



TOWN OF BELMONT, MASSACHUSETTS

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

ACTUARIAL VALUATION

July 1, 2016

Prepared by:

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March 30, 2017

Ms. Chitra Subramanian
Town Accountant
Town of Belmont
19 Moore Street
Belmont, MA 02478

Dear Chitra:

Enclosed is our report summarizing the results of an actuarial valuation of the Town of Belmont, Massachusetts' Other Postemployment Benefits (OPEB) as of July 1, 2016. Our valuation was performed in accordance with the provisions contained in the GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (GASB 45).

A summary of the valuation results is shown in Section 1. The principal results of our valuation are summarized in Section 2. The Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 6 and 7, respectively. Section 8 summarizes the demographic profile of active employees and retirees.

The required disclosures under GASB 45 are presented in Section 3. Please note this report does not include any disclosures in accordance with the provisions contained in the GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, effective for financial statements for fiscal years beginning after June 15, 2016.

Our best estimate health care cost trend assumptions are based on recent experience and anticipated future cost increases under the Town of Belmont medical plans. Section 5 illustrates the sensitivity of actuarial accrued liability and annual required contribution to a one percentage increase and decrease in the health care cost trend assumption for each future year.

Our actuarial valuation is based on a discount rate of 4.25% compounded annually. To illustrate the impact on cost of fully prefunding the Town's benefit liabilities, our report also includes valuation results based on an alternative 7.5% discount rate. Section 5 illustrates the sensitivity of actuarial accrued liability and annual required contribution to a one percentage increase and decrease in the discount rate.

K M S A C T U A R I E S

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Ms. Chitra Subramanian
March 30, 2017
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We also provide a 30-year forecast of the OPEB liability under a partial prefunding arrangement as well as a 10-year forecast of the Annual OPEB Cost and the Net OPEB Obligation in Section 4.

Our calculations were based on participant census data and other information provided by the Town of Belmont and the benefit provisions of the medical plans as described in the benefit summaries. Our valuation is also based on medical plan and life insurance rates provided by the Town and other documents relating to reimbursement of a portion of Medicare Part B premiums and the Medicare late-enrollment penalty.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

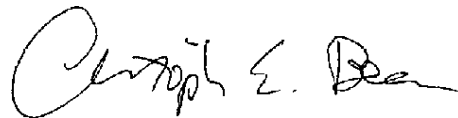
We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

We appreciate this opportunity to be of service to the Town of Belmont. We are available to answer any questions with respect to our valuation.

Respectfully submitted,



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ACTUARIAL CERTIFICATION

This report presents the results of the Actuarial Valuation for the Town of Belmont Postemployment Benefits Other Than Pensions as of July 1, 2016. The report presents the accounting and financial reporting information in accordance with Statement Number 45 of the Governmental Accounting Standards Board (GASB 45).

This valuation was performed using employee data and financial information provided to us by the Town. Although we did not audit the data used in the valuation, we believe that the information is complete and reliable.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the Belmont Contributory Retirement System and Massachusetts Teachers Retirement System's actuaries for the Retirement System pension valuations.

Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

This report is intended for the sole use of the Town of Belmont and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



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SECTION 1 - SUMMARY

BACKGROUND

The Town of Belmont provides postemployment medical benefits to Town retirees and their covered dependents. The Town provides benefits as follows:

- ◆ Group 1 employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service
- ◆ Group 1 employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service
- ◆ Group 4 employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service
- ◆ Group 4 employees hired after April 1, 2012: retire after attaining age 55

Medical coverage continues to the spouse after the death of the retiree provided the spouse makes the required contributions.

GASB 45

The Governmental Accounting Standards Board (GASB) is responsible for establishing accounting standards for governmental entities. Calculations developed in accordance with GASB standards are required when providing financial statements.

GASB believes that postemployment benefits are a form of deferred compensation whose cost should be recognized while the employee actually renders services rather than when the actual benefits are paid, many years later. Ideally under the GASB standard the entire postemployment liability is recognized by the time an active participant begins to receive postemployment benefits. GASB 45's focus is on postemployment benefits other than pensions, such as medical, dental and life insurance benefits. Unlike pensions where sponsors are pre-funding for benefits due in the future, the impact of GASB 45 will be to significantly increase cash pay-as-you-go expense.

The effective date for GASB 45 is a function of the Town's total annual revenues in the first fiscal year ending after June 15, 1999. We understand that this is your fiscal year that ended June 30, 1999, and that your related revenues were greater than \$10 million and less than \$100 million. As a result, the Town was required to comply with GASB 45 for the fiscal year ending June 30, 2009.

ACTUARIAL VALUATION

As of July 1, 2016, there are 814 active employees who may be eligible for benefits in the future and 721 retired employees, covered spouses and survivors who are currently receiving benefits. Coverage is for individuals and families or individuals and spouses depending on the coverage selected.

SECTION 1 - SUMMARY

Prior to GASB 45, the annual cost recognized was the annual premiums or benefits paid plus administrative expenses less any participant contributions paid towards the coverage. Under GASB 45, an annual cost for postemployment coverage is developed for any person who is currently receiving benefits or who is currently actively employed and may be eligible to receive benefits in the future. In developing the GASB 45 cost for the Town of Belmont, the payment of future benefits is determined using the current schedule of premiums under the plans provided by the Town modified to reflect the population and the fact that actual healthcare expenses are higher as individuals age. These age-adjusted costs are increased in the future under the annual healthcare cost trend rate assumptions. The age-adjusted per capita costs utilized in this valuation are detailed in Section 7, Actuarial Assumptions and Methods.

It is important to understand that even though the Town charges participants for coverage based on the individual or family premium schedule presented in our report, in developing a liability for the Town, GASB requires that these premiums be adjusted as noted above. The plan premium represents less than 100% of the actual cost that is required to be recognized under the GASB standard.

