

**Town of Foxborough Other
Postemployment Benefits Plan**

GASB 45 Actuarial Valuation

as of

June 30, 2017

For the fiscal year ending

June 30, 2017

Delivered October 2017

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October 19, 2017

Personal and Confidential

Mr. William R. Scollins, III
Finance Director/Town Accountant
Town of Foxborough
40 South Street
Foxborough, MA 02035

Dear Mr. Scollins:

We have performed an actuarial valuation of the Town of Foxborough Other Postemployment Benefits Plan for the fiscal year ending June 30, 2017. The figures presented in this report reflect the adoption, by the Town of Foxborough, of Statement No. 45 of the Governmental Accounting Standards Board ("GASB 45") effective July 1, 2008.

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 refer you to Section I of this report for a detailed summary and commentary on the results of the valuation and a comparison with the prior valuation. Section II is a summary of the plan provisions, and Section III describes the actuarial cost method and assumptions. Details for cost calculations, supporting data, and disclosures are provided in Exhibits A through C.

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

October 19, 2017

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Foxborough other postemployment benefit programs as of June 30, 2017 for the fiscal year ending June 30, 2017 in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Number 43 and 45 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 43 and 45 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

SECTION I
PRINCIPAL RESULTS OF THE VALUATION

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

	<u>June 30, 2017</u>	<u>June 30, 2015</u>
I. Present Value of Future Benefits		
A. Actives	26,310,993	24,525,358
B. Retirees/Disabled	13,918,455	11,217,363
C. Total	40,229,448	35,742,721
II. Present Value of Future Normal Cost	6,777,106	8,490,335
III. Actuarial Accrued Liability (Individual Entry Age Normal)		
A. Actives	19,533,887	16,035,023
B. Retirees/Disabled	13,918,455	11,217,363
C. Total	33,452,342	27,252,386
IV. Plan Assets	6,888,077	4,578,158
V. Unfunded Actuarial Accrued Liability ("UAAL") [III. - IV.]	26,564,265	22,674,228
VI. Funded Ratio [IV. / III.]	20.59%	16.80%
VII. Annual Covered Payroll	40,559,503	36,586,631
VIII. UAAL as % of Covered Payroll	65.50%	62.0%
IX. Net OPEB Obligation (Asset) @ Beginning of Fiscal Year	14,221,503	14,510,965
X. Number of Eligible Participants		
A. Actives	638	606
B. Retirees/Disabled	352	332
C. Total	990	938
	<u>June 30, 2017</u>	<u>June 30, 2015</u>
XI. Normal Cost	923,889	994,399
XII. Amortization of UAAL - 30 year increase 4.00% per yr	3,105,907	2,871,586
XIII. Annual Required Contribution ('ARC') [XI. + XII.]	4,029,796	3,865,985
XIV. Interest on Net OPEB Obligation (Asset)	995,506	1,015,766
XV. Adjustment to Annual Required Contribution	(1,071,084)	(1,092,883)
XVI. Amortization of Actuarial (Gains) / Losses	(1,586,797)	(2,107,907)
XVII. Annual OPEB Expense [XIII. + XIV. + XV. + XVI.]	2,367,421	1,680,961
XVIII. Employer Share of Costs	1,382,116	1,138,855
XIX. Employer Payments (Withdrawals) to/from OPEB Trust	864,069	664,069
XX. Total Employer Contribution [XVIII. + XIX.]	2,246,185	1,802,924
XXI. Percentage of Annual OPEB Expense Contributed	94.9%	107.3%
XXII. Net OPEB Obligation (Asset) at Beginning of Year [IX.]	14,221,503	14,510,965
XXIII. Increase (Decrease) in Net OPEB Obligations (Asset) [XVII. - XX.]	121,236	(121,963)
XXIV. Net OPEB Obligation (Asset) at End of Year [XXII. + XXIII.]	14,342,739	14,389,002
XXV. Discount Rate	7.00%	7.00%

SECTION I
PRINCIPAL RESULTS OF THE VALUATION
(continued)

Town of Foxborough
Assuming Full Funding - 7.00% discount rate
Plan Liabilities as of June 30, 2017

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Excise Tax</u>	<u>Total</u>
I. Present Value of Future Benefits					
A. Actives	25,903,016	0	72,374	335,603	26,310,993
B. Retirees/Disabled	<u>13,735,408</u>	<u>0</u>	<u>156,456</u>	<u>26,591</u>	<u>13,918,455</u>
C. Total	39,638,424	0	228,830	362,194	40,229,448
II. Present Value of Future Normal Cost	6,602,897	0	13,401	160,808	6,777,106
III. Actuarial Accrued Liability (Individual Entry Age Normal)					
A. Actives	19,300,119	0	58,973	174,795	19,533,887
B. Retirees/Disabled	<u>13,735,408</u>	<u>0</u>	<u>156,456</u>	<u>26,591</u>	<u>13,918,455</u>
C. Total	33,035,527	0	215,429	201,386	33,452,342
IV. Plan Assets	6,802,256	0	44,359	41,462	6,888,077
V. Unfunded Actuarial Accrued Liability ("UAAL") [III. - IV.]	26,233,271	0	171,070	159,924	26,564,265
VI. Annual Covered Payroll	40,559,503	40,559,503	40,559,503	40,559,503	40,559,503
VII. UAAL as % of Covered Payroll	64.7%	0.0%	0.4%	0.4%	65.5%
VIII. Net OPEB Obligation (Asset) @ Beginning of Fiscal Year	14,044,303	0	91,585	85,615	14,221,503
IX. Number of Eligible Participants					
A. Actives	638	638	638	638	
B. Retirees/Disabled	<u>352</u>	<u>0</u>	<u>224</u>	<u>352</u>	
C. Total	990	638	862	990	
For Fiscal Year Ending June 30, 2017					
X. Normal Cost	905,149	0	2,162	16,578	923,889
XI. Amortization of UAAL - 30 year increase 4.00% per yr	3,067,207	0	20,002	18,698	3,105,907
XII. Annual Required Contribution ('ARC') [X. + XI.]	3,972,356	0	22,164	35,276	4,029,796
XIII. Interest on Net OPEB Obligation (Asset)	983,101	0	6,412	5,993	995,506
XIV. Adjustment to Annual Required Contribution	<u>(1,057,738)</u>	<u>0</u>	<u>(6,898)</u>	<u>(6,448)</u>	<u>(1,071,084)</u>
XV. Amortization of Actuarial (Gains) / Losses	<u>(1,567,025)</u>	<u>0</u>	<u>(10,219)</u>	<u>(9,553)</u>	<u>(1,586,797)</u>
XVI. Annual OPEB Expense [XII. + XIII. + XIV. + XV.]	2,330,694	0	11,459	25,268	2,367,421
XVII. Employer Share of Costs	1,368,674	0	13,442	0	1,382,116
XVIII. Employer Payments (Withdrawals) to/from OPEB Trust	853,303	0	5,564	5,202	864,069
XIX. Total Employer Contribution [XVII. + XVIII.]	2,221,977	0	19,006	5,202	2,246,185
XX. Percentage of Annual OPEB Expense Contributed	95.3%	0.0%	165.9%	20.6%	94.9%
XXI. Net OPEB Obligation (Asset) at Beginning of Year [VIII.]	14,044,303	0	91,585	85,615	14,221,503
XXII. Increase (Decrease) in Net OPEB Obligations (Asset) [XVI. - XIX.]	108,717	0	<u>(7,547)</u>	20,066	121,236
XXIII. Net OPEB Obligation (Asset) at End of Year [XXI. + XXII.]	14,153,020	0	84,038	105,681	14,342,739

