



**TOWN OF BELMONT, MASSACHUSETTS**

**OTHER POSTEMPLOYMENT BENEFITS PROGRAM**

**ACTUARIAL VALUATION**

**July 1, 2014**

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May 1, 2015

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, 2014. 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.

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 normal cost 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 4.5% 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.

We also provide a 30-year forecast of the OPEB liability as well as a 10-year forecast of the Annual OPEB Cost and the Net OPEB Obligation in Section 4.

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Ms. Chitra Subramanian  
May 1, 2015  
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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 rates provided by the Town in the file "HEALTH INSURANCE RATES Effective July 1, 2015".

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.

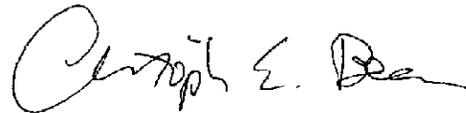
We appreciate this opportunity to be of service to the Town of Belmont. We are available to answer any questions with respect to our valuation.

Respectfully submitted,



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Member, American Academy of Actuaries  
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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, 2014. 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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Linda L. Bournival, FSA, EA, MAAA  
Member, American Academy of Actuaries  
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Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2014

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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, 2014, there are 801 active employees who may be eligible for benefits in the future and 691 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 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 of Belmont 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

Valuation Date	<u>July 1, 2014</u>	<u>July 1, 2012</u>
<b>Summary of Member Data</b>		
Active Members*	801	670
Average Age	43.8	44.8
Average Service	9.8	10.8
Retired Employees and Survivors	491	493
Average Age	72.7	71.9
Covered Spouses	200	197
<b>Discount rate</b>	4.50%	4.50%
<b>Actuarial Accrued Liability</b>	\$172,745,213	\$195,943,349
<b>Normal Cost</b>	\$6,244,870	\$7,105,719
<b>Assets</b>	\$1,720,389	\$1,009,894
<b>Unfunded Actuarial Accrued Liability</b>	\$171,024,824	\$194,933,455
<b>Annual Required Contribution</b>	\$17,026,532	\$19,375,232
<b>Expected Benefit Payments</b>	\$4,603,315	\$4,581,828

\* See note in Section 7 - Actuarial Assumptions and Methods regarding increase in Active Members count.

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## 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 4.5% discount rate to reflect the partial pre-funding of future payments.

### CHANGES

Some assumptions used in this valuation have changed from those used in the July 1, 2012 valuation and are detailed in Section 7. The major assumption changes are summarized below:

- ◆ the pre-retirement and post-retirement mortality rates were changed to reflect those used by the Massachusetts Teachers and Belmont Retirement Systems actuaries.
- ◆ all pre-retirement decrements were updated to reflect those used by the Massachusetts Teachers and Belmont Retirement Systems actuaries.
- ◆ Participation rates were decreased to more closely reflect estimated participation in the postemployment health insurance programs.
- ◆ The excise tax imposed by the Patient Protection and Affordable Care Act (PPACA) was incorporated in this valuation.

### RESULTS

We have provided results based on a discount rate of 4.5%. As shown in Table 4.2 of Section 4, the Annual OPEB Cost for the fiscal year ending June 30, 2015 under GASB 45 is \$15,852,448 and the estimated Annual OPEB Cost for the fiscal year ending June 30, 2016 under GASB 45 is \$16,442,531.

The accumulated Net OPEB Obligation as of June 30, 2015 is \$82,630,019 and the estimated Net OPEB Obligation as of June 30, 2016 is \$93,885,085.

The Unfunded Actuarial Accrued Liability (UAAL) as of July 1, 2014 is \$171,024,824. The UAAL is shown below:

Actuarial Accrued Liability (AAL)	
Actives	\$99,507,438
Retirees, Beneficiaries and Surviving Spouses	73,237,775
Total Actuarial Accrued Liability	\$172,745,213
Actuarial Value of Assets	\$1,720,389
Unfunded Actuarial Accrued Liability (UAAL)	\$171,024,824

