

**Town of Westford
Other Postemployment Benefits Plan**

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2019

As of the Measurement Date:
June 30, 2020

For the Reporting Date:
June 30, 2020

Delivered September 28, 2020



TABLE OF CONTENTS

	<u>PAGE</u>
<u>EXECUTIVE SUMMARY</u>	I
<u>PRINCIPAL RESULTS OF THE VALUATION</u>	1
<u>EXHIBITS</u>	
A FINANCIAL STATEMENT DISCLOSURES	4
B REQUIRED SUPPLEMENTARY INFORMATION	16
<u>APPENDIX</u>	
I LIABILITIES, ASSETS, & CASH FLOWS	22
II PLAN PROVISIONS	29
III ACTUARIAL METHODS & ASSUMPTIONS	31
IV PLAN DEMOGRAPHICS	38
V OVERVIEW OF GASB 74 & 75	40
<u>GLOSSARY</u>	42



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September 28, 2020

Personal and Confidential

Mr. Dan O'Donnell
Budget Director
Town of Westford
55 Main Street
Westford, MA 01886

Dear Mr. O'Donnell:

We have performed an actuarial valuation of the Town of Westford Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2020 with a Measurement Date of June 30, 2020 and a Valuation Date of July 1, 2019. The figures presented in this report reflect the adoption, by the Town of Westford, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal years ending June 30, 2017 and June 30, 2018 respectively.

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

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

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

Very truly yours,

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

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

September 28, 2020

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Westford other postemployment benefit programs with a Valuation Date of July 1, 2019 with a Measurement Date of June 30, 2020 for the Reporting Date & fiscal year ending June 30, 2020 in accordance with Government Account Standards Board Statement No. 74 & 75 and Actuarial Standards of Practice as issued by the American Academy of Actuaries. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Numbers 74 & 75 for the determination of the liability for postemployment benefits other than pensions.

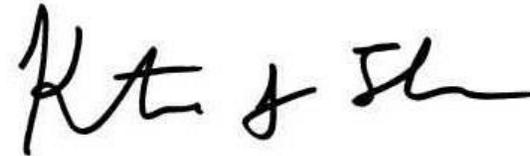
The actuarial data is based on the plan of benefits verified by the Town and on participant claims or premium data provided by the Town and/or vendors employed by the Town.

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

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



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



Kurtis J. Thompson, ASA, MAAA
Consulting Actuary

EXECUTIVE SUMMARY

How did plan liabilities change from FY 19 to FY 20?

For the year ending on the Measurement Date of June 30, 2020, due to experience combined with changes in benefit terms the Plan saw an experience loss of \$3,713,568 or 4.57% of the beginning Total OPEB Liability ("TOL"). This was mainly due to 23 retirees and spouses who were previously not valued and an increase in liability for those who are not eligible for Medicare. This was somewhat offset by premiums increasing less than the expected 10% increase. During the period there was an investment loss of \$353,346 due to asset performance below the expected rate of return.

Assumption Changes

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 5.75% to 6.50% decreasing the disclosed liability by \$7.9 million.
- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females increasing the disclosed liability by \$8.5 million.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$6.1 million.
- ✓ Based on recent research by the Society of Actuaries, we have updated the assumption for morbidity or age-related costs of medical care decreasing the disclosed liability by \$1.0 million.
- ✓ Assumption changes caused Service Cost to decrease by \$800 thousand.

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

Changes in Benefits Terms

- ✓ The Medicare Supplement plan was changed decreasing the premium from \$370.65 to \$346.58. This decreased liabilities by \$3.1 million, which is to be recognized in full immediately.

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 6.93 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 \$7,127,037 of OPEB assets as of June 30, 2020.
- ✓ Funding Policy - The Town is expected to contribute the service cost each year of employees hired after January 1, 2012 and \$200k from Water for FY21 and beyond.
- ✓ Investment Policy - The Town is expected to earn 6.49% on assets based on its investment policy.

EXECUTIVE SUMMARY

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare supplement) plans - represent 66.37% 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 (6.50%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. Under Actuarial Standards of Practice for OPEB, we are required to reflect the projected higher healthcare costs that occur as retirees age. The Town currently has 19 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.

EXECUTIVE SUMMARY

Key Plan Metrics

While an actuarial valuation under GASB 74/75 can be very complex with many variables, we find it helpful to look at several key metrics (shown below) to better allow you to manage your plan.

Representative Plan Statistics		
Valuation Date	July 1, 2019	July 1, 2017
Measurement Date & Period Ending	June 30, 2020	June 30, 2019
Reporting Date/Fiscal Year End	June 30, 2020	June 30, 2019
Total OPEB Liability	79,260,491	81,267,779
Per Eligible Active Plan Participant	44,802	48,473
Per Retiree/Spouse Plan Participant	60,119	62,625
Total Annual Service Cost (Annual Benefit Accrual)	2,144,399	2,874,731
Per Eligible Active Plan Participant	2,113	2,796
Expected Employer Share of Retiree Costs	2,965,571	2,485,694
Per Retiree/Spouse Plan Participant	5,277	4,952
Net OPEB Liability as a % of Covered Payroll	111.30%	123.90%

EXECUTIVE SUMMARY

Liabilities & Benefit Payments in Today's Dollars

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

For the Period Ending on the Measurement Date of:	Number of Retirees, Spouses, & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums/Claims Including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims Including "Implicit Cost"
June 30, 2020	562	79,260,491	79,260,491	2,965,571	2,965,571
June 30, 2025	726	99,584,316	85,902,306	4,217,102	3,637,709
June 30, 2030	840	120,837,640	89,914,553	6,075,593	4,520,812
June 30, 2035	917	140,793,724	90,370,134	7,916,363	5,081,212
June 30, 2040	941	163,150,195	90,332,307	9,118,317	5,048,591
June 30, 2045	932	191,123,940	91,281,858	10,435,845	4,984,218
June 30, 2050	913	229,467,678	94,537,645	11,343,425	4,673,341

PRINCIPAL RESULTS OF THE VALUATION

Town of Westford
Assuming Funding - 6.50% discount rate
Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2019	July 1, 2017
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, 2020	June 30, 2019
I. Total OPEB Liability		
A. Actives	45,473,742	49,829,945
B. Retirees/Disabled	<u>33,786,749</u>	<u>31,437,834</u>
C. Total	79,260,491	81,267,779
II. Fiduciary Net Position [Plan Assets]	7,127,037	5,985,052
III. Net OPEB Liability (Asset) [I. - II.]	72,133,454	75,282,727
IV. Funded Ratio [II. / I.]	8.99%	7.36%
V. Number of Eligible Participants		
A. Actives	1,015	1,028
B. Retirees/Disabled & Dependents	<u>562</u>	<u>502</u>
C. Total	1,577	1,530
VI. Service Cost	2,144,399	2,874,731
VII. Financial Statement Expense	4,525,234	8,521,089
VIII. Employer Contribution to the OPEB Trust	(1,072,641)	(1,072,641)
IX. Deferred Inflow of Resources	(5,637,457)	(31,128)
X. Deferred Outflow of Resources	9,138,586	7,168,552
XI. Money Weighted Rate of Return	1.16%	6.63%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.66%	2.79%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.49%	6.36%
XIV. Crossover Year	N/A	2067
XV. Discount Rate	6.50%	5.75%