SECTION I
PRINCIPAL RESULTS OF THE VALUATION
(continued)

Town of Foxborough
Assuming Full Funding - 7.00% discount rate
Plan Liabilities as of June 30, 2017

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Water Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Government Activities	Business-Type Activities	Total
I. Present Value of Future Benefits								
A. Actives	2,783,322	19,028,321	3,731,791	618,005	149,554	25,543,434	767,559	26,310,993
B. Retirees/Disabled	2,234,923	9,846,737	1,510,282	326,513	0	13,591,942	326,513	13,918,455
C. Total	5,018,245	28,875,058	5,242,073	944,518	149,554	39,135,376	1,094,072	40,229,448
II. Present Value of Future Normal Cost	858,686	4,762,094	1,019,559	78,813	57,954	6,640,339	136,767	6,777,106
III. Actuarial Accrued Liability (Individual Entry Age Normal)								
A. Actives	1,924,636	14,266,227	2,712,232	539,192	91,600	18,903,095	630,792	19,533,887
B. Retirees/Disabled	2,234,923	9,846,737	1,510,282	326,513	0	13,591,942	326,513	13,918,455
C. Total	4,159,559	24,112,964	4,222,514	865,705	91,600	32,495,037	957,305	33,452,342
IV. Plan Assets	857,607	4,963,501	869,686	178,292	18,991	6,690,794	197,283	6,888,077
V. Unfunded Actuarial Accrued Liability ("UAAL") [III. - IV.]	3,301,952	19,149,463	3,352,828	687,413	72,609	25,804,243	760,022	26,564,265
VI. Annual Covered Payroll	5,092,663	28,844,633	5,369,304	944,194	308,711	39,306,599	1,252,904	40,559,503
VII. UAAL as % of Covered Payroll	64.8%	66.4%	62.4%	72.8%	23.5%	193.6%	96.3%	65.5%
VIII. Net OPEB Obligation (Asset) @ Beginning of Fiscal Year	2,104,269	10,370,684	1,483,359	174,869	88,322	13,958,312	263,191	14,221,503
IX. Number of Eligible Participants								
A. Actives	82	470	68	14	4	620	18	638
B. Retirees/Disabled	59	259	29	5	0	347	5	352
C. Total	141	729	97	19	4	967	23	990
For Fiscal Year Ending June 30, 2017								
X. Normal Cost	116,662	676,218	110,424	12,242	8,343	903,304	20,585	923,889
XI. Amortization of UAAL - 30 year increase 4.00% per yr	386,197	2,238,786	392,042	80,377	8,505	3,017,025	88,882	3,105,907
XII. Annual Required Contribution ("ARC") [X. + XI.]	502,859	2,915,004	502,466	92,619	16,848	3,920,329	109,467	4,029,796
XIII. Interest on Net OPEB Obligation (Asset)	147,300	725,948	103,835	12,241	6,182	977,083	18,423	995,506
XIV. Adjustment to Annual Required Contribution	(158,482)	(781,062)	(111,718)	(13,170)	(6,652)	(1,051,262)	(19,822)	(1,071,084)
XV. Amortization of Actuarial (Gains) / Losses	(197,307)	(1,143,788)	(200,293)	(41,064)	(4,345)	(1,541,388)	(45,409)	(1,586,797)
XVI. Annual OPEB Expense [XII. + XIII. + XIV. + XV.]	294,370	1,716,102	294,290	50,626	12,033	2,304,762	62,659	2,367,421
XVII. Employer Share of Costs	191,694	1,023,344	127,558	39,093	427	1,342,596	39,520	1,382,116
XVIII. Employer Payments (Withdrawals) to/from OPEB Trust	106,615	590,058	103,327	51,256	12,813	800,000	64,069	864,069
XIX. Total Employer Contribution [XVII. + XVIII.]	298,309	1,613,402	230,885	90,349	13,240	2,142,596	103,589	2,246,185
XX. Percentage of Annual OPEB Expense Contributed	65.1%	59.6%	43.3%	77.2%	3.5%	#NAME?	63.1%	58.4%
XXI. Net OPEB Obligation (Asset) at Beginning of Year [VIII.]	2,104,269	10,370,684	1,483,359	174,869	88,322	13,958,312	263,191	14,221,503
XXII. Increase (Decrease) in Net OPEB Obligations (Asset) [XVI. - XIX.]	(3,939)	102,700	63,405	(39,723)	(1,207)	162,166	(40,930)	121,236
XXIII. Net OPEB Obligation (Asset) at End of Year [XXI. + XXII.]	2,100,330	10,473,384	1,546,764	135,146	87,115	14,120,478	222,261	14,342,739

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Foxborough
Detail of Plan Liabilities by Group and Dependency Status
Assuming Full Funding - 7.00% discount rate
Plan Liabilities as of June 30, 2017

	<u>Present Value of Future Benefits</u>	<u>Actuarial Accrued Liability (Individual Entry Age Normal)</u>	<u>Normal Cost</u>
Actives			
Under Age 65			
A. Participants	6,931,636	5,211,527	226,792
B. Spouses	<u>3,339,169</u>	<u>2,500,472</u>	<u>107,658</u>
C. Total	10,270,805	7,711,999	334,450
Age 65 and Over			
A. Participants	10,355,448	7,639,038	379,236
B. Spouses	<u>5,684,740</u>	<u>4,182,850</u>	<u>210,203</u>
C. Total	16,040,188	11,821,888	589,439
Actives Total			
A. Participants	17,287,084	12,850,565	606,028
B. Spouses	<u>9,023,909</u>	<u>6,683,322</u>	<u>317,861</u>
C. Total	26,310,993	19,533,887	923,889
Retirees/Disabled			
Under Age 65			
A. Participants	1,261,335	1,261,335	0
B. Spouses	<u>294,381</u>	<u>294,381</u>	<u>0</u>
C. Total	1,555,716	1,555,716	0
Age 65 and Over			
A. Participants	11,841,732	11,841,732	<u>0</u>
B. Spouses	<u>521,007</u>	<u>521,007</u>	<u>0</u>
C. Total	12,362,739	12,362,739	0
Retirees/Disabled Total			
A. Participants	13,103,067	13,103,067	0
B. Spouses	<u>815,388</u>	<u>815,388</u>	<u>0</u>
C. Total	13,918,455	13,918,455	0
Total Population			
A. Participants	30,390,151	25,953,632	606,028
B. Spouses	<u>9,839,297</u>	<u>7,498,710</u>	<u>317,861</u>
C. Total	40,229,448	33,452,342	923,889

Overview of GASB 43 and 45

GASB 43 requires retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 43 only applies in situations where a separate trust is established to prefund these benefits. GASB 45 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 43 and 45 apply to those benefits provided after retirement except for pension benefits such as medical insurance, dental and life insurance. The philosophy behind the accounting standard is that these post-employment 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 43 and 45 extend this practice to all other post-employment benefits.

Overview of GASB 43 and 45

(continued)

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 post-employment benefits and when will they start?