SUMMARY OF PRINCIPAL RESULTS

A summary of the principal results for the current and prior valuations follows:

Valuation Date	<u>July 1, 2016</u>	<u>July 1, 2014</u>
Summary of Member Data		
Active Members	814	801
Average Age	45.6	43.8
Average Service	11.5	9.8
Retired Employees, Spouses and Survivors	510	491
Average Age	74.5	72.7
Covered Spouses	211	200
Discount rate	4.25%	4.50%
Actuarial Accrued Liability	\$188,906,715	\$172,745,213
Normal Cost	\$7,687,713	\$6,244,870
Assets	\$2,574,117	\$1,720,389
Unfunded Actuarial Accrued Liability	\$186,332,598	\$171,024,824
Annual Required Contribution	\$19,120,887	\$17,026,532
Expected Benefit Payments	\$4,046,494	\$4,603,315

Town of Belmont Postemployment Benefits Other Than Pensions
Actuarial Valuation as of July 1, 2016

SECTION 1 - SUMMARY

ACTUARIAL ASSUMPTIONS

The most important assumption for GASB 45 is the discount rate, which is used to discount future benefits to current age. GASB 45 requires that the discount rate accurately reflects the rate of return on assets dedicated to paying the retiree medical benefits. This means that a traditional pay-as-you-go system, which pays benefits from the Town's annual budget and not a dedicated trust, must use a discount rate close to the rate of return on cash. Full pre-funding by use of a dedicated trust with a mixture of stocks and bonds can employ a higher discount rate that accurately reflects the expected return on trust assets dedicated to pay retiree medical benefits. For the Town of Belmont, we selected a 4.25% discount rate to reflect the partial pre-funding of future payments. The development of the discount rate is shown in Section 7 - Actuarial Assumptions and Methods.

CHANGES

Some assumptions used in this valuation have changed from those used in the July 1, 2014 valuation and are detailed in Section 7. The major assumption changes are summarized below:

- ◆ morbidity rates were updated to reflect more recent morbidity tables and use of sex-distinct rates by age.
- ◆ the pre-retirement decrements for Teachers were updated to reflect those recently used by the Massachusetts Teachers Retirement System actuaries.
- ◆ the pre- and post-retirement mortality rates were updated to utilize a more recent mortality table adjusted for mortality improvement.
- ◆ the actuarial cost method was updated from the Projected Unit Credit method to the Entry Age method in anticipation of changes required under GASB 74 and GASB 75.
- ◆ the excise tax under the Patient Protection and Affordable Care Act (PPACA) was updated to reflect the tax on benefits in excess of the mandated thresholds starting in 2020 (previously, 2018).
- ◆ to reflect the impact of partially prefunding the Annual Required Contribution (ARC) under the current funding policy, the discount rate was decreased from 4.5% to 4.25%.

SECTION 1 - SUMMARY

RESULTS

We have provided results based on a discount rate of 4.25%. As shown in Table 4.2 of Section 4, the Annual OPEB Cost for the fiscal year ending June 30, 2017 under GASB 45 is \$17,584,711 and the estimated Annual OPEB Cost for the fiscal year ending June 30, 2018 under GASB 45 is \$18,216,252.

The accumulated Net OPEB Obligation as of June 30, 2017 is \$106,936,091 and the estimated Net OPEB Obligation as of June 30, 2018 is \$120,329,040.

The Unfunded Actuarial Accrued Liability (UAAL) as of July 1, 2016 is \$186,332,598. The UAAL is shown below:

Actuarial Accrued Liability (AAL)	
Actives	\$101,595,856
Retirees, Beneficiaries and Surviving Spouses	87,310,859
Total Actuarial Accrued Liability	\$188,906,715
Actuarial Value of Assets	\$2,574,117
Unfunded Actuarial Accrued Liability (UAAL)	\$186,332,598

SECTION 1 - SUMMARY

ACTUARIAL GAIN/LOSS ANALYSIS

In performing the actuarial valuation, various assumptions are made regarding future premium rates, mortality, retirement, disability and turnover rates as well as investment returns. A comparison of the results of the current valuation and the prior valuation is made to determine how closely actual experience relates to expected. Below is the development of the estimated Actuarial Gain or Loss for the current period:

Unfunded Actuarial Accrued Liability, July 1, 2014	\$171,024,824
Expected Unfunded Actuarial Accrued Liability, July 1, 2016*	190,029,872
*from the July 1, 2014 valuation	

Actual Unfunded Actuarial Accrued Liability, July 1, 2016	186,332,598
(Gain)/Loss during the current period	(3,697,274)

The actuarial gain of \$3,697,274 was mostly comprised of the following:

◆ decrease as a result of OPEB trust contributions and investment earnings greater than expected from the previous valuation	(385,522)
◆ increase as a result of unfavorable demographic experience from the prior valuation	6,695,596
◆ decrease as a result of changes to premium rates, health care cost trend rates and morbidity tables	(29,241,244)
◆ increase as a result of changes to the pre-retirement decrements for Teachers	4,350,755
◆ increase as a result of changes to the pre-retirement and post-retirement mortality tables	29,387,540
◆ decrease as a result of change to the actuarial cost method from Projected Unit Credit to Entry Age Normal	(22,388,295)
◆ decrease as a result of update to the PPACA excise tax effective date from 2018 to 2020	(568,033)
◆ increase as a result of change to the discount rate from 4.5% to 4.25%	<u>8,451,929</u>
◆ Total (Gain)/Loss	(3,697,274)

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Town of Belmont has established an irrevocable OPEB trust under special legislation enacted in Chapter 97 of the Acts of 2007 for the purpose of prefunding OPEB liabilities. Plan assets segregated and restricted in an OPEB trust must be dedicated to providing plan benefits to retirees and beneficiaries in accordance with the terms of the plan and must be legally protected from creditors of the employer. Further, employer contributions to the trust must be irrevocable.

The Actuarial Value of Plan Assets is equal to the market value. The asset activity during the 2-year period July 1, 2014 through June 30, 2016 follows:

TABLE 2.1 - OPEB TRUST ASSETS

Market Value of Assets		
Fiscal Year Ending	<u>6/30/2016</u>	<u>6/30/2015</u>
Assets as of July 1	\$2,029,851	\$1,720,389
Paid Premiums	0	0
OPEB Trust Contributions	366,738	264,882
Benefits Paid	0	\$0
Expenses	0	0
Investment Earnings	177,528	44,580
Assets as of June 30	\$2,574,117	\$2,029,851
Estimated rate of return	8.02%	2.41%

Asset activity as reported in the Town's audited financial statements as of June 30, 2015 and June 30, 2016.