PRINCIPAL RESULTS OF THE VALUATION

Town of Westford 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	Water Enterprise Employees and Retirees	Ambulance Enterprise Employees and Retirees	Recreation Enterprise Employees and Retirees	Total
I. Total OPEB Liability								
A. Actives	4,437,730	34,161,213	2,962,490	2,872,011	688,565	50,634	301,099	45,473,742
B. Retirees/Disabled	<u>6,943,382</u>	<u>24,596,688</u>	<u>840,452</u>	<u>988,617</u>	<u>369,950</u>	<u>0</u>	<u>47,660</u>	<u>33,786,749</u>
C. Total	11,381,112	58,757,901	3,802,942	3,860,628	1,058,515	50,634	348,759	79,260,491
II. Fiduciary Net Position [Plan Assets]	907,887	4,687,196	303,366	307,967	920,621	0	0	7,127,037
III. Net OPEB Liability (Asset) [I. - II.]	10,473,225	54,070,705	3,499,576	3,552,661	137,894	50,634	348,759	72,133,454
IV. Number of Eligible Participants								
A. Actives	116	783	46	32	13	9	16	1,015
B. Retirees/Disabled	<u>114</u>	<u>430</u>	<u>5</u>	<u>6</u>	<u>5</u>	<u>0</u>	<u>2</u>	<u>562</u>
C. Total	230	1,213	51	38	18	9	18	1,577
For the Reporting Date and Fiscal Year Ending June 30, 2020								
V. Service Cost	181,762	1,656,228	146,259	96,653	22,240	13,810	27,447	2,144,399
VI. Financial Statement Expense	514,819	3,458,023	267,773	217,150	9,865	16,418	41,186	4,525,234
VII. Employer Share of Costs	(650,101)	(2,149,755)	(55,696)	(47,720)	(59,101)	0	(3,198)	(2,965,571)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(154,884)	(799,209)	(53,466)	(53,668)	(11,414)	(0)	(0)	(1,072,641)
IX. Total Employer Contribution [VII. + VIII.]	(804,985)	(2,948,964)	(109,162)	(101,388)	(70,515)	(0)	(3,198)	(4,038,212)

PRINCIPAL RESULTS OF THE VALUATION

Town of Westford

Assuming Funding - 6.50% 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	18,422,484	20,320,999	38,743,483	3,093,042	20,244,458	23,337,500	62,080,983
B. Spouses	<u>10,153,310</u>	<u>14,107,762</u>	<u>24,261,072</u>	<u>2,340,247</u>	<u>8,109,002</u>	<u>10,449,249</u>	<u>34,710,321</u>
C. Total	28,575,794	34,428,761	63,004,555	5,433,289	28,353,460	33,786,749	96,791,304
Total OPEB Liability							
A. Participants	13,643,455	14,291,896	27,935,351	3,093,042	20,244,458	23,337,500	51,272,851
B. Spouses	<u>7,577,094</u>	<u>9,961,297</u>	<u>17,538,391</u>	<u>2,340,247</u>	<u>8,109,002</u>	<u>10,449,249</u>	<u>27,987,640</u>
C. Total	21,220,549	24,253,193	45,473,742	5,433,289	28,353,460	33,786,749	79,260,491
Service Cost							
A. Participants	560,565	766,271	1,326,836	0	0	0	1,326,836
B. Spouses	<u>293,262</u>	<u>524,301</u>	<u>817,563</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>817,563</u>
C. Total	853,827	1,290,572	2,144,399	0	0	0	2,144,399

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, 2020	
Description	Amount
I. Service Cost	2,144,399
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	4,712,132
III. Deferred (Inflows)/Outflows from Plan Experience*	2,026,211
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	(946,778)
V. Projected Earnings on OPEB Plan Investments	(422,690)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	62,600
VII. Financial Statement Expense Prior to Plan Design Changes [I. + II.+ III. + IV. + V. + VI.]	7,575,874
VIII. Expense Related to Change in Benefit Terms***	(3,050,640)
IX. Financial Statement Expense [VII. + VIII.]	4,525,234

* Amortized over 6.93 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 June 30, 2019	81,267,779	5,985,052	75,282,727
II.	Prior Period Adjustment	0	0	0
III.	Balances for June 30, 2019 with Adjustment [I. + II.]	81,267,779	5,985,052	75,282,727
Changes for the year:				
IV.	Service Cost	2,144,399	0	2,144,399
V.	Interest on Total OPEB Liability, Service Cost, and Benefit Payments	4,712,132	0	4,712,132
VI.	Changes in Benefit Terms *	(3,050,640)	0	(3,050,640)
VII.	Change in Assumptions **	(6,561,176)	0	(6,561,176)
VIII.	Differences Between Actual and Expected Experience **	3,713,568	0	3,713,568
IX.	Net Investment Income	0	69,344	(69,344)
X.	Employer Contributions to Trust	0	4,038,212	(4,038,212)
XI.	Benefit Payments Withdrawn from Trust	0	(2,965,571)	2,965,571
XII.	Benefit Payments Excluding Implicit Cost	(2,226,176)	0	(2,226,176)
XIII.	Implicit Cost Amount	(739,395)	0	(739,395)
XIV.	Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(2,965,571)	0	(2,965,571)
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.]	(2,007,288)	1,141,985	(3,149,273)
XVIII.	Balances at June 30, 2020 [III.+XVII.]	79,260,491	7,127,037	72,133,454

* Recognized Immediately

** Amortized over 6.93 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	Differences Between			2020	2021	2022	2023	2024	2025
	Actual & Expected Experience	Recognition Period (Years)	Remaining Balance						
2017									
2018	10,149,238	6.81	5,678,209	1,490,343	1,490,343	1,490,343	1,490,343	1,207,180	
2019	0	6.81	0	0	0	0	0	0	0
2020	3,713,568	6.93	3,177,700	535,868	535,868	535,868	535,868	535,868	535,868
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			8,855,909						
Net increase (decrease) in OPEB Expense				2,026,211	2,026,211	2,026,211	2,026,211	1,743,048	535,868

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Changes in Assumptions									
Fiscal	Differences from			2020	2021	2022	2023	2024	2025
	Changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance						
2017									
2018	0	6.81	0	0	0	0	0	0	
2019	0	6.81	0	0	0	0	0	0	0
2020	(6,561,176)	6.93	(5,614,398)	(946,778)	(946,778)	(946,778)	(946,778)	(946,778)	(946,778)
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(5,614,398)						
Net increase (decrease) in OPEB Expense				(946,778)	(946,778)	(946,778)	(946,778)	(946,778)	(946,778)

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	Differences Between		Remaining Balance	2020	2021	2022	2023	2024	2025
	Actual & Expected Earnings	Recognition Period (years)							
2017									
2018	(5,740)	5.00	(2,296)	(1,148)	(1,148)	(1,148)			
2019	(34,605)	5.00	(20,763)	(6,921)	(6,921)	(6,921)	(6,921)		
2020	353,346	5.00	282,677	70,669	70,669	70,669	70,669	70,670	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			259,618						
Net increase (decrease) in OPEB Expense				62,600	62,600	62,600	63,748	70,670	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, 2020			
	Deferred Outflows of Resources	Deferred Inflows of Resources	Total
I. Contributions made subsequent to the Measurement Date	0	0	0
II. Differences Between Actual & Expected Experience	8,855,909	0	8,855,909
III. Changes of Assumptions	0	(5,614,398)	(5,614,398)
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	<u>282,677</u>	<u>(23,059)</u>	<u>259,618</u>
V. Total [I.+II.+III.+IV.]	9,138,586	(5,637,457)	3,501,129

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:

2021	1,142,033
2022	1,142,033
2023	1,143,181
2024	866,940
2025	(410,910)
Thereafter	(382,148)

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 6.50% as of June 30, 2020 and 5.75% 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 \$2,965,571. The Town also contributed \$1,072,641 to an OPEB Trust for a total contribution during the measurement period of \$4,038,212 to be reported on the financial statement for the fiscal year ending June 30, 2020.