Medical inflation and claims cost assumptions: When an employee starts receiving post-employment 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 "Accrued Liability" or "Past Service Liability"), the part that is being earned this year (the "Normal Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Normal Cost have been calculated, the next step is to determine an annual contribution. This consists of two pieces:

- ✓ Normal Cost – because the benefits earned each year should be paid for each year
- ✓ Past Service Cost – a catch-up payment to fund the Accrued Liability over the next 10-30 years

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 Obligation. If you decide to fully fund the OPEB obligation 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.

Commentary on Plan Experience and Contribution Amounts

1. GASB 45 – How we got here:

The Plan adopted and implemented GASB 45 (“Accounting and Financial Reporting by Employers for Postemployment Benefits other than Pensions”) effective for the fiscal year ending June 30, 2009. GASB 45 is designed to recognize the Other Postemployment Benefits (“OPEB”) earned by employees throughout their working career vs. when they are actually paid in retirement – accrual accounting vs. “pay-as-you-go” accounting. When GASB 45 was adopted, there was an Unfunded Actuarial Accrued Liability (“UAAL”) or “past service liability” which reflected all benefits earned until the date of such adoption. To smooth the impact of transitioning to GASB 45 on your financial statement, the UAAL was amortized over a 30 year period using a flat dollar amortization. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a “Normal 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.

2. Summary of Results:

During the fiscal year ending June 30, 2017, the Plan saw an experience loss of \$564,826 or 2.17%. Plan experience was in line with expectation. The experience loss was mainly due to the inclusion of updated retirement rates for teachers (teachers tend to retire earlier than general government employees increasing disclosed liabilities). The actuarial experience loss is amortized into the annual OPEB costs over a 30-year period. The net impact of plan experience is an increase in the annual OPEB cost.

Commentary on Plan Experience and Contribution Amounts
(continued)

3. **Balance Sheet Items**

	June 30, 2017	June 30, 2015
Actuarial Accrued Liability	\$33,452,342	\$27,252,386
Plan Assets	\$6,888,077	\$4,578,158
Unfunded Actuarial Accrued Liability	\$26,564,265	\$22,674,228
Funded %	20.59%	16.80%
Net OPEB Obligation	\$14,221,503	\$14,510,965

4. **Income Statement Items**

	June 30, 2017	June 30, 2015
Normal Cost	\$923,889	\$994,399
Amortization of UAAL	\$3,105,907	\$2,871,586
Interest on Net OPEB Obligation	\$995,506	\$1,015,766
Adjustment to Annual Required Contribution	\$(1,071,084)	\$(1,092,883)
Amortization of Actuarial (Gains)/Losses	\$(1,586,797)	\$(2,107,907)
Annual OPEB Expense	\$2,367,421	\$1,680,961
Employer Share of Costs Employer Contributions/(Withdrawals) to/from OPEB Trust	\$1,382,116	\$1,138,855
Total Employer Contribution	\$864,069	\$664,069
Discount Rate	\$2,246,185	\$1,802,924
	7.00%	7.00%

Commentary on Plan Experience and Contribution Amounts
(continued)

5. **Implicit Subsidy:**

The implicit subsidy arises because pre-Medicare retirees 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 actually 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.

Valuation Date	<u>June 30, 2017</u>	<u>June 30, 2015</u>
Liability		
I. Actuarial Accrued Liability	33,452,342	27,252,386
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>29,895,693</u>	N/A
III. Liability from Implicit Subsidy [I. - II.]	3,556,649	N/A
	<u>June 30, 2017</u>	<u>June 30, 2015</u>
For Fiscal Year Ending		
Payments		
IV. Employer Payments (Including Implicit Subsidy)	1,382,116	1,138,855
V. Actual Employer Payments	<u>1,207,989</u>	N/A
VI. Implicit Subsidy [IV. - V.]	174,127	N/A

6. **GASB 75 – Where we’re going:**

The Governmental Accounting Standards Board (“GASB”) issued GASB 75 “*Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*” on June 2, 2015 which will become effective for your 2018 fiscal year. This standard largely mirrors the GASB 68 standard for pension plans. The new standards require increased disclosures and will tie interest rates used in the valuation to the plan’s underlying investment and funding policy. This may increase the pressure on many entities to begin funding their OPEB liabilities. For more information, please review our white papers at www.GASB75.com or on our website.

SECTION IISUMMARY OF PLAN PROVISIONS

<u>Effective Date</u>	July 1, 2008; GASB 45 is adopted.
<u>Plan Year</u>	July 1 through June 30.
<u>Eligibility</u>	An employee hired before April 2, 2012 shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service or an employee shall be able to retire with 20 years of service regardless of age. Those hired on or after April 2, 2012 shall be eligible to retire upon attainment of age 60 with 10 years of creditable service.
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Participant Contributions</u>	Retirees shall pay 50% of stated premiums for medical insurance and 50% of stated premiums for life insurance and 100% of premiums for dental insurance. Surviving Spouses will pay 100% of premiums for Medical Insurance.
<u>Benefits Offered</u>	Various Medical offerings via Blue Cross Blue Shield of Massachusetts as well as Group Term Life Insurance.
<u>Normal Retirement Date</u>	The normal retirement date is the first day of the month following a participant's 65th birthday.
<u>Early Retirement</u>	Early retirement is available for any participant who has attained benefit eligibility.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

A. ACTUARIAL COST METHOD

The actuarial cost method used to calculate the costs and liabilities of the plan is the Individual Entry Age Normal Actuarial Cost Method. Under this method, the annual normal 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 normal cost for each active member is a level percent of payroll. The actuarial accrued liability is the actuarial present value of the projected benefit times the ratio of past service to expected total service at retirement/termination.

Actuarial gains and losses are calculated each year and amortized over a 30 year period.

All employees who are plan participants on the valuation date are included in the actuarial valuation.

B. ASSET VALUATION METHOD

The actuarial value of assets is equal to the Market Value of the Plan's assets as of the valuation date.

SECTION IIIACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS

We used the following assumptions in this year's actuarial valuation:

Pre-Retirement Mortality

It is assumed that pre-retirement mortality is represented by the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females.

Post-Retirement Mortality

It is assumed that post-retirement mortality is represented by the RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females.

Disabled Mortality

It is assumed that disabled mortality is represented by the RP-2000 Healthy Annuitant Table projected generationally with Scale BB and a base year 2012 for males and females.