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Actuarial Accrued Liability is the portion of the Actuarial Present Value of Future Benefits which is allocated to all periods prior to a valuation year and therefore is not provided for by future Normal Costs. Below is the Actuarial Accrued Liability assuming a discount rate of 4.25%, a blended rate for partial prefunding, and 7.5%, the rate of return on a dedicated trust if the Town were to fully pre-fund benefits:

TABLE 2.2 - ACTUARIAL ACCRUED LIABILITY

	Partial Pre-Funding	Full Pre-Funding
Discount Rate	4.25%	7.5%
Current Active Employees		
Pre-Medicare Gross Benefit	\$30,501,055	\$22,154,716
Pre-Medicare Participant Contributions	4,601,662	3,404,968
Net Pre-Medicare Benefit	\$25,899,393	\$18,749,748
Post - Medicare Gross Benefit	\$110,815,553	\$51,224,442
Post - Medicare Participant Contributions	35,119,090	17,428,222
Net Post - Medicare Benefit	\$75,696,463	\$33,796,220
Total Current Active Employees	\$101,595,856	\$52,545,968
 Current Retirees		
Pre-Medicare Gross Benefit	\$8,137,434	\$6,780,057
Pre-Medicare Participant Contributions	1,762,138	1,490,666
Net Pre-Medicare Benefit	\$6,375,296	\$5,289,391
Post - Medicare Gross Benefit	\$112,442,570	\$75,577,776
Post - Medicare Participant Contributions	31,507,007	22,050,055
Net Post - Medicare Benefit	\$80,935,563	\$53,527,721
Total Current Retirees	\$87,310,859	\$58,817,112
Total Actuarial Accrued Liability (AAL)	\$188,906,715	\$111,363,080

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Normal Cost is the portion of the Actuarial Present Value of Future Benefits which is attributed to services rendered by active employees in the current year. Below is the Normal Cost assuming a discount rate of 4.25%, a blended rate for partial prefunding, and 7.5%, the rate of return on a dedicated trust if the Town were to fully pre-fund benefits:

TABLE 2.3 - NORMAL COST

	Partial Pre-Funding	Full Pre-Funding
Discount Rate	4.25%	7.5%
Current Active Employees		
Pre-Medicare Gross Benefit	\$2,439,154	\$1,364,209
Pre-Medicare Participant Contributions	382,288	220,084
Net Pre-Medicare Benefit	\$2,056,866	\$1,144,125
Post - Medicare Gross Benefit	\$8,168,586	\$2,792,022
Post - Medicare Participant Contributions	2,537,739	934,193
Net Post - Medicare Benefit	\$5,630,847	\$1,857,829
Total Current Active Employees	\$7,687,713	\$3,001,954
 Current Retirees		
Pre-Medicare Gross Benefit	\$0	\$0
Pre-Medicare Participant Contributions	0	0
Net Pre-Medicare Benefit	\$0	\$0
Post - Medicare Gross Benefit	\$0	\$0
Post - Medicare Participant Contributions	0	0
Net Post - Medicare Benefit	\$0	\$0
Total Current Retirees	\$0	\$0
Total Normal Cost (NC)	\$7,687,713	\$3,001,954

SECTION 2 - PRINCIPAL VALUATION RESULTS

Under GASB 45, the Annual Required Contribution (ARC) of the employer equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed level dollar amortization over the maximum acceptable amortization period of 30 years. For the period beginning July 1, 2016, the ARC, calculated under the parameters of this actuarial valuation, would be:

TABLE 2.4 - ANNUAL REQUIRED CONTRIBUTION and ANNUAL OPEB COST

	<u>Partial Pre-Funding</u>	<u>Full Pre-Funding</u>
Discount Rate	4.25%	7.5%
1. Normal Cost	\$7,687,713	\$3,001,954
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$188,906,715	\$111,363,080
b. Actuarial Value of Plan Assets	\$2,574,117	\$2,574,117
c. Unfunded Actuarial Accrued Liability	\$186,332,598	\$108,788,963
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$186,332,598	\$108,788,963
b. Amortization Period in years	30	30
c. Factor Increasing Rate	0.0%	0.0%
d. Amortization Factor	17.49	12.70
e. Amortization Amount (3.a. / 3.d.)	\$10,653,665	\$8,566,060
4. Interest on 1. and 3.e.	\$779,509	\$867,601
5. Annual Required Contribution (1. + 3.e. + 4.)	\$19,120,887	\$12,435,615
6. Net OPEB Obligation, beginning of year	\$93,741,556	Not Applicable
7. Interest on Net OPEB Obligation at 4.5%	\$4,218,370	Not Applicable
8. Adjustment to Annual Required Contribution at 4.5%	(\$5,754,546)	Not Applicable
9. Annual OPEB Cost (5. + 7. + 8.)	\$17,584,711	Not Applicable

SECTION 3 - GASB 45 ACCOUNTING DISCLOSURE

GASB 45 requires disclosure of the annual OPEB cost, the Net OPEB Obligation and the Schedule of Funding Progress. In addition, a summary of the Substantive Plan Provisions and information about the Actuarial Methods and Assumptions used in the valuation are disclosed, which are provided in Section 6 and Section 7, respectively.

Annual OPEB Cost and Net OPEB Obligation¹			
Fiscal Year Ending	<u>6/30/2017</u>	<u>6/30/2016</u>	<u>6/30/2015</u>
Discount rate	4.25%	4.50%	4.50%
Annual Required Contribution	\$19,120,887	\$17,769,827	\$17,026,532
Interest on Net OPEB Obligation	4,218,370	3,718,351	3,224,060
Adjustment to annual required contribution	(5,754,546)	(5,072,438)	(4,398,144)
Annual OPEB Cost	\$17,584,711	\$16,415,740	\$15,852,448
Expected Benefit Payments	(4,046,494)	(4,937,465)	(4,603,315)
Employer contributions to OPEB Trust	(343,682)	(366,738)	(264,882)
Total employer contributions	(4,390,176)	(5,304,203)	(4,868,197)
Change in Net OPEB Obligation	\$13,194,535	\$11,111,537	\$10,984,251
Net OPEB Obligation - beginning of year	\$93,741,556	\$82,630,019	\$71,645,768
Net OPEB Obligation - end of year	\$106,936,091	\$93,741,556	\$82,630,019

¹ Entries for FY2015 and FY2016 are based on information provided in the Town's audited financial statements.