6. Investment Policy

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

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return*
Domestic Equity - Large Cap	44.00%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	6.75%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	9.50%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	3.50%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	14.00%	Domestic Fixed Income	2.05%
International Fixed Income	0.75%	International Fixed Income	3.00%
Alternatives	7.75%	Alternatives	6.50%
Real Estate	3.50%	Real Estate	6.25%
Cash & Cash Equivalents	10.25%	Cash & Cash Equivalents	0.00%
Total	<u>100.00%</u>		
		I. Real Rate of Return**	4.24%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	6.74%
		IV. Investment Expense	0.25%
		V. Net Investment Return* [III.-IV.]	<u>6.49%</u>

* Based on 2019 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, 2020	7,331,061	(4,038,212)	3,292,849	64,812,462	6.23%
June 30, 2019	7,908,973	(3,558,335)	4,350,638	60,760,942	5.86%
June 30, 2018	8,017,242	(3,245,991)	4,771,251	58,991,206	5.50%
June 30, 2017	3,162,513	(3,162,513)	0	57,373,661	5.51%

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	69,105,429	79,260,491	91,793,433
II. Fiduciary Net Position	<u>7,127,037</u>	<u>7,127,037</u>	<u>7,127,037</u>
III. Net OPEB Liability (Asset) [I.-II.]	61,978,392	72,133,454	84,666,396
IV. Service Cost	1,725,674	2,144,399	2,698,493

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	90,190,604	79,260,491	69,484,798
II. Fiduciary Net Position	<u>7,127,037</u>	<u>7,127,037</u>	<u>7,127,037</u>
III. Net OPEB Liability (Asset) [I.-II.]	83,063,567	72,133,454	62,357,761
IV. Service Cost	2,712,279	2,144,399	1,657,049

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	5,985,052	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	0	6	0.5000
January	0	5	0.4167
February	0	4	0.3333
March	0	3	0.2500
April	0	2	0.1667
May	0	1	0.0833
<u>June</u>	<u>1,072,641</u>	0	0.0000
II. Total net external cash flow	1,072,641		
III. Earnings and increase in fair value	69,344		
IV. Ending value - June 30, 2020 [I.+II.+III.]	7,127,037		
Money Weighted Rate of Return	1.16%		
Asset Value - June 30, 2020	7,127,037		

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

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2020							Total
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Ambulance Enterprise Employees and Retirees	Recreation Enterprise Employees and Retirees	
I. Total OPEB Liability as of June 30, 2020	11,381,112	58,757,901	3,802,942	3,860,628	1,058,515	50,634	348,759	79,260,491
II. Fiduciary Net Position as of June 30, 2020	907,887	4,687,196	303,366	307,967	920,621	0	0	7,127,037
III. Net OPEB Liability (Asset) as of June 30, 2020 [I. - II.]	10,473,225	54,070,705	3,499,576	3,552,661	137,894	50,634	348,759	72,133,454
IV. Service Cost	181,762	1,656,228	146,259	96,653	22,240	13,810	27,447	2,144,399
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	661,978	3,498,793	231,418	232,044	61,935	3,827	22,137	4,712,132
VI. Projected Earnings on OPEB Plan Investments	(54,862)	(282,097)	(18,328)	(18,582)	(48,821)	0	0	(422,690)
VII. Net Recognition of Deferred (Inflows)/Outflows	(274,059)	(1,414,901)	(91,576)	(92,965)	(25,489)	(1,219)	(8,398)	(1,908,607)
VIII. Expense Related to Change in Benefit Terms	(438,045)	(2,261,520)	(146,371)	(148,591)	(40,741)	(1,949)	(13,423)	(3,050,640)
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	514,819	3,458,023	267,773	217,150	9,865	16,418	41,186	4,525,234
X. Employer Share of Costs	(650,101)	(2,149,755)	(55,696)	(47,720)	(59,101)	0	(3,198)	(2,965,571)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(154,884)	(799,209)	(53,466)	(53,668)	(11,414)	(0)	(0)	(1,072,641)
XII. Total Employer Contribution [X. + XI.]	(804,985)	(2,948,964)	(109,162)	(101,388)	(70,515)	(0)	(3,198)	(4,038,212)
XIII. Net OPEB Expense [IX. + XII.]	(290,166)	509,059	158,611	115,762	(60,650)	16,418	37,988	487,022

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

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

Valuation Date	July 1, 2019
For the Measurement Period ending on the Measurement Date of:	June 30, 2020
For the Reporting Period & Fiscal Year ending on:	June 30, 2020
Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	8,855,909
II. Deferred (Inflow)/Outflow from Investment Experience	259,618
III. Deferred (Inflow)/Outflow from Changes in Assumptions	(5,614,398)
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	7,168,552
II. Deferred Outflow created during the period	4,066,914
III. Deferred Outflow recognized during the period	2,096,880
IV. Change in Deferred Outflow (II. - III.)	1,970,034
V. Deferred Outflow at end of the period (I. + IV.)	9,138,586
VI. Deferred Inflow at the beginning of the period	(31,128)
VII. Deferred Inflow created during the period	(9,611,816)
VIII. Deferred Inflow recognized during the period	(4,005,487)
IX. Change in Deferred Inflow (VII. - VIII.)	(5,606,329)
X. Deferred Inflow at end of the period (VI. + IX.)	(5,637,457)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	75,282,727
II. Service Cost	2,144,399
III. Interest on Total OPEB Liability, Service Cost, and Payments	4,712,132
IV. Projected Investment Income	(422,690)
V. Total Employer Contributions	(4,038,212)
VI. Expense Related to Change in Benefit Terms	88,787,436
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	2,395,629
VIII. Deferred Outflow created during the period	4,066,914
IX. Deferred Inflow created during the period	(9,611,816)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	72,133,454
Net OPEB Expense	
I. Service Cost	2,144,399
II. Interest on Total OPEB Liability, Service Cost, and Payments	4,712,132
III. Projected Investment Income	(422,690)
IV. Recognition of Deferred (Inflow)/Outflow	(1,908,607)
V. Expense Related to Change in Benefit Terms	88,787,436
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	93,312,670
VII. Benefit Payments	(2,965,571)
VIII. Contributions to Trust	(1,072,641)
IX. Total Employer Payments (VII. + VIII.)	(4,038,212)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	89,274,458

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. We have used a 30 year flat dollar amortization of the Town's unfunded liability for the purpose of calculating ADC. The following table shows the components of the Town's annual ADC and the amount actually contributed to the plan:

	Actuarially Determined Contribution - Deficiency / (Excess)			
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	For the Fiscal Year Ending:	
			<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	2,144,399	2,874,731	2,695,924	N/A
II. 30 Year Level Dollar Amortization of NOL	<u>5,186,662</u>	<u>5,034,242</u>	<u>5,321,318</u>	<u>N/A</u>
III. Actuarial Determined Contribution [I. + II.]	7,331,061	7,908,973	8,017,242	3,162,513
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(4,038,212)</u>	<u>(3,558,335)</u>	<u>(3,245,991)</u>	<u>(3,162,513)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>3,292,849</u>	<u>4,350,638</u>	<u>4,771,251</u>	<u>0</u>
Covered Employee Payroll	64,812,462	60,760,942	58,991,206	57,373,661
Contributions as a % of Covered Employee Payroll	6.23%	5.86%	5.50%	5.51%
Discount Rate	6.50%	5.75%	5.75%	5.75%
Money Weighted Rate of Return	1.16%	6.63%	-0.12%	14.69%