Discount Rate

7.00% per annum (previously 7.00%)

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

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

Public Safety Employees		
<u>Service</u>	<u>Male</u>	<u>Female</u>
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%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Retirement Rates for non-teachers

It was assumed that the following percentage of eligible employees would retire each year:

<u>Age</u>	<u>Male Non Public Safety</u>	<u>Female Non Public Safety</u>	<u>Public Safety</u>
45	0.00%	0.00%	1.00%
46	0.00%	0.00%	1.00%
47	0.00%	0.00%	1.00%
48	0.00%	0.00%	1.00%
49	0.00%	0.00%	1.00%
50	1.00%	1.50%	2.00%
51	1.00%	1.50%	2.00%
52	1.00%	2.50%	2.00%
53	1.00%	2.50%	5.00%
54	2.00%	2.50%	7.50%
55	2.00%	5.50%	15.00%
56	2.50%	6.50%	10.00%
57	2.50%	6.50%	10.00%
58	5.00%	6.50%	10.00%
59	6.50%	6.50%	15.00%
60	12.00%	5.00%	20.00%
61	20.00%	13.00%	20.00%
62	30.00%	15.00%	25.00%
63	25.00%	12.50%	25.00%
64	22.00%	18.00%	30.00%
65	40.00%	15.00%	100.00%
66	25.00%	20.00%	100.00%
67	25.00%	20.00%	100.00%
68	30.00%	25.00%	100.00%
69	30.00%	20.00%	100.00%
70	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Retirement Rates for teachers

It was assumed that the following percentage of eligible employees would retire each year:

<u>Age</u>	<u>Male Teachers</u>	<u>Female Teachers</u>
45	0.00%	0.00%
46	0.00%	0.00%
47	0.00%	0.00%
48	0.00%	0.00%
49	0.00%	0.00%
50	2.00%	1.50%
51	2.00%	1.50%
52	2.00%	1.50%
53	2.00%	1.50%
54	2.00%	2.00%
55	6.00%	5.00%
56	20.00%	15.00%
57	40.00%	35.00%
58	50.00%	35.00%
59	50.00%	35.00%
60	40.00%	35.00%
61	40.00%	35.00%
62	35.00%	35.00%
63	35.00%	35.00%
64	35.00%	35.00%
65	35.00%	35.00%
66	40.00%	35.00%
67	40.00%	30.00%
68	40.00%	30.00%
69	40.00%	30.00%
70	100.00%	100.00%
71	100.00%	100.00%
72	100.00%	100.00%

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

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Disability rates

It was assumed that the following percentage of eligible employees would become permanently disabled each year:

<u>Age</u>	<u>Standard</u>	<u>Teachers</u>	<u>Public Safety</u>
20	0.01%	0.05%	0.20%
25	0.01%	0.06%	0.20%
30	0.01%	0.07%	0.21%
35	0.03%	0.10%	0.40%
40	0.07%	0.21%	0.71%
45	0.10%	0.30%	1.00%
50	0.13%	0.42%	1.10%
55	0.14%	0.50%	0.80%
60	0.12%	0.50%	0.80%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Healthcare Trend

It was assumed that healthcare costs would increase in accordance with the trend rates in the following table:

<u>Year</u>	<u>Medical</u>	<u>Dental</u>
FY 2013	6.0%	5.5%
FY 2014	5.0%	5.0%
FY 2015	5.0%	5.0%
FY 2016	5.0%	5.0%
FY 2017	5.0%	5.0%
FY 2018	5.0%	5.0%
FY 2019	5.0%	5.0%
FY 2020+	5.0%	5.0%

Participation Rate

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

Percent Married

It was assumed that 80% of male participants and 70% of female participants who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement. It was further assumed that a male spouse is three years older than a female spouse and same sex spouses are assumed to be the same age. For current retirees, the actual census information was used.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Compensation Increases

3.00% per year.

Open Group Forecast

It was assumed for projecting plan liabilities in future years that the active population would remain unchanged and that those who terminate employment or retire will be replaced with new employees with the demographics below:

Open Group Forecast Population Demographics

<u>Age</u>	<u>Male</u>	<u>Female</u>
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 values in this report reflect a closed group and do not reflect any new entrants after the valuation date.

For purposes of this valuation, retiree contributions were assumed to increase with the same trend rate as health care claims.

Medicare Part B Penalties are not reflected

Medicare Part B Reimbursement is not reflected

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

As part of the Other Post-Employment Benefits Program, there are situations where the cost is borne partly or entirely on the retirees. In most cases, the premium that is used to split the cost is lower than the true cost of providing the medical benefits, for two reasons:

- ✓ The cost sharing program is usually a fixed amount such as a COBRA premium that does not take into account the age of the retiree and his/her dependents. Since medical costs generally increase with age, the cost sharing premium is often lower than the true cost of the medical benefits:
- ✓ The cost sharing premium is usually a blended rate that takes into account the cost of medical benefits for active employees as well as retirees. Medical costs are generally higher for retirees than for active employees of the same age. This means that, again, the cost sharing premium is often lower than the true cost of the medical benefits.

Because of these two factors, a retiree who is paying 100% of the cost sharing premium is most likely not paying 100% of the true cost of the medical benefits. This situation is known as an "implicit subsidy". GASB 43 and 45 require the plan sponsor to measure the liability for this subsidy; that is, the difference between the true cost of the medical benefits and the cost sharing premiums paid by the retiree. To do this, our valuation consists of several steps:

First, we calculate the liability for the true cost of medical benefits expected to be received by retirees and their dependents. This liability is based factors developed by actuaries that reflect how the cost of medical benefits varies by age and gender, as well as the other assumptions discussed on the prior page.

Next, we calculate the liability for the future premiums expected to be paid by the retiree for their own and their dependents' coverage. This liability is based on the current premium rates without adjustment for age or gender. It also is based on the terms of the retiree medical program – different retirees pay different percentages based on their union, date of retirement, age at retirement, and other factors.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

I. CLAIMS COSTS DEVELOPMENT - Based on Active & Retiree Incurred Claims & Premiums

	Number of Participants			
	Single	Two-Person	Family	Total
Network Blue HMO	166		298	464
Blue Care Elect PPO	8		5	13
Managed Blue for Seniors	16			16
Medex II	260			260
Total	450	0	303	753

	Per Contract Costs (monthly) - FY 2018		
	Single	Two-Person	Family
Network Blue HMO	766.00	0.00	1,980.56
Blue Care Elect PPO	934.78	0.00	2,416.70
Managed Blue for Seniors	307.77	615.54	
Medex II	391.84	783.68	

Gross Expected FY 2018 Incurred Premiums	10,124,728
Adjustment to reflect children's claims	(1,636,879)
Total Expected FY 2018 Incurred Premiums (adults only)	8,487,849

II. PRE-65 AND POST-65 PER CAPITA RETIREE ANNUAL CLAIM COSTS

	Employer Primary	Medicare Primary
Age 65	12,790	3,891
Average Age	12,215	4,644

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD
AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

III. BREAKDOWN OF CLAIM COSTS

8,487,849 Active and Retired Claims (No Children)

ALL ACTIVE EMPLOYEES AND SPOUSES

Age Bracket	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
24 & Under	1.312	0.549	7,847	3,284	3,284
25 to 29	1.312	0.591	7,847	3,535	177,373
30 to 34	1.312	0.712	7,847	4,258	450,136
35 to 39	1.312	0.850	7,847	5,084	585,542
40 to 44	1.312	1.000	7,847	5,981	563,216
45 to 49	1.456	1.193	8,708	7,135	697,092
50 to 54	1.599	1.441	9,564	8,619	915,765
55 to 59	1.740	1.753	10,407	10,485	992,331
60 to 64	1.968	2.102	11,771	12,572	1,151,086
65 to 69	2.168	2.316	12,967	13,852	675,785
70 & Over	2.396	2.557	14,330	15,293	<u>88,869</u>
Total					6,300,479

ALL RETIREES AND SPOUSES - NOT MEDICARE ELIGIBLE

Age Bracket	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
44 & Under	1.312	1.000	7,847	5,981	7,847
45 to 49	1.456	1.193	8,708	7,135	15,843
50 to 54	1.599	1.441	9,564	8,619	46,875
55 to 59	1.740	1.753	10,407	10,485	62,598
60 to 64	1.968	2.102	11,771	12,572	531,541
65 to 69	2.168	2.316	12,967	13,852	39,786
70 to 74	2.396	2.557	14,330	15,293	87,906
75 to 79	2.593	2.769	15,509	16,561	47,579
80 to 84	2.724	2.910	16,292	17,405	16,292
85 to 89	2.864	3.059	17,130	18,296	35,426
90 & Over	3.010	3.215	18,003	19,229	<u>0</u>
Total					891,693