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2014

## 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 two-year period:

	<u>July 1, 2012</u>	<u>July 1, 2013</u>
Actuarial Accrued Liability, beginning of year	\$195,943,349	\$207,502,491
Normal Cost	7,105,719	7,318,891
Expected Benefit Payments	(4,581,828)	(5,091,525)
Interest	9,035,251	9,553,663
Expected Actuarial Accrued Liability, end of year	\$207,502,491	\$219,283,520
Actual Actuarial Accrued Liability		\$172,745,213
(Gain)/Loss during the two-year period		(\$46,538,307)

The actuarial gain of \$46,538,307 was mostly comprised of the following:

◆ gain as a result of favorable demographic experience and data changes	(9,757,220)
◆ gain as a result of current premium rates less than expected from the prior valuation	(49,486,740)
◆ loss as a result of demographic assumption changes	7,311,084
◆ gain as a result of changes to participation rates	(5,771,435)
◆ loss as a result of the valuation of the excise tax imposed by the Patient Protection and Affordable Care Act, effective 2018 ("Cadillac Tax")	11,166,004
◆ Total (Gain)/Loss	(46,538,307)

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## SECTION 1 - SUMMARY

### REIMBURSEMENT FOR HEALTHCARE PREMIUM CONTRIBUTIONS

Whenever the service of a retired employee is attributable to service in more than one Massachusetts governmental unit and the retired employee receives a healthcare premium contribution, Section 9A1/2 of M.G.L. Section 32B provides for reimbursement by other governmental units for the portion of healthcare premium contributions that corresponds to the percentage of the retiree's creditable service that is attributable for each governmental unit. The other governmental units shall be charged based on the Town of Belmont's contribution rate or the contribution rate of the first employer, whichever is lower.

For purposes of this valuation, we have not taken into account any prior service rendered at other Massachusetts entities for current or future retirees for the Town of Belmont nor have we taken into account any service rendered by former Town of Belmont employees currently working at or retired from other Massachusetts entities that may notify the Town of Belmont of reimbursement due for former Town of Belmont employees.

## 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, 2012 through June 30, 2014 follows:

**TABLE 2.1 - OPEB TRUST ASSETS**

<b>Market Value of Assets</b>		
<b>Fiscal Year Ending</b>	<b><u>6/30/2014</u></b>	<b><u>6/30/2013</u></b>
Assets as of Beginning of Year	\$1,380,863	\$1,316,700
OPEB Trust Contributions	242,342	11,952
Benefits Paid	0	\$0
Expenses	0	0
Investment Earnings	97,184	52,211
Assets as of End of Year	\$1,720,389	\$1,380,863

OPEB trust assets as of June 30, 2013 and June 30, 2014 are based on information provided in the Town's audited financial statements.

## 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 4.5%, 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**

	<u>Partial Pre-Funding</u>	<u>Full Pre-Funding</u>
<b>Discount Rate</b>	<b>4.5%</b>	<b>7.5%</b>
<b>Current Active Employees</b>		
Pre-Medicare Gross Benefit	\$36,637,806	\$23,563,658
Pre-Medicare Participant Contributions	4,470,426	2,921,443
Net Pre-Medicare Benefit	\$32,167,380	\$20,642,215
Post - Medicare Gross Benefit	\$91,020,562	\$42,325,686
Post - Medicare Participant Contributions	23,680,504	11,487,449
Net Post - Medicare Benefit	\$67,340,058	\$30,838,237
<b>Total Current Active Employees</b>	<b>\$99,507,438</b>	<b>\$51,480,452</b>
 <b>Current Retirees</b>		
Pre-Medicare Gross Benefit	\$12,287,023	\$10,409,131
Pre-Medicare Participant Contributions	1,674,968	1,429,778
Net Pre-Medicare Benefit	\$10,612,055	\$8,979,353
Post - Medicare Gross Benefit	\$85,787,197	\$61,290,954
Post - Medicare Participant Contributions	23,161,477	16,851,963
Net Post - Medicare Benefit	\$62,625,720	\$44,438,991
<b>Total Current Retirees</b>	<b>\$73,237,775</b>	<b>\$53,418,344</b>
<b>Total Actuarial Accrued Liability (AAL)</b>	<b>\$172,745,213</b>	<b>\$104,898,796</b>