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Schedule of Changes in the Town's Net OPEB Liability and Related Ratios				
Valuation Date	July 1, 2019	July 1, 2017	July 1, 2017	July 1, 2017
GASB 75 Measurement Date	June 30, 2019	June 30, 2019	June 30, 2018	June 30, 2017
For the Reporting Period & Fiscal Year Ending on:	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017
Total OPEB Liability	79,260,491	81,267,779	76,391,404	83,134,715
I. Service Cost	2,144,399	2,874,731	2,695,924	3,379,477
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	4,712,132	4,487,338	4,871,606	3,932,112
III. Changes in Benefit Terms	(3,050,640)	0	0	0
IV. Difference Between Expected & Actual Plan Experience	3,713,568	0	0	(2,545,735)
V. Changes of Assumptions	(6,561,176)	0	(12,065,335)	0
VI. Benefit Payments Excluding Implicit Cost	(2,226,176)	(2,126,291)	(1,926,448)	N/A
VII. Implicit Cost Amount	(739,395)	(359,403)	(319,058)	N/A
VIII. Total Benefit Payments Including Implicit Cost [VI.+VII.]	<u>(2,965,571)</u>	<u>(2,485,694)</u>	<u>(2,245,506)</u>	<u>(2,042,259)</u>
IX. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.]	(2,007,288)	4,876,375	(6,743,311)	2,723,595
X. Total OPEB Liability - Beginning of Period	81,267,779	76,391,404	83,134,715	80,411,120
XI. Prior Period Adjustment	0	0	0	0
XII. Total OPEB Liability - Beginning of Period with Adjustment	81,267,779	76,391,404	83,134,715	80,411,120
XIII. Total OPEB Liability - End of Period [IX.+XII.]	79,260,491	81,267,779	76,391,404	83,134,715
Plan Fiduciary Net Position	7,127,037	5,985,052	4,554,552	3,559,027
XIV. Earning from Plan Investments	69,344	357,859	(4,960)	152,263
XV. Employer Contribution to Trust	4,038,212	3,558,335	3,245,991	3,162,513
XVI. Benefit Payments from Trust, Including Refunds of Member Contributions	(2,965,571)	(2,485,694)	(2,245,506)	(2,042,259)
XVII. Administrative Expense	0	0	0	0
XVIII. Other	0	0	0	0
XIX. Net Change in Plan Fiduciary Net Position [XIV.+XV.+XVI.+XVII.+XVIII.]	1,141,985	1,430,500	995,525	1,272,517
XX. Plan Fiduciary Net Position - Beginning of Period	5,985,052	4,554,552	3,559,027	2,286,510
XXI. Prior Period Adjustment	0	0	0	0
XXII. Plan Fiduciary Net Position - Beginning of Period with Adjustment	5,985,052	4,554,552	3,559,027	2,286,510
XXIII. Plan Fiduciary Net Position - End of Period [XIX.+XXII.]	7,127,037	5,985,052	4,554,552	3,559,027
XXIV. Net OPEB Liability [XIII.-XXIII.]	72,133,454	75,282,727	71,836,852	79,575,688
XXV. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIII. / XIII.]	8.99%	7.36%	5.96%	4.28%
XXVI. Covered Employee Payroll	64,812,462	60,760,942	58,991,206	57,373,661
XXVII. Plan NOL as % of Covered Employee Payroll [XXIV. / XXVI.]	111.30%	123.90%	121.78%	138.70%
Single Discount Rate to calculate Plan Liabilities	6.50%	5.75%	5.75%	5.75%

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 July 1, 2019.
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:	6.49%, 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:	6.50%, 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 B

REQUIRED 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 B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Plan Membership

At July 1, 2019, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	562
Active Employees:	<u>1,015</u>
Total:	1,577

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 5.75% to 6.50%
- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females
- ✓ The expected long-term medical trend has been updated to 4.50%
- ✓ Based on recent research by the Society of Actuaries, we have updated the assumption for morbidity or age-related costs of medical care

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$1,072,641 beyond the pay-as-you-go cost 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 \$2,965,571. \$739,395 of the \$2,965,571 represents implicit cost.

EXHIBIT BREQUIRED 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 - 6.50% 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 6.49% 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.]
2020	June 30, 2020	79,260,491	7,127,037	72,133,454	8.99%	2,144,399	2,965,571	1,072,641	4,038,212	2,965,571	0	1,072,641
2021	June 30, 2021	83,501,974	9,284,466	74,217,508	11.12%	2,216,467	3,169,596	1,642,425	4,812,021	3,169,596	0	1,642,425
2022	June 30, 2022	87,181,732	11,830,032	75,351,700	13.57%	2,287,116	3,440,619	1,882,866	5,323,485	3,440,619	0	1,882,866
2023	June 30, 2023	91,224,355	14,777,266	76,447,089	16.20%	2,357,976	3,704,835	2,112,008	5,816,843	3,704,835	0	2,112,008
2024	June 30, 2024	95,379,439	18,221,387	77,158,052	19.10%	2,440,483	3,925,294	2,408,160	6,333,454	3,925,294	0	2,408,160
2025	June 30, 2025	99,584,316	22,229,592	77,354,724	22.32%	2,519,536	4,217,102	2,738,180	6,955,282	4,217,102	0	2,738,180
2026	June 30, 2026	103,836,795	31,549,433	72,287,362	30.38%	2,605,275	4,528,686	7,633,332	12,162,018	4,528,686	0	7,633,332
2027	June 30, 2027	108,119,316	41,223,058	66,896,258	38.13%	2,691,351	4,860,974	7,390,030	12,251,004	4,860,974	0	7,390,030
2028	June 30, 2028	112,461,229	51,266,408	61,194,821	45.59%	2,791,668	5,153,166	7,139,925	12,293,091	5,153,166	0	7,139,925
2029	June 30, 2029	116,707,428	61,674,570	55,032,858	52.85%	2,884,144	5,640,992	6,861,807	12,502,799	5,640,992	0	6,861,807
2030	June 30, 2030	120,837,640	72,439,064	48,398,576	59.95%	2,975,391	6,075,593	6,552,527	12,628,120	6,075,593	0	6,552,527
2031	June 30, 2031	124,900,685	83,564,105	41,336,580	66.90%	3,079,015	6,450,699	6,224,922	12,675,621	6,450,699	0	6,224,922
2032	June 30, 2032	128,768,465	95,047,224	33,721,241	73.81%	3,185,371	6,923,314	5,872,249	12,795,563	6,923,314	0	5,872,249
2033	June 30, 2033	132,729,025	106,881,598	25,847,427	80.53%	3,298,564	7,410,239	5,490,445	12,900,684	7,410,239	0	5,490,445
2034	June 30, 2034	136,694,412	119,082,419	17,611,993	87.12%	3,421,188	7,586,624	5,101,271	12,687,895	7,586,624	0	5,101,271
2035	June 30, 2035	140,793,724	131,643,917	9,149,807	93.50%	3,538,680	7,916,363	4,683,460	12,599,823	7,916,363	0	4,683,460
2036	June 30, 2036	144,995,994	144,589,632	406,362	99.72%	3,671,039	8,140,726	4,265,776	12,406,502	8,140,726	0	4,265,776
2037	June 30, 2037	149,537,798	157,936,581	(8,398,783)	105.62%	3,814,005	8,342,177	3,840,419	12,182,596	8,342,177	0	3,840,419
2038	June 30, 2038	153,987,157	163,449,520	(9,462,363)	106.14%	3,961,120	8,551,644	(4,590,524)	3,961,120	8,551,644	0	(4,590,524)
2039	June 30, 2039	158,419,628	169,079,737	(10,660,109)	106.73%	4,107,907	8,931,499	(4,823,592)	4,107,907	8,931,499	0	(4,823,592)
2040	June 30, 2040	163,150,195	175,052,676	(11,902,481)	107.30%	4,272,748	9,118,317	(4,845,569)	4,272,748	9,118,317	0	(4,845,569)
2041	June 30, 2041	168,174,788	181,313,300	(13,138,512)	107.81%	4,436,341	9,378,775	(4,942,434)	4,436,341	9,378,775	0	(4,942,434)
2042	June 30, 2042	173,463,933	187,795,812	(14,331,879)	108.26%	4,620,756	9,741,908	(5,121,152)	4,620,756	9,741,908	0	(5,121,152)
2043	June 30, 2043	179,116,188	194,647,098	(15,530,910)	108.67%	4,812,993	9,984,478	(5,171,485)	4,812,993	9,984,478	0	(5,171,485)
2044	June 30, 2044	184,920,309	201,931,845	(17,011,536)	109.20%	5,017,614	10,199,941	(5,182,327)	5,017,614	10,199,941	0	(5,182,327)
2045	June 30, 2045	191,123,940	209,660,711	(18,536,771)	109.70%	5,225,744	10,435,845	(5,210,101)	5,225,744	10,435,845	0	(5,210,101)
2046	June 30, 2046	197,770,275	217,886,647	(20,116,372)	110.17%	5,448,916	10,663,410	(5,214,494)	5,448,916	10,663,410	0	(5,214,494)
2047	June 30, 2047	204,947,232	226,847,469	(21,900,237)	110.69%	5,687,330	10,707,023	(5,019,693)	5,687,330	10,707,023	0	(5,019,693)
2048	June 30, 2048	212,516,481	236,333,727	(23,817,246)	111.21%	5,932,041	11,006,118	(5,074,077)	5,932,041	11,006,118	0	(5,074,077)
2049	June 30, 2049	220,620,485	246,509,663	(25,889,178)	111.73%	6,195,263	11,197,611	(5,002,348)	6,195,263	11,197,611	0	(5,002,348)
2050	June 30, 2050	229,467,678	257,474,944	(28,007,266)	112.21%	6,466,013	11,343,425	(4,877,412)	6,466,013	11,343,425	0	(4,877,412)
2051	June 30, 2051	238,696,631	269,183,650	(30,487,019)	112.77%	6,751,133	11,597,750	(4,846,617)	6,751,133	11,597,750	0	(4,846,617)