ALL RETIREES AND SPOUSES - MEDICARE ELIGIBLE

Age Bracket	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
65 to 69	2.168	2.316	3,944	4,214	291,798
70 to 74	2.396	2.557	4,359	4,652	372,638
75 to 79	2.593	2.769	4,718	5,038	283,244
80 to 84	2.724	2.910	4,956	5,294	183,148
85 to 89	2.864	3.059	5,211	5,566	91,427
90 & Over	3.010	3.215	5,476	5,849	<u>73,426</u>
Total					1,295,681

Grand Totals 8,487,853

EXHIBIT A

Financial Statement Disclosure (As of June 30, 2017)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions require the following disclosures in the financial statements with regard to the retiree medical and life insurance benefits;

1. A DESCRIPTION OF THE RETIREE MEDICAL INSURANCE PROGRAM:

- a. Plan Type: Comprehensive Medical & Medicare Supplement coverages through Blue Cross Blue Shield of Massachusetts.
- b. Administrator: Town of Foxborough
- c. Eligibility: An employee hired before April 2, 2012 shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service or an employee shall be able to retire with 20 years of service regardless of age. Those hired on or after April 2, 2012 shall be eligible to retire upon attainment of age 60 with 10 years of creditable service.
- d. Cost Sharing: Retirees will pay 50% of premiums, Surviving Spouses will pay 100% of premiums.

2. A DESCRIPTION OF THE RETIREE DENTAL INSURANCE PROGRAM:

- a. Plan Type: Comprehensive Dental Insurance
- b. Administrator: Town of Foxborough
- c. Eligibility: Same as above
- d. Cost sharing: Retirees shall pay 100% of premiums.

3. A DESCRIPTION OF THE RETIREE LIFE INSURANCE PROGRAM:

- a. Plan Type: Group Term Life Insurance - \$3,000
- b. Administrator: Town of Foxborough
- c. Eligibility: Same as above
- d. Cost sharing: Employees will pay 50% of premiums in retirement.

EXHIBIT A

Financial Statement Disclosure

(As of June 30, 2017)

(continued)

4. RETIREE MEDICAL AND LIFE INSURANCE CONTRIBUTIONS:

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

5. FUNDING POLICY

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the 2017 fiscal year, total Town premiums plus implicit costs for the retiree medical program are \$1,382,116. The Town is also projected to make a contribution to an OPEB Trust of \$864,069 for the 2017 fiscal year for a total contribution of \$2,246,185 .

EXHIBIT A

Financial Statement Disclosure

(As of June 30, 2017)

(continued)

6. ANNUAL OPEB COST AND NET OPEB OBLIGATION

The Town's annual other postemployment benefit ("OPEB") cost (expense) is calculated based on the annual required contribution of the employer ("ARC"), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty (30) years. The following table shows the components of the Town's annual OPEB costs for the fiscal year, the amount actually contributed to the plan and changes in the Town's net OPEB obligation to the plan:

Annual Required Contribution	\$4,029,796
Interest on Net OPEB Obligation (Asset)	\$995,506
Adjustment to annual required contribution	(\$1,071,084)
Amortization of Actuarial (Gains) / Losses	(\$1,586,797)
Annual OPEB expense	\$2,367,421
Contributions made to pay benefits	\$1,382,116
Contributions made to OPEB Trust	\$864,069
Increase (Decrease) in net OPEB Obligation (Asset)	\$121,236
Net OPEB Obligation (Asset) – beginning of year	\$14,221,503
Net OPEB Obligation (Asset) – end of year	\$14,342,739

EXHIBIT A

Financial Statement Disclosure

(As of June 30, 2017)

(continued)

The Town's annual OPEB cost, the percentage of the annual OPEB cost contributed to the plan, and the net OPEB obligation for the 2017 fiscal year and the three preceding years were as follows:

Fiscal Year Ended	Annual OPEB Cost	Expected Employer Payments	Percentage of OPEB Cost Contributed	Increase (Decrease) in Net OPEB Obligation (Asset)	Net OPEB Obligation (Asset)
06/30/2019 (est.)	\$2,773,850	\$2,650,357	95.5%	\$123,493	\$14,570,952
06/30/2018 (est.)	\$2,575,251	\$2,470,531	95.9%	\$104,720	\$14,447,459
06/30/2017	\$2,367,421	\$2,246,185	94.9%	\$121,236	\$14,342,739
06/30/2016	\$1,849,734	\$2,017,233	109.1%	(\$167,499)	\$14,221,503
06/30/2015	\$1,680,961	\$1,802,924	107.3%	(\$121,963)	\$14,389,002
06/30/2014	\$2,680,368	\$1,891,922	70.6%	\$788,446	\$14,510,965

Schedule of Funding Progress:

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
06/30/2019 (est.)	\$9,950,448	\$37,231,969	\$27,281,521	26.7%	\$43,029,577	63.4%
06/30/2018 (est.)	\$8,367,483	\$35,352,895	\$26,985,412	23.7%	\$41,776,288	64.6%
06/30/2017	\$6,888,077	\$33,452,342	\$26,564,265	20.6%	\$40,559,503	65.5%
06/30/2016	\$5,503,017	\$29,005,480	\$23,502,463	19.0%	\$37,684,230	62.4%
06/30/2015	\$4,620,298	\$27,252,386	\$22,632,088	17.0%	\$36,586,631	61.9%
06/30/2014	\$3,797,658	\$36,092,116	\$32,294,458	10.5%	\$35,821,857	90.2%

EXHIBIT A

Financial Statement Disclosure
(As of June 30, 2017)
(continued)

	Fiscal Year Ending June 30, 2017							
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Water Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Government Activities	Business-Type Activities	Total
OPEB Obligation (Asset) at beginning of year	2,104,269	10,370,684	1,483,359	174,869	88,322	13,958,312	263,191	14,221,503
Annual Required Contribution	502,859	2,915,004	502,466	92,619	16,848	3,920,329	109,467	4,029,796
Interest on Net OPEB Obligation	147,300	725,948	103,835	12,241	6,182	977,083	18,423	995,506
Adjustment to the ARC	(158,482)	(781,062)	(111,718)	(13,170)	(6,652)	(1,051,262)	(19,822)	(1,071,084)
Amortization of Actuarial (Gains)/Losses	(197,307)	(1,143,788)	(200,293)	(41,064)	(4,345)	(1,541,388)	(45,409)	(1,586,797)
Annual OPEB Cost	294,370	1,716,102	294,290	50,626	12,033	2,304,762	62,659	2,367,421
Expected Employer Contribution	191,694	1,023,344	127,558	39,093	427	1,342,596	39,520	1,382,116
Contribution (Withdrawal) to/from Trust Fund over 30 Years	106,615	590,058	103,327	51,256	12,813	800,000	64,069	864,069
Total Expected Employer Payments	298,309	1,613,402	230,885	90,349	13,240	2,142,596	103,589	2,246,185
Increase (Decrease) in OPEB Obligation (Asset)	(3,939)	102,700	63,405	(39,723)	(1,207)	162,166	(40,930)	121,236
OPEB Obligation (Asset) at end of year	2,100,330	10,473,384	1,546,764	135,146	87,115	14,120,478	222,261	14,342,739
AAL as of June 30, 2017	4,159,559	24,112,964	4,222,514	865,705	91,600	32,495,037	957,305	33,452,342
Plan Assets as of June 30, 2017	857,607	4,963,501	869,686	178,292	18,991	6,690,794	197,283	6,888,077
Unfunded Actuarial Liability as of June 30, 2017	3,301,952	19,149,463	3,352,828	687,413	72,609	25,804,243	760,022	26,564,265