Plan History				
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation	
6/30/2017	17,584,711	25.0%	106,936,091	
6/30/2016	16,415,740	32.3%	93,741,556	
6/30/2015	15,852,448	30.7%	82,630,019	

Schedule of Funding Progress						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) / c)
7/1/2016	2,574,117	188,906,715	186,332,598	1.36%	52,020,718	358.2%
7/1/2014	1,720,389	172,745,213	171,024,824	1.00%	49,551,000	345.2%
7/1/2012	1,316,700	195,943,349	194,626,649	0.67%	44,045,000	441.9%

Town of Belmont Postemployment Benefits Other Than Pensions
Actuarial Valuation as of July 1, 2016

SECTION 4 - FORECASTS

OVERVIEW

In Section 4, we have provided a 30-year forecast of the annual funding requirements, accrued liability, assets and unfunded actuarial accrued liability under a partially funded scenario. The entries in Table 4.1 are based on the assumptions stated below:

- ◆ Expected Benefit Payments are developed in the actuarial valuation and are based on the assumptions detailed in Section 7.
- ◆ Normal Cost is assumed to increase annually by 3%.
- ◆ Assets are assumed to grow annually at the selected discount rate plus OPEB Trust Contributions made at the end of each fiscal year.
- ◆ Actuarial Accrued Liability (AAL), end of year, equals AAL, beginning of year, plus Normal Cost less Expected Benefit Payments plus interest on these items.
- ◆ Unfunded Actuarial Accrued Liability (UAAL) equals the AAL less Assets.
- ◆ The Annual Required Contribution (ARC) is the sum of the Normal Cost, the Amortization Amount and Interest.

Table 4.1 is based on funding the Expected Benefit Payments on a pay-as-you-go basis plus a contribution of \$300,000 made annually to the OPEB trust until 2029. Thereafter, contributions of approximately \$12,041,000 are made until the accrued liability is fully funded.

- ◆ The assumed discount rate is 4.25%.
- ◆ Amortization Amount is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 4.25% on an open amortization basis. The open amortization period is 30 years, recalculated at each valuation.

SECTION 4 - FORECASTS

TABLE 4.1 - Funding Expected Benefit Payments plus Annual OPEB Trust Contributions

FYE June 30	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Expected Benefit Payments	(4) Actuarial Value of Assets	(5) Unfunded Actuarial Accrued Liability (2) - (4)	(6) Amortization Amount	(7) Interest	(8) ARC (1) + (6) + (7)	(9) OPEB Trust Contributions
2017	7,687,713	188,906,715	4,046,494	2,574,117	186,332,598	10,653,665	779,509	19,120,887	343,682
2018	7,918,344	200,818,104	4,523,303	3,027,199	197,790,905	11,308,800	817,154	20,044,298	300,000
2019	8,155,894	212,989,324	4,982,253	3,455,855	209,533,469	11,980,187	855,783	20,991,864	300,000
2020	8,400,571	225,456,866	5,377,374	3,902,729	221,554,137	12,667,475	895,392	21,963,438	300,000
2021	8,652,588	238,305,924	6,172,857	4,368,595	233,937,329	13,375,491	936,193	22,964,272	300,000
2022	8,912,166	251,151,583	6,721,756	4,854,260	246,297,323	14,082,180	977,260	23,971,606	300,000
2023	9,179,531	264,253,351	7,157,490	5,360,566	258,892,785	14,802,332	1,019,229	25,001,092	300,000
2024	9,454,917	277,745,775	7,630,924	5,888,390	271,857,385	15,543,590	1,062,437	26,060,944	300,000
2025	9,738,565	291,615,328	7,968,191	6,438,647	285,176,681	16,305,128	1,106,857	27,150,550	300,000
2026	10,030,722	306,025,680	8,391,297	7,012,289	299,013,391	17,096,249	1,152,896	28,279,867	300,000
2027	10,331,644	320,921,042	8,861,870	7,610,311	313,310,731	17,913,707	1,200,427	29,445,778	300,000
2028	10,641,593	336,282,700	9,355,213	8,233,749	328,048,951	18,756,372	1,249,414	30,647,379	300,000
2029	10,960,841	352,116,633	9,936,191	8,883,683	343,232,950	19,624,525	1,299,878	31,885,244	300,000
2030	11,289,666	368,363,129	10,317,609	9,561,240	358,801,889	20,514,688	1,351,685	33,156,039	12,041,000
2031	11,628,356	385,253,462	10,824,359	22,008,593	363,244,869	20,768,717	1,376,876	33,773,949	12,041,000
2032	11,977,207	402,697,312	11,329,848	34,984,958	367,712,354	21,024,148	1,402,558	34,403,913	12,041,000
2033	12,336,523	420,730,084	11,844,608	48,512,819	372,217,265	21,281,719	1,428,775	35,047,017	12,041,000
2034	12,706,619	439,378,251	12,229,812	62,615,614	376,762,637	21,541,603	1,455,549	35,703,771	12,041,000
2035	13,087,818	458,811,486	12,825,596	77,317,778	381,493,708	21,812,105	1,483,247	36,383,170	12,041,000
2036	13,480,453	478,859,720	13,428,674	92,644,784	386,214,936	22,082,043	1,511,406	37,073,902	12,041,000
2037	13,884,867	499,553,566	14,046,704	108,623,187	390,930,379	22,351,651	1,540,052	37,776,570	12,041,000
2038	14,301,413	520,917,476	14,793,827	125,280,672	395,636,804	22,620,744	1,569,192	38,491,349	12,041,000
2039	14,730,455	542,860,767	15,662,770	142,646,101	400,214,666	22,882,485	1,598,550	39,211,490	12,041,000
2040	15,172,369	565,296,708	16,515,265	160,749,560	404,547,148	23,130,197	1,627,859	39,930,425	12,041,000
2041	15,627,540	588,276,450	17,125,764	179,622,416	408,654,034	23,365,011	1,657,183	40,649,734	12,041,000
2042	16,096,366	612,084,010	17,867,994	199,297,369	412,786,641	23,601,295	1,687,151	41,384,812	12,041,000
2043	16,579,257	636,634,304	18,656,072	219,808,507	416,825,797	23,832,235	1,717,488	42,128,980	12,041,000
2044	17,076,635	661,926,749	19,186,892	241,191,369	420,735,380	24,055,768	1,748,127	42,880,530	12,041,000
2045	17,588,934	688,270,657	19,443,793	263,483,002	424,787,655	24,287,459	1,779,747	43,656,140	12,041,000
2046	18,116,602	716,005,949	19,828,198	286,722,030	429,283,919	24,544,535	1,813,098	44,474,235	12,041,000
2047	18,660,100	745,077,595	19,821,894	310,948,716	434,128,879	24,821,548	1,847,970	45,329,618	12,041,000

Town of Belmont Postemployment Benefits Other Than Pensions
Actuarial Valuation as of July 1, 2016

30 years open, 4.25% discount rate.