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Table 1: Projection of Contributions using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2020	64,812,462	0	64,812,462	0	2,965,571	0	2,965,571
June 30, 2021	60,952,783	5,804,053	66,756,836	0	3,169,596	0	3,169,596
June 30, 2022	57,830,195	10,929,346	68,759,541	0	3,440,619	0	3,440,619
June 30, 2023	54,936,170	15,886,157	70,822,327	0	3,704,835	0	3,704,835
June 30, 2024	52,494,821	20,452,176	72,946,997	0	3,925,294	0	3,925,294
June 30, 2025	50,163,995	24,971,412	75,135,407	0	4,217,102	0	4,217,102
June 30, 2026	47,949,909	29,439,560	77,389,469	0	4,528,686	0	4,528,686
June 30, 2027	45,708,750	34,002,403	79,711,153	0	4,860,974	0	4,860,974
June 30, 2028	43,786,101	38,316,387	82,102,488	0	5,153,166	0	5,153,166
June 30, 2029	41,779,930	42,785,633	84,565,563	0	5,640,992	0	5,640,992
June 30, 2030	39,534,558	47,567,972	87,102,530	0	6,075,593	0	6,075,593
June 30, 2031	37,519,329	52,196,277	89,715,606	0	6,421,554	29,145	6,450,699
June 30, 2032	35,503,719	56,903,355	92,407,074	0	6,849,619	73,695	6,923,314
June 30, 2033	33,602,775	61,576,511	95,179,286	0	7,274,586	135,653	7,410,239
June 30, 2034	31,893,923	66,140,742	98,034,665	0	7,362,703	223,921	7,586,624
June 30, 2035	30,038,908	70,936,797	100,975,705	0	7,581,722	334,641	7,916,363
June 30, 2036	28,271,261	75,733,715	104,004,976	0	7,726,561	414,165	8,140,726
June 30, 2037	26,671,778	80,453,347	107,125,125	0	7,831,939	510,238	8,342,177
June 30, 2038	25,093,453	85,245,426	110,338,879	0	7,930,043	621,601	8,551,644
June 30, 2039	23,355,177	90,293,868	113,649,045	0	8,224,129	707,370	8,931,499
June 30, 2040	21,812,518	95,245,998	117,058,516	0	8,313,350	804,967	9,118,317
June 30, 2041	20,270,278	100,299,993	120,570,271	0	8,428,831	949,944	9,378,775
June 30, 2042	18,867,507	105,319,872	124,187,379	0	8,604,612	1,137,296	9,741,908
June 30, 2043	17,533,150	110,379,850	127,913,000	0	8,618,103	1,366,375	9,984,478
June 30, 2044	16,316,524	115,433,866	131,750,390	0	8,542,026	1,657,915	10,199,941
June 30, 2045	15,016,584	120,686,318	135,702,902	0	8,434,127	2,001,718	10,435,845
June 30, 2046	13,799,990	125,973,999	139,773,989	0	8,382,397	2,281,013	10,663,410
June 30, 2047	12,732,221	131,234,988	143,967,209	0	8,105,019	2,602,004	10,707,023
June 30, 2048	11,575,963	136,710,262	148,286,225	0	8,047,515	2,958,603	11,006,118
June 30, 2049	10,523,669	142,211,143	152,734,812	0	7,933,991	3,263,620	11,197,611
June 30, 2050	9,415,543	147,901,313	157,316,856	0	7,743,954	3,599,471	11,343,425
June 30, 2051	8,425,324	153,611,038	162,036,362	0	7,602,255	3,995,495	11,597,750
June 30, 2052	7,338,053	159,559,400	166,897,453	0	7,552,882	4,437,968	11,990,850
June 30, 2053	6,569,761	165,334,616	171,904,377	0	7,504,655	4,925,353	12,430,008
June 30, 2054	5,736,457	171,325,051	177,061,508	0	7,471,801	5,476,436	12,948,237
June 30, 2055	4,984,761	177,388,592	182,373,353	0	7,375,108	6,079,923	13,455,031
June 30, 2056	4,210,909	183,633,645	187,844,554	0	7,241,560	6,645,896	13,887,456
June 30, 2057	3,556,342	189,923,549	193,479,891	0	7,206,891	7,260,405	14,467,296
June 30, 2058	2,904,694	196,379,594	199,284,288	0	7,050,235	7,916,026	14,966,261
June 30, 2059	2,353,304	202,909,513	205,262,817	0	6,869,503	8,568,861	15,438,364

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Table 1: Projection of Contributions using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2060	1,852,792	209,567,910	211,420,702	0	6,779,388	9,263,855	16,043,243
June 30, 2061	1,430,081	216,333,242	217,763,323	0	6,554,860	10,024,885	16,579,745
June 30, 2062	1,103,249	223,192,974	224,296,223	0	6,328,097	10,845,693	17,173,790
June 30, 2063	761,804	230,263,306	231,025,110	0	6,195,152	11,732,912	17,928,064
June 30, 2064	516,322	237,439,541	237,955,863	0	6,010,204	12,696,161	18,706,365
June 30, 2065	349,472	244,745,067	245,094,539	0	5,827,128	13,727,695	19,554,823
June 30, 2066	181,700	252,265,675	252,447,375	0	5,667,275	14,756,960	20,424,235
June 30, 2067	60,612	259,960,184	260,020,796	0	5,515,745	15,848,787	21,364,532
June 30, 2068	28,399	267,793,021	267,821,420	0	5,349,984	17,000,358	22,350,342
June 30, 2069	14,148	275,841,915	275,856,063	0	5,174,868	18,151,585	23,326,453
June 30, 2070	11,590	284,120,155	284,131,745	0	4,990,442	19,360,712	24,351,154
June 30, 2071	0	292,655,697	292,655,697	0	4,799,227	20,632,904	25,432,131
June 30, 2072	0	301,435,368	301,435,368	0	4,600,273	21,961,762	26,562,035
June 30, 2073	0	310,478,429	310,478,429	0	4,395,527	23,355,729	27,751,256
June 30, 2074	0	319,792,782	319,792,782	0	4,186,070	24,811,115	28,997,185
June 30, 2075	0	329,386,565	329,386,565	0	3,972,939	26,329,279	30,302,218
June 30, 2076	0	339,268,162	339,268,162	0	3,757,212	27,913,361	31,670,573
June 30, 2077	0	349,446,207	349,446,207	0	3,540,077	29,560,545	33,100,622
June 30, 2078	0	359,929,593	359,929,593	0	3,322,482	31,276,329	34,598,811
June 30, 2079	0	370,727,481	370,727,481	0	3,105,504	33,065,174	36,170,678
June 30, 2080	0	381,849,305	381,849,305	0	2,890,303	34,924,804	37,815,107
June 30, 2081	0	393,304,784	393,304,784	0	2,677,944	36,857,978	39,535,922
June 30, 2082	0	405,103,928	405,103,928	0	2,469,472	38,873,850	41,343,322
June 30, 2083	0	417,257,046	417,257,046	0	2,265,992	40,979,422	43,245,414
June 30, 2084	0	429,774,757	429,774,757	0	2,068,504	43,170,712	45,239,216
June 30, 2085	0	442,668,000	442,668,000	0	1,877,956	45,456,073	47,334,029
June 30, 2086	0	455,948,040	455,948,040	0	1,695,331	47,845,228	49,540,559
June 30, 2087	0	469,626,481	469,626,481	0	1,521,415	50,327,900	51,849,315
June 30, 2088	0	483,715,275	483,715,275	0	1,356,837	52,918,678	54,275,515
June 30, 2089	0	498,226,733	498,226,733	0	1,202,099	55,625,608	56,827,707
June 30, 2090	0	513,173,535	513,173,535	0	1,057,622	58,443,048	59,500,670
June 30, 2091	0	528,568,741	528,568,741	0	923,585	61,383,494	62,307,079
June 30, 2092	0	544,425,803	544,425,803	0	800,089	64,451,381	65,251,470
June 30, 2093	0	560,758,577	560,758,577	0	687,093	67,657,898	68,344,991
June 30, 2094	0	577,581,334	577,581,334	0	584,526	71,006,216	71,590,742

