly Rate:						\$ 381.17

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.

APPENDIX VI – ASOP 41 DISCLOSURES

The Actuarial Standards Board (the “ASB”), vested by the U.S.-based actuarial organizations¹, promulgates actuarial standards of practice (“ASOPs”) for use by actuaries when providing professional services in the United States. Each of these organizations requires its members, through its Code of Professional Conduct², to observe the ASOPs of the ASB when practicing in the United States.

The ASOPs are not narrowly prescriptive and neither dictate a single approach nor mandate a particular outcome. ASOPs are intended to provide actuaries with a framework for performing professional assignments and to offer guidance on relevant issues, recommended practices, documentation, and disclosure. Each ASOP articulates a process of analysis, documentation, and disclosure that, in the ASB’s judgment, constitutes appropriate practice within the scope and purpose of the ASOP.

ASOP 41 provides guidance to actuaries with respect to actuarial communications and requires certain disclosures which are contained in this Appendix.

Identification of the Responsible Actuary

The responsible actuary is Parker Elmore, ASA, EA, FCA, MAAA of Odyssey Advisors. This actuary is available to provide supplementary information and explanation.

Identification of Actuarial Documents

The date of this document is April 14, 2021 and its subject is the Town of Needham’s GASB 75 OPEB liabilities.

¹ The American Academy of Actuaries (the “Academy”), the American Society of Pension Professionals and Actuaries, the Casualty Actuarial Society, the Conference of Consulting Actuaries, and the Society of Actuaries.

² These organizations adopted identical *Codes of Professional Conduct* effective January 1, 2001

APPENDIX VI – ASOP 41 DISCLOSURES

Disclosures in Actuarial Reports

- ✓ The contents of this report are intended for the use of the officers, employees, and elected officials of the Town and the Town's appointed auditor. The Town may distribute this report to those parties that have a legal right to require the Town to provide it, in which case it will be provided in its entirety including all assumptions, caveats, and limitations. In addition, we request that the Town notify Odyssey Advisors to whom it was distributed.
- ✓ The purpose of this engagement was to provide the Town with analysis of the GASB 75 OPEB liabilities.
- ✓ The responsible actuary identified above is qualified as specified in the *Qualification Standards* of the American Academy of Actuaries.
- ✓ Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.
- ✓ Actuarial computations under GASB 75 are for purposes of fulfilling financial accounting requirements of the Town. Determinations for purposes other than meeting these financial accounting requirements may be significantly different from the results contained in this report. These communications should not be relied upon for any other purpose.
- ✓ The Town of Needham has agreed to pay Odyssey Advisors a fee for preparing this report. Other than with regard to that contract, we are financially and organizationally independent from the Town and any entity or individual related to the Town. There is nothing in our relationship with the Town that would impair or seem to impair the objectivity of our work.
- ✓ The Town provided the employee/retiree data, premium rates and other information used to prepare our report. We have reviewed the data for reasonableness but have not audited it. To the extent that there are material inaccuracies in the data, our results may be accordingly affected.
- ✓ The date through which data or other information has been considered in developing the findings included in this report is June 30, 2020.
- ✓ The various documents comprising the actuarial report are contained within the document to which these disclosures are attached.

APPENDIX VI – ASOP 41 DISCLOSURES

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.

Actuarial Findings

The actuarial findings of the report can be found in the report to which these disclosures are attached.

Methods, Procedures, Assumptions, and Data

The methods, procedures, assumptions and data used by the actuary can be found in the report to which these disclosures are attached.

Assumptions or Methods Prescribed by Law

While not legally binding, our determinations were made in accordance with our understanding of Statement No. 75 of the Governmental Accounting Standards Board. Actuarial computations under GASB 75 are for purposes of fulfilling employer accounting requirements. Determinations for purposes other than meeting such requirements may be significantly different from these results. Accordingly, additional determinations may be needed for other purposes.

Responsibility for Assumptions and Methods

The actuary does not disclaim responsibility for any material assumption(s) or method(s).

Deviation from the Guidance of an ASOP

The actuary has not deviated materially from the guidance set forth in an applicable ASOP.

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.