## 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 4.5%, 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**

	<u>Partial Pre-Funding</u>	<u>Full Pre-Funding</u>
<b>Discount Rate</b>	<b>4.5%</b>	<b>7.5%</b>
<b>Current Active Employees</b>		
Pre-Medicare Gross Benefit	\$2,065,626	\$1,141,741
Pre-Medicare Participant Contributions	238,034	133,342
Net Pre-Medicare Benefit	\$1,827,592	\$1,008,399
Post - Medicare Gross Benefit	\$5,909,627	\$2,263,541
Post - Medicare Participant Contributions	1,492,349	598,081
Net Post - Medicare Benefit	\$4,417,278	\$1,665,460
<b>Total Current Active Employees</b>	<b>\$6,244,870</b>	<b>\$2,673,859</b>
<b>Current Retirees</b>		
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
<b>Total Current Retirees</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Normal Cost (NC)</b>	<b>\$6,244,870</b>	<b>\$2,673,859</b>

## 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, 2014, 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>
<b>Discount Rate</b>	<b>4.5%</b>	<b>7.5%</b>
1. Normal Cost	\$6,244,870	\$2,673,859
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$172,745,213	\$104,898,796
b. Actuarial Value of Plan Assets	\$1,720,389	\$1,720,389
c. Unfunded Actuarial Accrued Liability	\$171,024,824	\$103,178,407
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$171,024,824	\$103,178,407
b. Amortization Period in years	30	30
c. Factor Increasing Rate	0.0%	0.0%
d. Amortization Factor	17.02	12.70
e. Amortization Amount (3.a. / 3.d.)	\$10,048,462	\$8,124,284
4. Interest on 1. and 3.e.	\$733,200	\$809,861
5. Annual Required Contribution (1. + 3.e. + 4.)	\$17,026,532	\$11,608,004
6. Net OPEB Obligation, beginning of year	\$71,645,768	Not Applicable
7. Interest on Net OPEB Obligation at 4.5%	\$3,224,060	Not Applicable
8. Adjustment to Annual Required Contribution at 4.5%	(\$4,398,144)	Not Applicable
9. Annual OPEB Cost (5. + 7. + 8.)	\$15,852,448	Not Applicable

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2014

## 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, information about the Actuarial Methods and Assumptions used in the valuation and a summary of the Substantive Plan Provisions are disclosed, which are provided in Section 6 and Section 7, respectively.

<b>Annual OPEB Cost and Net OPEB Obligation<sup>1</sup></b>			
Fiscal Year Ending	<u>6/30/2015</u>	<u>6/30/2014</u>	<u>6/30/2013</u>
Discount rate	4.50%	4.50%	4.50%
Annual Required Contribution	\$17,026,532	\$20,304,505	\$19,375,232
Interest on Net OPEB Obligation	3,224,060	2,593,418	2,174,660
Adjustment to annual required contribution	(4,398,144)	(3,537,846)	(3,312,383)
Annual OPEB Cost	\$15,852,448	\$19,360,077	\$18,237,509
Expected Benefit Payments	(4,603,315)	(5,091,525)	(4,581,828)
Employer contributions to OPEB Trust	(264,882)	(254,294)	-
Total employer contributions	(4,868,197)	(5,345,819)	(4,581,828)
Change in Net OPEB Obligation	\$10,984,251	\$14,014,258	\$13,655,681
Net OPEB Obligation - beginning of year	\$71,645,768	\$57,631,510	\$43,975,829
Net OPEB Obligation - end of year	\$82,630,019	\$71,645,768	\$57,631,510

<sup>1</sup> Entries for FY2013 and FY2014 are based on information provided in the Town's audited financial statements.

Fiscal Year Ended	Annual OPEB Cost	Plan History Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation
6/30/2015	15,852,448	30.7%	82,630,019
6/30/2014	19,360,077	27.6%	71,645,768
6/30/2013	18,237,509	25.1%	57,631,510

<b>Schedule of Funding Progress</b>						UAAAL as a Percentage of Covered Payroll
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	((b-a) / c)
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%
7/1/2010	1,009,894	184,907,102	183,897,208	0.55%	39,766,311	462.4%

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2014

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## 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 with interest 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 \$250,000 made annually to the OPEB trust until 2027. Thereafter, contributions of approximately \$14,765,000 are made until the accrued liability is fully funded.