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you-go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2020	5,985,052	2,965,571	1,072,641	4,038,212	0	2,965,571	2,965,571	69,344	7,127,037
June 30, 2021	7,127,037	3,169,596	1,499,627	4,669,223	0	3,169,596	3,169,596	470,228	9,096,892
June 30, 2022	9,096,892	3,440,619	1,583,584	5,024,203	0	3,440,619	3,440,619	640,968	11,321,444
June 30, 2023	11,321,444	3,704,835	1,638,263	5,343,098	0	3,704,835	3,704,835	787,088	13,746,795
June 30, 2024	13,746,795	3,925,294	1,732,983	5,658,277	0	3,925,294	3,925,294	947,518	16,427,296
June 30, 2025	16,427,296	4,217,102	1,828,140	6,045,242	0	4,217,102	4,217,102	1,124,522	19,379,958
June 30, 2026	19,379,958	4,528,686	4,729,553	9,258,239	0	4,528,686	4,528,686	1,408,821	25,518,332
June 30, 2027	25,518,332	4,860,974	4,237,663	9,098,637	0	4,860,974	4,860,974	1,791,490	31,547,485
June 30, 2028	31,547,485	5,153,166	3,807,795	8,960,961	0	5,153,166	5,153,166	2,169,052	37,524,332
June 30, 2029	37,524,332	5,640,992	3,390,101	9,031,093	0	5,640,992	5,640,992	2,543,609	43,458,042
June 30, 2030	43,458,042	6,075,593	2,974,096	9,049,689	0	6,075,593	6,075,593	2,915,419	49,347,557
June 30, 2031	49,347,557	6,421,554	2,603,281	9,024,835	0	6,421,554	6,421,554	3,285,805	55,207,498
June 30, 2032	55,207,498	6,849,619	2,256,177	9,105,796	0	6,849,619	6,849,619	3,655,029	61,045,009
June 30, 2033	61,045,009	7,274,586	1,938,386	9,212,972	0	7,274,586	7,274,586	4,023,733	66,871,475
June 30, 2034	66,871,475	7,362,703	1,659,612	9,022,315	0	7,362,703	7,362,703	4,392,967	72,700,133
June 30, 2035	72,700,133	7,581,722	1,393,266	8,974,988	0	7,581,722	7,581,722	4,762,739	78,521,497
June 30, 2036	78,521,497	7,726,561	1,159,549	8,886,110	0	7,726,561	7,726,561	5,133,081	84,399,962
June 30, 2037	84,399,962	7,831,939	956,179	8,788,118	0	7,831,939	7,831,939	5,508,098	90,354,001
June 30, 2038	90,354,001	7,930,043	776,690	8,706,733	0	7,930,043	7,930,043	5,888,782	96,397,872
June 30, 2039	96,397,872	8,224,129	717,790	8,941,919	0	8,224,129	8,224,129	6,279,148	102,687,440
June 30, 2040	102,687,440	8,313,350	667,062	8,980,412	0	8,313,350	8,313,350	6,685,721	109,235,256
June 30, 2041	109,235,256	8,428,831	615,770	9,044,601	0	8,428,831	8,428,831	7,109,036	116,010,118
June 30, 2042	116,010,118	8,604,612	572,274	9,176,886	0	8,604,612	8,604,612	7,547,335	122,992,431
June 30, 2043	122,992,431	8,618,103	532,030	9,150,133	0	8,618,103	8,618,103	7,999,202	130,157,288
June 30, 2044	130,157,288	8,542,026	496,381	9,038,407	0	8,542,026	8,542,026	8,463,062	137,458,816
June 30, 2045	137,458,816	8,434,127	455,909	8,890,036	0	8,434,127	8,434,127	8,935,639	144,848,646
June 30, 2046	144,848,646	8,382,397	419,016	8,801,413	0	8,382,397	8,382,397	9,414,060	152,400,709
June 30, 2047	152,400,709	8,105,019	387,339	8,492,358	0	8,105,019	8,105,019	9,903,178	160,089,222
June 30, 2048	160,089,222	8,047,515	351,958	8,399,473	0	8,047,515	8,047,515	10,401,032	167,883,609
June 30, 2049	167,883,609	7,933,991	320,195	8,254,186	0	7,933,991	7,933,991	10,905,873	175,846,057
June 30, 2050	175,846,057	7,743,954	286,279	8,030,233	0	7,743,954	7,743,954	11,421,553	183,954,418
June 30, 2051	183,954,418	7,602,255	256,377	7,858,632	0	7,602,255	7,602,255	11,946,830	192,162,130
June 30, 2052	192,162,130	7,552,882	223,008	7,775,890	0	7,552,882	7,552,882	12,478,445	200,425,615
June 30, 2053	200,425,615	7,504,655	200,410	7,705,065	0	7,504,655	7,504,655	13,014,023	208,714,695
June 30, 2054	208,714,695	7,471,801	175,054	7,646,855	0	7,471,801	7,471,801	13,551,175	216,964,488
June 30, 2055	216,964,488	7,375,108	152,612	7,527,720	0	7,375,108	7,375,108	14,085,870	225,123,047
June 30, 2056	225,123,047	7,241,560	129,335	7,370,895	0	7,241,560	7,241,560	14,614,617	233,221,103
June 30, 2057	233,221,103	7,206,891	109,788	7,316,679	0	7,206,891	7,206,891	15,139,556	241,210,042
June 30, 2058	241,210,042	7,050,235	89,916	7,140,151	0	7,050,235	7,050,235	15,657,404	249,041,336
June 30, 2059	249,041,336	6,869,503	73,184	6,942,687	0	6,869,503	6,869,503	16,165,120	256,710,779