SECTION 4 - FORECASTS

TABLE 4.2 - ANNUAL OPEB COST and NET OPEB OBLIGATION

FYE June 30	ARC	Interest on Net OPEB Obligation	ARC Adjustment	Amortization Factor	Annual OPEB Cost	Employer Contributions	Change in Net OPEB Obligation	Net OPEB Obligation Balance
								93,741,556
2017	19,120,887	4,218,370	(5,754,546)	16.29	17,584,711	4,390,176	13,194,535	106,936,091
2018	20,044,298	4,544,784	(6,372,830)	16.78	18,216,252	4,823,303	13,392,949	120,329,040
2019	20,991,864	5,113,984	(7,170,980)	16.78	18,934,868	5,282,253	13,652,615	133,981,655
2020	21,963,438	5,694,220	(7,984,604)	16.78	19,673,054	5,677,374	13,995,680	147,977,335
2021	22,964,272	6,289,037	(8,818,673)	16.78	20,434,636	6,472,857	13,961,779	161,939,114
2022	23,971,606	6,882,412	(9,650,722)	16.78	21,203,296	7,021,756	14,181,540	176,120,654
2023	25,001,092	7,485,128	(10,495,867)	16.78	21,990,353	7,457,490	14,532,863	190,653,517
2024	26,060,944	8,102,774	(11,361,950)	16.78	22,801,768	7,930,924	14,870,844	205,524,361
2025	27,150,550	8,734,785	(12,248,174)	16.78	23,637,161	8,268,191	15,368,970	220,893,331
2026	28,279,867	9,387,967	(13,164,084)	16.78	24,503,750	8,691,297	15,812,453	236,705,784

Notes:

1. ARC and Employer Contributions are from 30-Year Forecast of Annual Required Contributions (Table 4.1).
2. Interest on Net OPEB Obligation is computed on the prior year Net OPEB Obligation Balance.
3. ARC Adjustment is the prior year Net OPEB Obligation Balance amortized over 30 years.
4. OPEB Cost is the ARC plus Interest on Net OPEB Obligation plus ARC Adjustment.
5. Change in Net OPEB Obligation is the difference between the OPEB Cost and Employer Contributions.
6. Net OPEB Obligation is the prior year Net OPEB Obligation Balance plus Change in Net OPEB Obligation.
7. Year one Interest on Net OPEB Obligation and ARC Adjustment computed at prior discount rate of 4.5%.
8. Subsequent years' Interest on Net OPEB Obligation and ARC Adjustment computed at current discount rate of 4.25%.

SECTION 5 - SENSITIVITY ANALYSIS

Below we illustrate the sensitivity of the Actuarial Accrued Liability and the Annual Required Contribution to a one percentage increase and decrease in the discount rate:

TABLE 5.1 - DISCOUNT RATE ASSUMPTION

	<u>Discount Rate -1%</u>	<u>Assumed Discount Rate</u>	<u>Discount Rate +1%</u>
Discount Rate	3.25%	4.25%	5.25%
Actuarial Accrued Liability			
Current Active Employees	\$128,227,846	\$101,595,856	\$81,668,071
Current Retirees	100,786,662	87,310,859	76,488,004
Total Actuarial Accrued Liability	\$229,014,508	\$188,906,715	\$158,156,075
Change %	21.23%		-16.28%
Annual Required Contribution			
Normal Cost	\$10,571,526	\$7,687,713	\$5,668,483
Actuarial Accrued Liability	\$229,014,508	\$188,906,715	\$158,156,075
Actuarial Value of Assets	2,574,117	2,574,117	2,574,117
Unfunded Actuarial Accrued Liability	\$226,440,391	\$186,332,598	\$155,581,958
Amortization Payment	11,553,081	10,653,665	9,890,779
Interest	719,050	779,509	816,861
Annual Required Contribution	\$22,843,657	\$19,120,887	\$16,376,123
Change %	19.47%		-14.35%

SECTION 5 - SENSITIVITY ANALYSIS

Below we illustrate the sensitivity of the Actuarial Accrued Liability and the Annual Required Contribution to a one percentage increase and decrease in health care cost trend assumption for each future year:

TABLE 5.2 - HEALTH CARE COST TREND ASSUMPTION

	Trend -1% (7% year 1 to 4% ultimate)	Assumed Trend (8% year 1 to 5% ultimate)	Trend +1% (9% years 1 to 6% ultimate)
Discount Rate	4.25%	4.25%	4.25%
Actuarial Accrued Liability			
Current Active Employees	\$78,331,588	\$101,595,856	\$134,280,242
Current Retirees	76,946,478	87,310,859	99,902,329
Total Actuarial Accrued Liability	\$155,278,066	\$188,906,715	\$234,182,571
 Change %	 -17.80%		 23.97%
Annual Required Contribution			
Normal Cost	\$5,699,561	\$7,687,713	\$10,606,770
Actuarial Accrued Liability	\$155,278,066	\$188,906,715	\$234,182,571
Actuarial Value of Assets	2,574,117	2,574,117	2,574,117
Unfunded Actuarial Accrued Liability	\$152,703,949	\$186,332,598	\$231,608,454
Amortization Payment	8,730,929	10,653,665	13,242,336
Interest	613,296	779,509	1,013,587
Annual Required Contribution	\$15,043,786	\$19,120,887	\$24,862,693
 Change %	 -21.32%		 30.03%

SECTION 6 - SUMMARY OF PLAN PROVISIONS

Retirement Eligibility: Group 1 employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service

Group 1 employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service

Group 4 employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service

Group 4 employees hired after April 1, 2012: retire after attaining age 55

Ordinary Disability Eligibility: Any member who is unable to perform his or her duties due to a non-occupational disability and has ten or more years of creditable service.

Accidental Disability Eligibility: Any member who is unable to perform his or her duties due to a job-related disability.