EXHIBIT AFinancial Statement Disclosure

(As of June 30, 2017)

(continued)

7. FUNDED STATUS AND FUNDING PROGRESS

As of June 30, 2017, the most recent valuation date, the plan was 20.59% funded. The actuarial liability for benefits was \$33,452,342, and the actuarial value of assets was \$6,888,077, resulting in an unfunded actuarial accrued liability (UAAL) of \$26,564,265. The covered payroll (annual payroll of active employees covered by the plan) was \$ 40,559,503 and the ratio of the UAAL to the covered payroll was 65.5%.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contribution of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented in the required supplementary information following the financial statements, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

8. EFFECT OF 1% CHANGE IN HEALTHCARE TREND RATES

In the event that healthcare trend rates were 1% higher than forecast and employee contributions were to increase at the forecast rates, the Actuarial Accrued Liability would increase to \$43,969,885 or by 31.4% and the corresponding Normal Cost would increase to \$1,447,996 or by 56.7%. If such healthcare trend rates were 1% less than forecast and employee contributions were to increase at the forecast rate, the Actuarial Accrued Liability would decrease to \$25,400,014 or by 24.1% and the corresponding Normal Cost would decrease to \$563,093 or by 39.1%.

EXHIBIT A

Financial Statement Disclosure

(As of June 30, 2017)

(continued)

9. ACTUARIAL METHODS AND ASSUMPTIONS

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Actuarial Cost Method: Individual Entry Age Normal
 Investment Rate of Return: 7.00% per annum (previously 7.00%)
 Healthcare Trend Rates

<u>Year</u>	<u>Medical</u>	<u>Dental</u>
FY 2013	6.0%	5.5%
FY 2014	5.0%	5.0%
FY 2015	5.0%	5.0%
FY 2016	5.0%	5.0%
FY 2017	5.0%	5.0%
FY 2018	5.0%	5.0%
FY 2019	5.0%	5.0%
FY 2020+	5.0%	5.0%

General Inflation Assumption: 2.75% per annum
 Annual Compensation Increases: 3.00% per annum
 Actuarial Value of Assets: Market Value
 Amortization of UAAL: Amortized increasing at 4.00% per year
 over 30 years at transition
 Remaining Amortization Period: 22 years at June 30, 2017

EXHIBIT A

Financial Statement Disclosure

(As of June 30, 2017)

(continued)

10. Remaining Amortization Bases

The initial Actuarial Accrued Liability as of the date GASB 45 was adopted is amortized as a component of the Annual Required Contribution ("ARC"). The Unfunded Actuarial Accrued Liability was amortized beginning in 2008 over a 30 year period with amortization payments increasing at 4.00% per year. For years subsequent to the initial adoption of GASB 45, cumulative gains/losses are amortized on a level dollar basis over a 30 year period. Gains and losses arise from experience and contribution deficiencies and excess contributions in relation to each year's ARC under GASB 45.

Changes in Unfunded Actuarial Liability Since Prior Valuation

Expected Unfunded Actuarial Liability

1. Actuarial Accrued Liability at prior valuation date	27,252,386
2. Actuarial Value of Assets at prior valuation date	<u>4,578,158</u>
3. Unfunded Actuarial Accrued Liability at prior valuation date [1. - 2.]	22,674,228
4. Normal Cost for prior periods	1,988,798
5. Employer Contributions for prior periods	(3,820,157)
6. Interest to current valuation date	<u>3,237,201</u>
7. Expected Unfunded Actuarial Accrued Liability before assumption changes [3. + 4. + 5. + 6.]	24,080,070

Net Actuarial (Gain) / Loss due to assumption changes

8. Actuarial Cost Method Change	N/A
9. Interest Rate Change	N/A
10. Mortality Assumption Change	<u>1,919,369</u>
11. Expected Unfunded Actuarial Accrued Liability including assumption changes [7. + 8. + 9. + 10.]	25,999,439

Actual Unfunded Actuarial Liability

12. Actuarial Accrued Liability at current valuation date	33,452,342
13. Actuarial Value of Assets at current valuation date	<u>6,888,077</u>
14. Unfunded Actuarial Accrued Liability at current valuation date [12. - 13.]	26,564,265

Net Actuarial (Gain) / Loss from Plan Experience [14. - 11.] 564,826

15. Unfunded Actuarial Accrued Liability at current valuation date [14.]	26,564,265
16. Remaining Initial Unfunded to be amortized	<u>47,633,256</u>
17. Actuarial (Gain) / Loss to be amortized: [15. - 16.]	(21,068,991)

EXHIBIT A

Financial Statement Disclosure

(As of June 30, 2017)

(continued)

10. Remaining Amortization Bases (Continued)

Amortization of Initial Unfunded and Plan Experience under GASB 45						
Date Established	Description	Initial Amount	Initial Amortization Period	Remaining Balance at Valuation Date	Remaining Amortization Period	Annual Amortization Payment
July 1, 2008	GASB 45 Liability	62,192,355	30	47,633,256	22	3,105,907
June 30, 2017	Cumulative (Gain) / Loss	(21,068,991)	30	(21,068,991)	30	(1,586,797)
June 30, 2017	Adjustment to ARC	(14,221,503)	30	(14,221,503)	30	(1,071,084)

11. Recognition of OPEB trust assets

The State of Massachusetts has recently passed legislation allowing municipal entities to establish a trust for Other Postemployment Benefits (“OPEB”) under M.G.L. Chapter 32B, Section 20 for purposes of accumulating assets to pre-fund the liabilities under GASB 45. To the best of our knowledge, Town of Foxborough has established an irrevocable trust for the purposes of prefunding liabilities under GASB 45.

EXHIBIT AFinancial Statement Disclosure

(As of June 30, 2017)

(continued)

12. Impact of Patient Protection and Affordable Care Act ("PPACA") Excise Tax

Under the Patient Protection and Affordable Care Act ("PPACA"), an excise tax will be imposed for tax years beginning after December 31, 2019 (formerly December 31, 2017, but amended by Consolidated Appropriations Act) for high cost employer sponsored health coverage. The law specifies a 40% excise tax, to be paid by the provider of such coverage, of the excess value beyond a basic dollar amount plus an additional "kicker" for qualified retirees or those engaged in a high risk profession. The projected 2020 threshold amounts are \$11,850 for single coverage and \$30,950 for family coverage and a "kicker" amount of \$1,650 for single coverage and \$3,450 for family coverage.