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you-go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2060	256,710,779	6,779,388	57,891	6,837,279	0	6,779,388	6,779,388	16,662,379	250,077,412
June 30, 2061	250,077,412	6,554,860	44,787	6,599,647	0	6,554,860	6,554,860	16,231,455	243,629,146
June 30, 2062	243,629,146	6,328,097	34,639	6,362,736	0	6,328,097	6,328,097	15,812,638	237,378,827
June 30, 2063	237,378,827	6,195,152	23,988	6,219,140	0	6,195,152	6,195,152	15,406,652	231,234,479
June 30, 2064	231,234,479	6,010,204	16,312	6,026,516	0	6,010,204	6,010,204	15,007,639	225,256,839
June 30, 2065	225,256,839	5,827,128	11,054	5,838,182	0	5,827,128	5,827,128	14,619,522	219,450,556
June 30, 2066	219,450,556	5,667,275	5,765	5,673,040	0	5,667,275	5,667,275	14,242,525	213,793,532
June 30, 2067	213,793,532	5,515,745	1,926	5,517,671	0	5,515,745	5,515,745	13,875,262	208,281,022
June 30, 2068	208,281,022	5,349,984	904	5,350,888	0	5,349,984	5,349,984	13,517,467	202,932,471
June 30, 2069	202,932,471	5,174,868	450	5,175,318	0	5,174,868	5,174,868	13,170,332	197,758,278
June 30, 2070	197,758,278	4,990,442	368	4,990,810	0	4,990,442	4,990,442	12,834,524	192,768,360
June 30, 2071	192,768,360	4,799,227	0	4,799,227	0	4,799,227	4,799,227	12,510,667	187,969,133
June 30, 2072	187,969,133	4,600,273	0	4,600,273	0	4,600,273	4,600,273	12,199,197	183,368,860
June 30, 2073	183,368,860	4,395,527	0	4,395,527	0	4,395,527	4,395,527	11,900,639	178,973,333
June 30, 2074	178,973,333	4,186,070	0	4,186,070	0	4,186,070	4,186,070	11,615,369	174,787,263
June 30, 2075	174,787,263	3,972,939	0	3,972,939	0	3,972,939	3,972,939	11,343,693	170,814,324
June 30, 2076	170,814,324	3,757,212	0	3,757,212	0	3,757,212	3,757,212	11,085,850	167,057,112
June 30, 2077	167,057,112	3,540,077	0	3,540,077	0	3,540,077	3,540,077	10,842,007	163,517,035
June 30, 2078	163,517,035	3,322,482	0	3,322,482	0	3,322,482	3,322,482	10,612,256	160,194,553
June 30, 2079	160,194,553	3,105,504	0	3,105,504	0	3,105,504	3,105,504	10,396,626	157,089,049
June 30, 2080	157,089,049	2,890,303	0	2,890,303	0	2,890,303	2,890,303	10,195,079	154,198,746
June 30, 2081	154,198,746	2,677,944	0	2,677,944	0	2,677,944	2,677,944	10,007,499	151,520,802
June 30, 2082	151,520,802	2,469,472	0	2,469,472	0	2,469,472	2,469,472	9,833,700	149,051,330
June 30, 2083	149,051,330	2,265,992	0	2,265,992	0	2,265,992	2,265,992	9,673,431	146,785,338
June 30, 2084	146,785,338	2,068,504	0	2,068,504	0	2,068,504	2,068,504	9,526,368	144,716,834
June 30, 2085	144,716,834	1,877,956	0	1,877,956	0	1,877,956	1,877,956	9,392,123	142,838,878
June 30, 2086	142,838,878	1,695,331	0	1,695,331	0	1,695,331	1,695,331	9,270,243	141,143,547
June 30, 2087	141,143,547	1,521,415	0	1,521,415	0	1,521,415	1,521,415	9,160,216	139,622,132
June 30, 2088	139,622,132	1,356,837	0	1,356,837	0	1,356,837	1,356,837	9,061,476	138,265,295
June 30, 2089	138,265,295	1,202,099	0	1,202,099	0	1,202,099	1,202,099	8,973,418	137,063,196
June 30, 2090	137,063,196	1,057,622	0	1,057,622	0	1,057,622	1,057,622	8,895,401	136,005,574
June 30, 2091	136,005,574	923,585	0	923,585	0	923,585	923,585	8,826,762	135,081,989
June 30, 2092	135,081,989	800,089	0	800,089	0	800,089	800,089	8,766,821	134,281,900
June 30, 2093	134,281,900	687,093	0	687,093	0	687,093	687,093	8,714,895	133,594,807
June 30, 2094	133,594,807	584,526	0	584,526	0	584,526	584,526	8,670,303	133,010,281

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Table 3: Actuarial Present Values of Projected Benefit Payments using a July 1, 2019 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 [6.49%]	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 [6.49%]	
June 30, 2020	5,985,052	2,965,571	2,965,571	0	2,965,571	0	2,965,571	Sum of Column V.
June 30, 2021	7,127,037	3,169,596	3,169,596	0	2,976,426	0	2,976,426	92,549,235
June 30, 2022	9,096,892	3,440,619	3,440,619	0	3,034,023	0	3,034,023	
June 30, 2023	11,321,444	3,704,835	3,704,835	0	3,067,908	0	3,067,908	Sum of Column VI.
June 30, 2024	13,746,795	3,925,294	3,925,294	0	3,052,368	0	3,052,368	0
June 30, 2025	16,427,296	4,217,102	4,217,102	0	3,079,427	0	3,079,427	
June 30, 2026	19,379,958	4,528,686	4,528,686	0	3,105,412	0	3,105,412	Sum of Column VII.
June 30, 2027	25,518,332	4,860,974	4,860,974	0	3,130,124	0	3,130,124	[IV. + VI.]
June 30, 2028	31,547,485	5,153,166	5,153,166	0	3,116,044	0	3,116,044	92,549,235
June 30, 2029	37,524,332	5,640,992	5,640,992	0	3,203,141	0	3,203,141	
June 30, 2030	43,458,042	6,075,593	6,075,593	0	3,239,667	0	3,239,667	
June 30, 2031	49,347,557	6,421,554	6,421,554	0	3,215,459	0	3,215,459	
June 30, 2032	55,207,498	6,849,619	6,849,619	0	3,220,776	0	3,220,776	
June 30, 2033	61,045,009	7,274,586	7,274,586	0	3,212,133	0	3,212,133	
June 30, 2034	66,871,475	7,362,703	7,362,703	0	3,052,908	0	3,052,908	
June 30, 2035	72,700,133	7,581,722	7,581,722	0	2,952,130	0	2,952,130	
June 30, 2036	78,521,497	7,726,561	7,726,561	0	2,825,173	0	2,825,173	
June 30, 2037	84,399,962	7,831,939	7,831,939	0	2,689,176	0	2,689,176	
June 30, 2038	90,354,001	7,930,043	7,930,043	0	2,556,917	0	2,556,917	
June 30, 2039	96,397,872	8,224,129	8,224,129	0	2,490,131	0	2,490,131	
June 30, 2040	102,687,440	8,313,350	8,313,350	0	2,363,739	0	2,363,739	
June 30, 2041	109,235,256	8,428,831	8,428,831	0	2,250,515	0	2,250,515	
June 30, 2042	116,010,118	8,604,612	8,604,612	0	2,157,432	0	2,157,432	
June 30, 2043	122,992,431	8,618,103	8,618,103	0	2,029,124	0	2,029,124	
June 30, 2044	130,157,288	8,542,026	8,542,026	0	1,888,639	0	1,888,639	
June 30, 2045	137,458,816	8,434,127	8,434,127	0	1,751,134	0	1,751,134	
June 30, 2046	144,848,646	8,382,397	8,382,397	0	1,634,326	0	1,634,326	
June 30, 2047	152,400,709	8,105,019	8,105,019	0	1,483,938	0	1,483,938	
June 30, 2048	160,089,222	8,047,515	8,047,515	0	1,383,613	0	1,383,613	
June 30, 2049	167,883,609	7,933,991	7,933,991	0	1,280,960	0	1,280,960	
June 30, 2050	175,846,057	7,743,954	7,743,954	0	1,174,081	0	1,174,081	
June 30, 2051	183,954,418	7,602,255	7,602,255	0	1,082,353	0	1,082,353	
June 30, 2052	192,162,130	7,552,882	7,552,882	0	1,009,788	0	1,009,788	
June 30, 2053	200,425,615	7,504,655	7,504,655	0	942,192	0	942,192	
June 30, 2054	208,714,695	7,471,801	7,471,801	0	880,897	0	880,897	
June 30, 2055	216,964,488	7,375,108	7,375,108	0	816,506	0	816,506	
June 30, 2056	225,123,047	7,241,560	7,241,560	0	752,860	0	752,860	
June 30, 2057	233,221,103	7,206,891	7,206,891	0	703,593	0	703,593	
June 30, 2058	241,210,042	7,050,235	7,050,235	0	646,351	0	646,351	
June 30, 2059	249,041,336	6,869,503	6,869,503	0	591,400	0	591,400	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Table 3: Actuarial Present Values of Projected Benefit Payments using a July 1, 2019 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 [6.49%]	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 [6.49%]
June 30, 2060	256,710,779	6,779,388	6,779,388	0	548,072	0	548,072
June 30, 2061	250,077,412	6,554,860	6,554,860	0	497,624	0	497,624
June 30, 2062	243,629,146	6,328,097	6,328,097	0	451,131	0	451,131
June 30, 2063	237,378,827	6,195,152	6,195,152	0	414,737	0	414,737
June 30, 2064	231,234,479	6,010,204	6,010,204	0	377,834	0	377,834
June 30, 2065	225,256,839	5,827,128	5,827,128	0	343,999	0	343,999
June 30, 2066	219,450,556	5,667,275	5,667,275	0	314,173	0	314,173
June 30, 2067	213,793,532	5,515,745	5,515,745	0	287,137	0	287,137
June 30, 2068	208,281,022	5,349,984	5,349,984	0	261,534	0	261,534
June 30, 2069	202,932,471	5,174,868	5,174,868	0	237,556	0	237,556
June 30, 2070	197,758,278	4,990,442	4,990,442	0	215,128	0	215,128
June 30, 2071	192,768,360	4,799,227	4,799,227	0	194,277	0	194,277
June 30, 2072	187,969,133	4,600,273	4,600,273	0	174,874	0	174,874
June 30, 2073	183,368,860	4,395,527	4,395,527	0	156,907	0	156,907
June 30, 2074	178,973,333	4,186,070	4,186,070	0	140,323	0	140,323
June 30, 2075	174,787,263	3,972,939	3,972,939	0	125,062	0	125,062
June 30, 2076	170,814,324	3,757,212	3,757,212	0	111,064	0	111,064
June 30, 2077	167,057,112	3,540,077	3,540,077	0	98,267	0	98,267
June 30, 2078	163,517,035	3,322,482	3,322,482	0	86,607	0	86,607
June 30, 2079	160,194,553	3,105,504	3,105,504	0	76,017	0	76,017
June 30, 2080	157,089,049	2,890,303	2,890,303	0	66,438	0	66,438
June 30, 2081	154,198,746	2,677,944	2,677,944	0	57,805	0	57,805
June 30, 2082	151,520,802	2,469,472	2,469,472	0	50,056	0	50,056
June 30, 2083	149,051,330	2,265,992	2,265,992	0	43,132	0	43,132
June 30, 2084	146,785,338	2,068,504	2,068,504	0	36,974	0	36,974
June 30, 2085	144,716,834	1,877,956	1,877,956	0	31,522	0	31,522
June 30, 2086	142,838,878	1,695,331	1,695,331	0	26,722	0	26,722
June 30, 2087	141,143,547	1,521,415	1,521,415	0	22,519	0	22,519
June 30, 2088	139,622,132	1,356,837	1,356,837	0	18,859	0	18,859
June 30, 2089	138,265,295	1,202,099	1,202,099	0	15,690	0	15,690
June 30, 2090	137,063,196	1,057,622	1,057,622	0	12,963	0	12,963
June 30, 2091	136,005,574	923,585	923,585	0	10,630	0	10,630
June 30, 2092	135,081,989	800,089	800,089	0	8,648	0	8,648
June 30, 2093	134,281,900	687,093	687,093	0	6,974	0	6,974
June 30, 2094	133,594,807	584,526	584,526	0	5,571	0	5,571