- ◆ The assumed discount rate is 4.5%.
- ◆ Amortization Amount is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 4.5% 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 Nominal 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
2015	6,244,870	172,745,213	4,603,315	1,720,389	171,024,824	10,048,462	733,200	17,026,532	264,882
2016	6,432,216	182,338,887	4,937,465	1,960,254	180,378,633	10,598,040	766,362	17,796,618	250,000
2017	6,625,182	192,218,467	5,250,585	2,188,595	190,029,872	11,165,092	800,562	18,590,836	250,000
2018	6,823,937	202,424,190	5,648,574	2,420,244	200,003,946	11,751,113	835,877	19,410,927	250,000
2019	7,028,655	212,890,024	6,212,795	2,653,461	210,236,563	12,352,325	872,144	20,253,124	250,000
2020	7,239,515	223,463,975	6,552,945	2,884,617	220,579,358	12,960,009	908,979	21,108,503	250,000
2021	7,456,700	234,386,383	6,918,051	3,118,606	231,267,777	13,588,001	947,012	21,991,713	250,000
2022	7,680,401	245,654,027	7,368,687	3,355,000	242,299,027	14,236,136	986,244	22,902,781	250,000
2023	7,910,813	257,201,819	7,678,989	3,592,004	253,609,815	14,900,694	1,026,518	23,838,025	250,000
2024	8,148,137	269,192,835	8,074,996	3,832,768	265,360,067	15,591,073	1,068,264	24,807,474	250,000
2025	8,392,581	281,566,632	8,374,560	4,075,554	277,491,078	16,303,824	1,111,338	25,807,743	250,000
2026	8,644,358	294,446,463	8,744,906	4,322,600	290,123,863	17,046,055	1,156,069	26,846,482	250,000
2027	8,903,689	307,790,407	9,119,670	4,572,522	303,217,885	17,815,387	1,202,358	27,921,434	250,000
2028	9,170,800	321,622,726	9,550,087	4,825,351	316,797,375	18,613,242	1,250,282	29,034,324	14,750,000
2029	9,445,924	335,916,635	10,007,447	19,579,979	316,336,656	18,586,173	1,261,444	29,293,541	14,750,000
2030	9,729,302	350,673,737	10,350,910	34,988,388	315,685,349	18,547,905	1,272,474	29,549,681	14,750,000
2031	10,021,181	366,039,933	10,853,702	51,082,533	314,957,400	18,505,135	1,283,684	29,810,000	14,750,000
2032	10,321,816	381,888,641	11,209,842	67,889,726	313,998,915	18,448,820	1,294,679	30,065,315	14,750,000
2033	10,631,470	398,400,640	11,652,417	85,445,318	312,955,322	18,387,504	1,305,854	30,324,828	14,750,000
2034	10,950,414	415,526,844	11,927,308	103,781,063	311,745,781	18,316,438	1,317,008	30,583,860	14,750,000
2035	11,278,926	433,476,015	12,391,680	122,935,799	310,540,216	18,245,606	1,328,604	30,853,136	14,750,000
2036	11,617,294	452,101,489	12,814,925	142,942,165	309,159,324	18,164,473	1,340,180	31,121,947	14,750,000
2037	11,965,813	471,486,040	13,154,948	163,839,399	307,646,641	18,075,596	1,351,863	31,393,272	14,750,000
2038	12,324,787	491,759,509	13,710,349	185,669,443	306,090,066	17,984,140	1,363,902	31,672,829	14,750,000
2039	12,694,531	512,752,652	14,387,275	208,469,480	304,283,172	17,877,977	1,375,763	31,948,271	14,750,000
2040	13,075,367	534,384,880	15,028,179	232,280,455	302,104,425	17,749,966	1,387,140	32,212,473	14,750,000
2041	13,467,628	556,733,366	15,461,886	257,148,662	299,584,704	17,601,922	1,398,130	32,467,680	14,750,000
2042	13,871,657	580,054,088	15,996,555	283,126,287	296,927,801	17,445,817	1,409,286	32,726,760	14,750,000
2043	14,287,807	604,299,887	16,718,589	310,261,008	294,038,879	17,276,080	1,420,375	32,984,262	14,750,000
2044	14,716,441	629,333,522	17,259,272	338,600,724	290,732,798	17,081,833	1,430,922	33,229,196	14,750,000
2045	15,157,934	655,388,878	17,566,201	368,203,696	287,185,182	16,873,395	1,441,410	33,472,739	14,750,000