The excise tax liability will vary significantly over time as it is highly leveraged with the basic threshold amount increased with general CPI and medical costs increasing with medical trend (generally higher). For purposes of the fiscal year ending June 30, 2017, the AAL for the excise tax is \$201,386 and the increase in annual OPEB Cost is \$25,268. Given your premiums through the 2018 fiscal year and the excise tax threshold, your average single premiums are \$5,719 below the excise tax threshold and your average family premiums are \$8,233 below the excise tax threshold. As more regulatory guidance becomes available, the calculation of the excise tax liability will evolve.

EXHIBIT B

Reconciliation of Plan Participation
(As of June 30, 2017)

ACTIVE EMPLOYEES

	<u>June 30, 2017</u>	<u>June 30, 2015</u>
A. Average Age at Hire	36.80	37.78
B. Average Service	<u>10.75</u>	<u>10.16</u>
C. Average Current Age	47.55	47.94

RETIRED EMPLOYEES & DEPENDENTS

	<u>June 30, 2017</u>	<u>June 30, 2015</u>
I. Retirees		
A. Under Age 65	46	36
B. Age 65 & Over	<u>287</u>	<u>277</u>
C. Total Retirees	333	313
II. Dependents of Retirees		
A. Under Age 65	12	9
B. Age 65 & Over	<u>7</u>	<u>10</u>
C. Total Retirees	19	19
III. Retirees & Dependents		
A. Under Age 65	58	45
B. Age 65 & Over	<u>294</u>	<u>287</u>
C. Total Retirees	352	332

EXHIBIT C

Projected Cash Flows (Open Group) – Full Funding Approach

Total Medical, Dental & Life Insurance - Full Funding - 7.00% discount rate											
Fiscal Year Ending	Valuation Date	I. Total Actuarial Accrued Liability ("AAL") as of Valuation Date	II. Plan Assets as of		IV. Funded Ratio [II. / I.]	V. OPEB Obligation (Asset) as of Fiscal year end	VI. Normal Cost	VII. Expected Annual OPEB Expense	VIII. Employer Share of Premiums / Claims	IX. Excess Employer Payments (beyond claims)	X. Total Employer Contribution [VIII. + IX.]
			Valuation Date with Expected 7.00% Return	III. Unfunded Accrued Actuarial Liability ("UAAAL") [I. - II.]							
June 30, 2017	June 30, 2017	33,452,342	6,888,077	26,564,265	20.59%	14,221,503	923,889	2,367,421	1,382,116	864,069	2,246,185
June 30, 2018	June 30, 2018	35,352,895	8,367,483	26,985,412	23.67%	14,342,739	998,997	2,575,251	1,506,462	964,069	2,470,531
June 30, 2019	June 30, 2019	37,231,969	9,950,448	27,281,521	26.73%	14,570,952	1,061,060	2,773,850	1,686,288	964,069	2,650,357
June 30, 2020	June 30, 2020	39,169,190	11,644,220	27,524,970	29.73%	14,750,104	1,121,058	2,976,866	1,833,645	964,069	2,797,714
June 30, 2021	June 30, 2021	41,148,413	13,456,556	27,691,857	32.70%	15,045,360	1,187,970	3,196,068	1,936,743	964,069	2,900,812
June 30, 2022	June 30, 2022	43,226,500	15,395,756	27,830,744	35.62%	15,499,607	1,252,125	3,426,229	2,007,913	964,069	2,971,982
June 30, 2023	June 30, 2023	45,441,779	17,470,700	27,971,079	38.45%	16,073,508	1,320,518	3,677,572	2,139,602	964,069	3,103,671
June 30, 2024	June 30, 2024	47,745,328	19,690,890	28,054,438	41.24%	16,753,871	1,386,201	3,940,626	2,296,195	964,069	3,260,264
June 30, 2025	June 30, 2025	50,099,059	22,066,493	28,032,566	44.05%	17,609,359	1,450,512	4,216,049	2,396,492	964,069	3,360,561
June 30, 2026	June 30, 2026	52,579,101	24,608,388	27,970,713	46.80%	18,585,825	1,520,649	4,516,097	2,575,562	964,069	3,539,631
June 30, 2027	June 30, 2027	55,083,774	27,328,216	27,755,558	49.61%	19,719,828	1,590,400	4,831,028	2,732,956	964,069	3,697,025
June 30, 2028	June 30, 2028	57,614,580	30,238,432	27,376,148	52.48%	21,074,179	1,661,229	5,165,137	2,846,717	964,069	3,810,786
June 30, 2029	June 30, 2029	60,300,353	33,352,363	26,947,990	55.31%	22,686,283	1,738,723	5,528,692	2,952,520	964,069	3,916,589
June 30, 2030	June 30, 2030	62,993,016	36,684,269	26,308,747	58.24%	24,505,196	1,819,988	5,921,710	3,138,728	964,069	4,102,797
June 30, 2031	June 30, 2031	65,945,485	41,862,522	24,082,963	63.48%	25,059,934	1,908,064	6,343,972	3,265,710	2,523,525	5,789,235
June 30, 2032	June 30, 2032	68,983,264	47,403,253	21,580,011	68.72%	25,811,634	1,997,021	6,686,897	3,411,672	2,523,525	5,935,197
June 30, 2033	June 30, 2033	71,940,978	53,331,835	18,609,143	74.13%	26,746,155	2,086,941	7,053,178	3,595,132	2,523,525	6,118,657
June 30, 2034	June 30, 2034	75,165,170	59,675,418	15,489,752	79.39%	27,925,757	2,189,996	7,454,341	3,751,214	2,523,525	6,274,739
June 30, 2035	June 30, 2035	78,593,220	66,463,052	12,130,168	84.57%	29,358,464	2,295,665	7,884,583	3,928,351	2,523,525	6,451,876
June 30, 2036	June 30, 2036	82,116,034	73,725,820	8,390,214	89.78%	31,065,361	2,406,585	8,347,473	4,117,051	2,523,525	6,640,576
June 30, 2037	June 30, 2037	85,816,218	81,496,982	4,319,236	94.97%	33,105,196	2,523,256	8,845,374	4,282,014	2,523,525	6,805,539
June 30, 2038	June 30, 2038	89,812,125	89,812,125	0	100.00%	35,493,646	2,645,608	9,382,732	4,470,756	2,523,525	6,994,281
June 30, 2039	June 30, 2039	93,979,357	96,098,974	(2,119,617)	102.26%	33,327,250	2,776,868	2,603,542	4,769,938	0	4,769,938
June 30, 2040	June 30, 2040	98,226,409	100,633,353	(2,406,944)	102.45%	33,007,098	2,916,953	2,593,048	5,032,816	(2,119,617)	2,913,199
June 30, 2041	June 30, 2041	102,754,931	105,187,925	(2,432,994)	102.37%	32,832,489	3,070,579	2,726,349	5,307,902	(2,406,944)	2,900,958
June 30, 2042	June 30, 2042	107,415,530	110,034,371	(2,618,841)	102.44%	32,503,587	3,232,536	2,878,129	5,640,025	(2,432,994)	3,207,031
June 30, 2043	June 30, 2043	112,236,634	115,027,827	(2,791,193)	102.49%	32,323,110	3,406,737	3,031,368	5,830,685	(2,618,841)	3,211,844
June 30, 2044	June 30, 2044	117,449,586	120,192,542	(2,742,956)	102.34%	32,276,766	3,593,523	3,207,568	6,045,105	(2,791,193)	3,253,912
June 30, 2045	June 30, 2045	123,004,008	125,768,684	(2,764,676)	102.25%	32,090,116	3,789,444	3,402,282	6,331,887	(2,742,956)	3,588,931
June 30, 2046	June 30, 2046	128,806,182	131,712,689	(2,906,507)	102.26%	31,875,572	3,996,495	3,598,816	6,578,035	(2,764,676)	3,813,359
June 30, 2047	June 30, 2047	134,963,093	137,926,063	(2,962,970)	102.20%	34,487,076	4,215,224	6,471,317	6,766,320	(2,906,507)	3,859,813
June 30, 2048	June 30, 2048	141,549,279	144,515,967	(2,966,688)	102.10%	37,315,467	4,442,566	6,888,134	7,022,713	(2,962,970)	4,059,743