APPENDIX II – PLAN PROVISIONS

<u>Effective Date</u>	GASB 74 was adopted for the fiscal year ending June 30, 2017 GASB 75 was adopted for the fiscal year ending June 30, 2018
<u>Plan Year</u>	July 1 through June 30.
<u>Premium Effective Date</u>	Medicare Supplement Plans: effective January 1, 2020 Non-Medicare Plans: effective November 1, 2019 Dental Plans: effective November 1, 2019
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Benefits Offered</u>	Comprehensive Medical and Dental Insurance as well as \$1,000 of Group Term Life Insurance.
<u>Medicare Part B</u>	Medicare Part B Premium reimbursements by the Town were not reflected in this valuation. Medicare Part B Penalty reimbursements have been reflected.
<u>Surviving Spouse Coverage</u>	Spousal benefits do not change after the death of a plan participant.

APPENDIX II – PLAN PROVISIONS

Eligibility

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

Participant Contributions

Group	Individual	Two-Person / Family
Medical	<ul style="list-style-type: none"> • 35% of premiums for HMO plans • 40% of premiums for PPO plans • 40% of premiums for Medicare Integrated plans 	<ul style="list-style-type: none"> • 35% of premiums for HMO plans • 40% of premiums for PPO plans • 40% of premiums for Medicare Integrated plans
Dental	100%	100%
Life	50% of premiums	N/A

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-Retirement Mortality

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

6.50% per annum (previously 5.75%, used in the calculation of the Interest Cost)

Net Long Term Rate of Return

6.49% (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
20	0.01%	0.05%	0.20%
30	0.01%	0.07%	0.21%
40	0.07%	0.21%	0.71%
50	0.13%	0.42%	1.10%
60	0.12%	0.50%	0.80%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONSTrend Rate

Medicare Supplement Plans: Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Non-Medicare Plans: Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Dental Plans: Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Participation Rate

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

Spouse Participation Rate

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

Spouse Demographics

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

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.

School Demographics

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

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

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

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2020</u>	<u>June 30, 2019</u>
I. Total OPEB Liability	79,260,491	81,267,779
II. Total OPEB Liability (Excluding Implicit Subsidy)	<u>64,223,940</u>	<u>73,741,065</u>
III. Liability from Implicit Subsidy [I. - II.]	15,036,551	7,526,714

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2020</u>	<u>June 30, 2019</u>
IV. Employer Payments (Including Implicit Subsidy)	2,965,571	2,485,694
V. Actual Employer Payments	<u>2,226,176</u>	<u>2,126,291</u>
VI. Implicit Subsidy [IV. - V.]	739,395	359,403

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

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

ANNUAL PER CAPITA CLAIMS*

ACTIVE EMPLOYEES		
Age Bracket	Female	Male
24 & Under	4,716	2,973
25 to 29	6,957	3,093
30 to 34	8,791	3,883
35 to 39	9,056	4,875
40 to 44	9,269	6,074
45 to 49	10,181	7,669
50 to 54	11,977	10,100
55 to 59	13,846	13,131
60 to 64	16,476	16,849
65 to 69	19,751	21,017
70 & Over	23,291	25,187

RETIREE - NOT MEDICARE ELIGIBLE		
Age Bracket	Female	Male
44 & Under	9,269	6,074
45 to 49	10,181	7,669
50 to 54	11,977	10,100
55 to 59	13,846	13,131
60 to 64	16,476	16,849
65 to 69	19,751	21,017
70 to 74	23,291	25,187
75 to 79	27,048	29,747
80 to 84	31,013	34,192
85 to 89	35,401	39,138
90 & Over	35,401	39,138

RETIREE - MEDICARE ELIGIBLE		
Age Bracket	Female	Male
65 to 69	4,448	4,448
70 to 74	4,448	4,448
75 to 79	4,448	4,448
80 to 84	4,448	4,448
85 to 89	4,448	4,448
90 & Over	4,448	4,448

*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	July 1, 2019	July 1, 2017
A. Average Age at Hire	36.81	37.24
B. Average Service	<u>9.77</u>	<u>9.59</u>
C. Average Current Age	46.58	46.83

Retired Employees & Spouses

Valuation Date	July 1, 2019	July 1, 2017
A. Under Age 65	104	85
B. Age 65 & Over	<u>458</u>	<u>417</u>
C. Total	562	502

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	32	2								34
25-29	42	11	1							54
30-34	51	32	12							95
35-39	36	25	46	14						121
40-44	48	24	20	33	6					131
45-49	49	27	24	35	23	4				162
50-54	53	44	27	23	11	6	6			170
55-59	33	23	27	30	10	3	4	2		132
60-64	13	11	14	26	11	3			1	79
65-69	5	5	4	8			1	1	1	25
70+	3			3	2	2	1	1		12
Total	365	204	175	172	63	18	12	4	2	1015

APPENDIX IV – PLAN DEMOGRAPHICS

Plan Offerings

Number of Contracts

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
HMO Blue Premium	145		260	405
HMO Blue Value	82		130	212
PPO	18		26	44
Medex II	129	162		291
Total	374	162	416	952

Per Contract Costs (monthly)

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
HMO Blue Premium	889.33		2,332.71
HMO Blue Value	850.89		2,231.88
PPO	962.36		2,524.27
Medex II	370.65	741.30	
BCBS Dental Low Option	37.65	80.20	112.22

APPENDIX V – OVERVIEW OF GASB 74 & 75

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

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

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

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

APPENDIX V – OVERVIEW OF GASB 74 & 75

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

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

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

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

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

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

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

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

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

GLOSSARY

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

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

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

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

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

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

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

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

GLOSSARY

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

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

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

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

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

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

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

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

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