Medical Premium Rates: The total monthly costs by plan are shown below:

<u>Non-Medicare Plans - July 1, 2016</u>	<u>Individual</u>	<u>Family</u>
Harvard Pilgrim HMO	\$641.66	\$1,738.45
Harvard Pilgrim PPO	\$1,024.66	\$2,787.09
 <u>Medicare Plans - July 1, 2016</u>		
Harvard Pilgrim Medicare Enhance Value	\$443.30	
Tufts Medicare Preferred HMO Prime*	\$311.50	

* effective January 1, 2017

Participant Contributions: Retired employees contribute 50% of the total medical premium rates for all plans except Harvard Pilgrim HMO, where retired employees contribute 20% of the total medical premium rates.

Continuation of Coverage to Spouse After Death of Retiree: Surviving spouse may continue coverage for lifetime by paying the required medical premium rates.

Medicare Penalty Reimbursement: The Town reimburses the Medicare late-enrollment penalty based on information provided in the retiree data. As of the valuation date, the Town reimburses the Medicare late-enrollment penalty for four retirees and one spouse.

SECTION 6 - SUMMARY OF PLAN PROVISIONS

Medicare Part B:	The Town reimburses retirees and spouses 50% of the monthly Medicare Part B premium. The monthly Medicare Part B premium is \$109 for retirees enrolled in Medicare prior to January 1, 2016 and \$134 for retirees enrolled in Medicare on or after January 1, 2016.
Life Insurance Benefit:	Retirees are eligible for a \$2,000 life insurance benefit.
Life Insurance Premium:	The total monthly cost is \$4.74.
Life Insurance Contributions:	Retired employees contribute 50% of the total life insurance premium rates.
PPACA Excise Tax:	The Patient Protection and Affordable Care Act (PPACA) applies a 40% excise tax, commonly referred to as the "Cadillac Tax", to the cost of plan benefits in excess of statutory thresholds beginning in 2020. The 2020 thresholds are assumed to be \$10,820 for individual and \$29,175 for family coverage and increase by the Consumer Price Index (CPI) in future years. The annual limits are increased by \$1,750 for individual and \$3,660 for family coverage for retirees not eligible for Medicare benefits.

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date: July 1, 2016

Discount Rates: 4.25% per annum, compounded annually.

Investment returns:

Plan assets (long-term rate of return): 7.50%

Employer assets (short-term rate of return): 4.00%

The development of the discount rate used in the valuation is based on the percentage of the Annual Required Contribution (ARC) funded and is shown below:

1. ARC under fully funded plan	12,435,615
2. Pay-as-you-go (PAYG)	4,046,494
3. GAP between ARC and PAYG (1. - 2.)	8,389,121
4. OPEB Trust contribution	343,682
5. Percent of GAP funded	4%
6. Multiplied by long-term rate	0.31%
7. Percent of GAP not funded	96%
8. Multiplied by short-term rate	3.84%
9. Discount rate (6. + 8.)	4.14%

Based on the methodology above, the Town has selected a discount rate of 4.25%.

Salary Increases: 3.25% per annum.

Amortization Method: Level dollar amount per year over 30 years on an open amortization period for partial pre-funding.

Level dollar amount per year over 30 years on a closed amortization period for full pre-funding.

Health Care Cost Trend	Year	Current	Prior
	1	8.00%	8.00%
	2	7.50%	7.00%
	3	7.00%	6.00%
	4	6.50%	5.00%
	5	6.00%	5.00%
	6	5.50%	5.00%
	7	5.00%	5.00%
	Ultimate	5.00%	5.00%

Town of Belmont Postemployment Benefits Other Than Pensions
Actuarial Valuation as of July 1, 2016

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Consumer Price Index (CPI): 3% per year.

Medicare Part B Trend: 6% per year.

Medical Plan Participation: 90% of eligible retirees will elect medical coverage upon retirement.

Life Insurance Participation: 60% of eligible retirees will elect life insurance coverage upon retirement.

Dependent Status: Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee.

50% of employees are assumed to retire with a covered spouse.
For current retirees, the actual census information provided is used.

Medicare Eligibility: 95% of retirees under age 65 and future retirees will be eligible for Medicare upon attainment of age 65.

Medical Per Capita Costs: Annual per capita costs for the fiscal year beginning July 1, 2016 are as follows:

Age	Medicare-Eligible		Not Eligible	
	Male	Female	Male	Female
Under 20	\$3,359	\$3,944	\$3,359	\$3,944
20-24	\$2,647	\$4,199	\$2,647	\$4,199
25-29	\$2,755	\$6,195	\$2,755	\$6,195
30-34	\$3,460	\$7,827	\$3,460	\$7,827
35-39	\$4,340	\$8,062	\$4,340	\$8,062
40-44	\$5,408	\$8,257	\$5,408	\$8,257
45-49	\$6,826	\$9,063	\$6,826	\$9,063
50-54	\$8,996	\$10,662	\$8,996	\$10,662
55-59	\$11,690	\$12,329	\$11,690	\$12,329
60-64	\$15,003	\$14,673	\$15,003	\$14,673
65-69	\$3,853	\$3,753	\$18,718	\$17,589
70-74	\$4,618	\$4,427	\$22,427	\$20,740
75-79	\$5,453	\$5,136	\$26,482	\$24,063
80-84	\$6,268	\$5,891	\$30,440	\$27,599
85-89	\$6,983	\$6,585	\$33,909	\$30,851
90-94	\$7,601	\$7,028	\$36,914	\$32,925
95+	\$8,079	\$6,796	\$39,234	\$31,841

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Retiree Contributions: Annual average per capita participant contributions for the fiscal year beginning July 1, 2016 are as follows:

<u>Plan</u>	<u>Retiree Contribution</u>	
	Current	Prior
Non-Medicare Plans	\$2,376	\$2,126
Medicare Plans	\$2,520	\$2,259

Excise Tax: For purposes of estimating the excise tax, per capita plan costs are developed for individual and family coverage for both Medicare and non-Medicare members. These plan costs are compared to the thresholds stipulated in the Patient Protection and Affordable Care Act (PPACA). Beginning in 2020, a 40% excise tax is applied on the excess of the plan costs over the thresholds, which increase annually by CPI.

Actuarial Cost Method: Entry Age Normal. The actuarial present value of the projected benefits of each individual is allocated on a level basis over the earnings of the individual between entry age and the assumed exit age. Previously, Projected Unit Credit.

Employee Data: Employee and retiree data were submitted by the Town. We made reasonable adjustments for missing or invalid data.