EXHIBIT C

Projected Cash Flows (Open Group) – Full Funding Approach

Total Medical, Dental & Life Insurance - Full Funding

Fiscal Year	Number of Retirees, Spouses & Surviving Spouses	Total Actuarial Accrued Liability ("AAL")	Present Value at 2.75% of Total Actuarial Accrued Liability ("AAL")	Employer Share of Premiums / Claims including "implicit cost"	Present Value at 2.75% of Employer Share of Premiums / Claims including "implicit cost"
2017	352	33,452,342	33,452,342	1,382,116	1,382,116
2018	400	35,352,895	34,406,710	1,506,462	1,466,143
2019	427	37,231,969	35,265,687	1,686,288	1,597,232
2020	450	39,169,190	36,107,640	1,833,645	1,690,323
2021	471	41,148,413	36,916,946	1,936,743	1,737,579
2022	486	43,226,500	37,743,391	2,007,913	1,753,217
2023	499	45,441,779	38,615,738	2,139,602	1,818,202
2024	509	47,745,328	39,487,357	2,296,195	1,899,048
2025	519	50,099,059	40,325,051	2,396,492	1,928,952
2026	527	52,579,101	41,188,567	2,575,562	2,017,602
2027	534	55,083,774	41,995,754	2,732,956	2,083,600
2028	541	57,614,580	42,749,621	2,846,717	2,112,244
2029	546	60,300,353	43,544,959	2,952,520	2,132,116
2030	551	62,993,016	44,271,945	3,138,728	2,205,921
2031	553	65,945,485	45,106,532	3,265,710	2,233,737
2032	554	68,983,264	45,921,523	3,411,672	2,271,119
2033	554	71,940,978	46,608,706	3,595,132	2,329,193
2034	553	75,165,170	47,394,236	3,751,214	2,365,270
2035	553	78,593,220	48,229,430	3,928,351	2,410,668
2036	554	82,116,034	49,042,566	4,117,051	2,458,847
2037	553	85,816,218	49,880,725	4,282,014	2,488,923
2038	552	89,812,125	50,806,179	4,470,756	2,529,080
2039	551	93,979,357	51,740,688	4,769,938	2,626,107
2040	552	98,226,409	52,631,551	5,032,816	2,696,677
2041	553	102,754,931	53,584,445	5,307,902	2,767,955
2042	553	107,415,530	54,515,665	5,640,025	2,862,433
2043	554	112,236,634	55,437,934	5,830,685	2,879,997
2044	555	117,449,586	56,460,155	6,045,105	2,905,992
2045	556	123,004,008	57,547,705	6,331,887	2,962,388
2046	556	128,806,182	58,649,406	6,578,035	2,995,181
2047	556	134,963,093	59,808,114	6,766,320	2,998,456
2048	556	141,549,279	61,047,926	7,022,713	3,028,783
2049	556	148,568,067	62,360,113	7,331,916	3,077,506
2050	556	156,062,613	63,752,683	7,609,152	3,108,392
2051	557	164,129,114	65,253,436	7,912,047	3,145,623
2052	557	172,729,583	66,834,800	8,306,817	3,214,183
2053	558	181,852,146	68,481,384	8,687,470	3,271,504
2054	559	191,528,859	70,195,051	9,099,665	3,335,014
2055	559	201,822,492	71,987,983	9,554,345	3,407,935
2056	560	212,718,801	73,843,876	10,016,674	3,477,220

EXHIBIT D

GLOSSARY

AAI – Actuarial Accrued Liability. That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

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.

Actuarial Value of Assets – The value of cash, investments, other assets and property belonging to an OPEB trust, pension fund or similar entity, as used by the actuary for the purpose of actuarial valuation. Some funds may be restricted for other purposes, and “smoothing” of investment gains and losses often make the actuarial value of assets different from the market value of assets.

Annual Required Contribution – Normal Cost plus an amortization of the funding shortfall over a period of no more than 30 years.

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

Discount Rate – The interest rate used to calculate present value of a series of future cash flows. Under GASB 45, the rate should be “long term expected yield on the investments that are expected to be used to pay benefits as they come due. These would be plan investments for a funded plan, the employer’s investments for a pay as you go plan [e.g. short term county investment pool], or a weighted average of expected plan and employer investments for a plan that is partially funded”.

FASB – Financial Accounting Standards Board. “Since 1973, the Financial Accounting Standards Board (FASB) has been the designated organization in the private sector for establishing standards of financial accounting and reporting”.

GASB - Government Accounting Standards Board. “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.”

EXHIBIT D**GLOSSARY***(continued)*

GFOA – Government Finance Officers Association. “GFOA is the professional association of state/provincial and local finance officers in the United States and Canada, and has served the public finance profession since 1906. Approximately 16,000 GFOA members are dedicated to the sound management of government financial resources.”

Implicit Subsidy – “The difference between a premium rate charged to retirees for a particular benefit and the estimated rate that would have been applicable to those retirees if that benefit was acquired for them as a separate group.”

Irrevocable Contribution – “Irrevocably transferred assets to a qualifying trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator. The preceding criteria preclude counting as [irrevocable] contributions (a) designations of net assets of a governmental or proprietary fund to be used for OPEB or (b) internal transfers of assets to a separate governmental or proprietary fund for the same purpose. Rather, such actions should be regarded as earmarking of employer assets.”

Level Dollar Amortization – Funding a shortfall in OPEB assets with equal dollar payments over a designated number of years (no more than 30 years). The present value of the level payments equals the present value of unfunded liabilities, the UAAL.

Level Percent of Payroll Amortization – Funding a shortfall in OPEB assets as a level percent of payroll over a designated number of years (no more than 30 years). The present value of the payments equals the present value of unfunded liabilities, the UAAL. Level percent of payroll typically has lower payments in the early years than level dollar amortization. When using level payroll amortization, employee count is assumed to be constant, and the payroll differences arise from overall wage trends.

EXHIBIT D**GLOSSARY***(continued)*

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

NOA - Net OPEB Asset. The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expenses.

NOO - Net OPEB Obligation. The cumulative difference since the effective date of GASB Statement number 45 between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

OPEB - Other Post Employment Benefits

OPEB Trust - An entity other than a pension or retirement system which manages OPEB assets. In many respects it is similar to a pension fund for OPEB. For reasons detailed in GASB 45, contributions to an OPEB trust should be irrevocable in order to obtain the most favorable accounting treatment.

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.

POB - Pension Obligation Bond. Generally yielding taxable interest, POBs are issued to help fund a previously unfunded or underfunded pension liability.

UAAL - Unfunded Actuarial Liability. Actuarial Accrued Liability minus the Actuarial Value of Assets.