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Post-Retirement Mortality: Post-retirement mortality rates for General and Public Safety employees are based on the RP-2000 Healthy Annuitant Mortality Table, base year 2009, projected with full generational mortality improvement using Scale BB2D.

Pre-Retirement Mortality: Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2000 Employees Mortality Table, base year 2009, projected with full generational mortality improvement using Scale BB2D.

Turnover Rates: Turnover rates for General and Public Safety employees are as follows:

General		Public Safety	
Service	Rate	Service	Rate
0	15.0%	0-10	1.5%
1	12.0%	11+	0.0%
2	10.0%		
3	9.0%		
4	8.0%		
5	7.6%		
6	7.5%		
7	6.7%		
8	6.3%		
9	5.9%		
10	5.4%		
11	5.0%		
12	4.6%		
13	4.1%		
14	3.7%		
15	3.3%		
16-20	2.0%		
21-29	1.0%		
30+	0.0%		

Disability Rates: Disability rates for General and Public Safety employees are as follows:

Age	General	Public Safety
20	0.01%	0.10%
30	0.03%	0.30%
40	0.10%	0.30%
50	0.19%	1.25%
60	0.28%	0.85%

90% of employee disabilities are job-related.

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SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Retirement Rates: Retirement rates for General and Public Safety employees are as follows:

<u>Age</u>	General		Public Safety
	Male	Female	All
45-49	0.00%	0.00%	1.00%
50-51	1.00%	1.50%	2.00%
52	1.00%	2.00%	2.00%
53	1.00%	2.50%	5.00%
54	2.00%	2.50%	7.50%
55	2.00%	5.50%	15.00%
56-57	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%
66-67	25.00%	20.00%	
68	30.00%	25.00%	
69	30.00%	20.00%	
70	100.00%	100.00%	

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Post-Retirement Mortality: Post-retirement mortality rates for Teachers are based on the RP-2014 Healthy Annuitant Mortality Table, base year 2014, projected with fully generational mortality using Scale BB.

Pre-Retirement Mortality: Pre-retirement mortality rates for Teachers are based on the RP-2014 Employees Mortality Table, base year 2014, projected with fully generational mortality using Scale BB.

Turnover Rates: Turnover rates for Teachers are as follows:

<u>Age</u>	<u>Service</u>					
	0		5		10+	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	13.0%	10.0%	5.5%	7.0%	1.5%	5.0%
30	15.0%	15.0%	5.4%	8.8%	1.5%	4.5%
40	13.3%	10.5%	5.2%	5.5%	1.7%	2.2%
50	16.2%	9.8%	7.0%	5.0%	2.3%	2.0%

Disability Rates: Disability rates for Teachers are as follows:

Age	Rate
20	0.004%
30	0.006%
40	0.010%
50	0.050%
60	0.100%

35% of the disabilities are job-related.

Retirement Rates: Retirement rates for Teachers are as follows:

<u>Age</u>	<u>Years of Service</u>					
	Less than 20		20-30		30+	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
45	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
50	0.0%	0.0%	1.0%	1.5%	2.0%	2.0%
55	3.0%	2.0%	3.0%	3.0%	6.0%	6.0%
60	15.0%	20.0%	20.0%	16.0%	50.0%	35.0%
62	20.0%	25.0%	30.0%	30.0%	40.0%	40.0%
65	40.0%	30.0%	40.0%	30.0%	50.0%	35.0%
69	40.0%	30.0%	30.0%	30.0%	50.0%	30.0%
70	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SECTION 8 - PLAN MEMBER INFORMATION

TABLE 8.1 - ACTIVE EMPLOYEES BY AGE and YEARS OF SERVICE AS OF JULY 1, 2016

Age	Years of Service									Total	Percent
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	8	0	0	0	0	0	0	0	0	8	1%
25 to 29	66	8	1	0	0	0	0	0	0	75	9%
30 to 34	52	74	19	2	0	0	0	0	0	147	18%
35 to 39	33	24	44	7	0	0	0	0	0	108	13%
40 to 44	22	7	28	19	3	0	0	0	0	79	10%
45 to 49	18	14	13	22	9	4	1	0	0	81	10%
50 to 54	17	17	10	18	10	2	11	1	0	86	11%
55 to 59	18	16	12	25	5	13	11	1	0	101	12%
60 to 64	6	12	8	12	14	5	8	1	1	67	8%
65 to 69	4	7	9	7	6	3	1	1	3	41	5%
70 & up	1	1	6	3	2	3	2	1	2	21	3%
Total	245	180	150	115	49	30	34	5	6	814	
Percent	30%	22%	18%	14%	6%	4%	4%	1%	1%		100%
	Average Age: 45.6			Average Service: 11.5							

SECTION 8 - PLAN MEMBER INFORMATION

TABLE 8.2 - RETIRED EMPLOYEES, COVERED SPOUSES and SURVIVORS AS OF JULY 1, 2016

Age	Harvard Pilgrim HMO	Harvard Pilgrim PPO	Harvard Pilgrim Medicare Enhance Value	Tufts Medicare Preferred HMO Prime	Life Only	Total
Under 40	1	0	0	0	0	1
40 to 44	1	0	0	0	0	1
45 to 49	2	0	0	0	0	2
50 to 54	3	0	0	1	0	4
55 to 59	11	0	2	0	0	13
60 to 64	25	0	10	7	0	42
65 to 69	8	1	75	16	28	128
70 to 74	9	3	68	16	7	103
75 to 79	5	2	60	11	1	79
80 to 84	2	0	54	2	4	62
85 to 89	0	1	36	3	2	42
90+	2	2	20	4	5	33
Total	69	9	325	60	47	510
Covered Spouses	54	1	128	28		211

SECTION 9 - GASB 45 GLOSSARY OF TERMS

Actuarial Accrued Liability – The portion of the Actuarial Present Value of future benefits which is allocated to all periods prior to a valuation year and therefore is not provided by future Normal Costs.

Actuarial Assumptions – Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, disablement and retirement; changes in compensation and Government provided pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

Actuarial Present Value of Future Benefits – The present value of the cost to finance all benefits payable in the future, discounted to reflect the probability of payment and the time value of money.

Actuarial Valuation – the determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets and related Actuarial Present Values for an OPEB plan.

Actuarial Value of Assets – The value of plan assets used in an actuarial valuation. The Actuarial Value of Assets may reflect smoothing techniques intended to dampen year-to-year fluctuations in the market value of assets.

Annual OPEB Cost - The accrual basis annual cost for the OPEB plan sponsored by the employer. In the year of implementation of GASB 45, the Annual OPEB Cost equals the ARC. In subsequent years, if an employer has a Net OPEB Obligation, Annual OPEB Cost equals the ARC plus one year's interest on the Net OPEB Obligation plus an adjustment to the ARC.

Annual Required Contribution (ARC) – Includes the employer's Normal Cost and a provision for amortizing the Unfunded Actuarial Accrued Liability.

Expected Benefit Payments – Those OPEB amounts that are expected to be paid by the employer at various future times under a particular set of Actuarial Assumptions, taking into account such times as the advancement in age and past and future service credits.

Explicit Subsidy – The difference between (a) the blended rates based on combined active and retired member experience and (b) actual cash contributions made by the employer.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

Health Cost Trend Rate – The rate of change in per capita health claims cost over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

SECTION 9 - GASB 45 GLOSSARY OF TERMS

Implicit Subsidy – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group and (b) the blended rates based on combined active and retired member experience.

Net OPEB Obligation – The cumulative excess since adoption of GASB 45 of Annual OPEB Cost over the employer's contributions to the plan.

Normal Cost – The portion of the Actuarial Present Value of Future Benefits which is allocated to a valuation year.

OPEB – Other Postemployment Benefits including medical, dental, vision, hearing and life insurance benefits.

Plan Assets – Investments segregated and restricted in a trust or similar arrangement under which:

- employer contributions to the trust are irrevocable,
- assets are dedicated to providing plan benefits, and
- assets are legally protected from creditors.

Pay-As-You-Go – A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Projected Unit Credit Actuarial Cost Method – A method under which the projected benefits of each individual included in an Actuarial Valuation are allocated by a consistent formula to valuation years. Projected Unit Credit is one of the actuarial cost methods allowed and most often used for developing liabilities under GASB 45.

Substantive Plan – The terms of an OPEB plan as understood by the employer and plan members.

Unfunded Actuarial Accrued Liability – The excess of Actuarial Accrued Liability over the Actuarial Value of Assets.

SECTION 10 - RESULTS BY SUBGROUP

Subgroup	<u>Town</u>	<u>Public Safety</u>	<u>School</u> (MTRB)	<u>School (BRS)</u>	<u>Light</u>	<u>Water</u>	<u>Sewer</u>	<u>Total</u>
Summary of Member Data								
Active Members	122	121	312	204	31	12	12	814
Average Age	51.3	45.1	41.1	48.3	47.4	53.1	48.2	45.6
Average Service	12.0	15.3	10.3	10.0	13.7	17.6	13.3	11.5
Retired Members and Survivors	90	123	199	56	22	12	8	510
Average Age	75.5	72.5	74.0	78.7	73.7	78.3	71.6	74.5
Actuarial Accrued Liability - July 1, 2016								
Active Employees	13,225,022	22,982,453	36,225,362	20,853,715	4,073,066	2,292,872	1,943,366	101,595,856
Retired Employees, Spouses and Survivors	11,514,953	22,014,134	40,242,744	6,437,960	3,902,711	1,391,768	1,806,589	87,310,859
Total	24,739,975	44,996,587	76,468,106	27,291,675	7,975,777	3,684,640	3,749,955	188,906,715
Actuarial Value of Plan Assets - July 1, 2016								
	262,199	476,883	810,424	289,242	212,347	261,511	261,511	2,574,117
Unfunded Actuarial Accrued Liability								
	24,477,776	44,519,704	75,657,682	27,002,433	7,763,430	3,423,129	3,488,444	186,332,598
Annual Required Contribution (ARC) for FYE 2017								
Normal Cost	1,012,146	1,638,115	2,829,208	1,712,997	284,600	101,148	109,499	7,687,713
Amortization of UAL	1,399,530	2,545,438	4,325,768	1,543,878	443,878	195,719	199,454	10,653,665
Interest	102,496	177,801	304,087	138,417	30,960	12,617	13,131	779,509
Total	2,514,172	4,361,354	7,459,063	3,395,292	759,438	309,484	322,084	19,120,887
Annual OPEB Cost for FYE 2017								
Annual Required Contribution	2,514,172	4,361,354	7,459,063	3,395,292	759,438	309,484	322,084	19,120,887
Interest on Net OPEB Obligation	499,368	1,020,430	1,636,929	765,493	159,954	74,062	62,134	4,218,370
Adjustment to annual required contribution	(681,219)	(1,392,033)	(2,233,038)	(1,044,258)	(218,204)	(101,033)	(84,761)	(5,754,546)
Annual OPEB cost	2,332,321	3,989,751	6,862,954	3,116,527	701,188	282,513	299,457	17,584,711
Expected Benefit Payments	(615,038)	(961,907)	(1,659,805)	(450,751)	(189,498)	(95,613)	(73,882)	(4,046,494)
OPEB Trust contributions	(45,136)	(82,093)	(139,510)	(49,791)	(14,435)	(6,359)	(6,358)	(343,682)
Employer contributions	(660,174)	(1,044,000)	(1,799,315)	(500,542)	(203,933)	(101,972)	(80,240)	(4,390,176)
Change in Net OPEB Obligation	1,672,147	2,945,751	5,063,639	2,615,985	497,255	180,541	219,217	13,194,535
Net OPEB Obligation, beginning of year	11,097,057	22,676,215	36,376,198	17,010,959	3,554,539	1,645,824	1,380,764	93,741,556
Net OPEB Obligation, end of year	12,769,204	25,621,966	41,439,837	19,626,944	4,051,794	1,826,365	1,599,981	106,936,091

Town of Belmont Postemployment Benefits Other Than Pensions
Actuarial Valuation as of July 1, 2016

SECTION 10 - RESULTS BY SUBGROUP

Notes:

1. "School MTRB" includes School Employees and Retirees who are members of the Massachusetts Teachers Retirement System.
2. "School BRS" includes School Employees and Retirees who are members of the Belmont Contributory Retirement System.
3. The OPEB trust assets as of July 1, 2016 are based on information provided in the Town's audited financial statements.
4. Assets and OPEB Trust contributions for Town and School are allocated based on their Actuarial Accrued Liability as of July 1, 2016.
5. Assets and OPEB Trust contributions for Water and Sewer departments are split 50/50.
6. Assets and OPEB Trust contribution information for Town, Water/Sewer and Light Department were provided by the Town.