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2014

30 years open, 4.5% 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
								71,645,768
2015	17,026,532	3,224,060	(4,398,144)	16.29	15,852,448	4,868,197	10,984,251	82,630,019
2016	17,796,618	3,718,351	(5,072,438)	16.29	16,442,531	5,187,465	11,255,066	93,885,085
2017	18,590,836	4,224,829	(5,763,357)	16.29	17,052,308	5,500,585	11,551,723	105,436,808
2018	19,410,927	4,744,656	(6,472,487)	16.29	17,683,096	5,898,574	11,784,522	117,221,330
2019	20,253,124	5,274,960	(7,195,907)	16.29	18,332,177	6,462,795	11,869,382	129,090,712
2020	21,108,503	5,809,082	(7,924,537)	16.29	18,993,048	6,802,945	12,190,103	141,280,815
2021	21,991,713	6,357,637	(8,672,855)	16.29	19,676,495	7,168,051	12,508,444	153,789,259
2022	22,902,781	6,920,517	(9,440,716)	16.29	20,382,582	7,618,687	12,763,895	166,553,154
2023	23,838,025	7,494,892	(10,224,257)	16.29	21,108,660	7,928,989	13,179,671	179,732,825
2024	24,807,474	8,087,977	(11,033,323)	16.29	21,862,128	8,324,996	13,537,132	193,269,957

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 4.5%.

## SECTION 5 - SENSITIVITY TO HEALTH CARE COST TREND RATE

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

**TABLE 5.1 - ACTUARIAL ACCRUED LIABILITY**

	<u>Assumed Trend</u>	<u>Trend +1%</u>	<u>Trend -1%</u>
<b>Discount Rate</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>
<b>Current Active Employees</b>			
Pre-Medicare Gross Benefit	\$36,637,806	\$42,832,924	\$31,530,147
Pre-Medicare Participant Contributions	4,470,426	5,199,930	3,866,512
Net Pre-Medicare Benefit	\$32,167,380	\$37,632,994	\$27,663,635
Post - Medicare Gross Benefit	\$91,020,562	\$120,793,194	\$69,602,284
Post - Medicare Participant Contributions	23,680,504	30,979,532	18,362,416
Net Post - Medicare Benefit	\$67,340,058	\$89,813,662	\$51,239,868
<b>Total Current Active Employees</b>	<b>\$99,507,438</b>	<b>\$127,446,656</b>	<b>\$78,903,503</b>
<b>Current Retirees</b>			
Pre-Medicare Gross Benefit	\$12,287,023	\$13,004,165	\$11,644,956
Pre-Medicare Participant Contributions	1,674,968	1,767,957	1,591,351
Net Pre-Medicare Benefit	\$10,612,055	\$11,236,208	\$10,053,605
Post - Medicare Gross Benefit	\$85,787,197	\$96,913,793	\$76,471,139
Post - Medicare Participant Contributions	23,161,477	25,993,046	20,775,205
Net Post - Medicare Benefit	\$62,625,720	\$70,920,747	\$55,695,934
<b>Total Current Retirees</b>	<b>\$73,237,775</b>	<b>\$82,156,955</b>	<b>\$65,749,539</b>
<b>Total Actuarial Accrued Liability (AAL)</b>	<b>\$172,745,213</b>	<b>\$209,603,611</b>	<b>\$144,653,042</b>
	<b>Change \$</b>	<b>\$36,858,398</b>	<b>(\$28,092,171)</b>
	<b>Change %</b>	<b>21.3%</b>	<b>-16.3%</b>

## SECTION 5 - SENSITIVITY TO HEALTH CARE COST TREND RATE

Below we illustrate the sensitivity of Normal Cost to a one percentage increase and decrease in health care cost trend assumption for each future year:

**TABLE 5.2 - NORMAL COST**

	<u>Assumed Trend</u>	<u>Trend +1%</u>	<u>Trend -1%</u>
<b>Discount Rate</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>
<b>Current Active Employees</b>			
Pre-Medicare Gross Benefit	\$2,065,626	\$2,537,810	\$1,689,647
Pre-Medicare Participant Contributions	238,034	291,314	195,480
Net Pre-Medicare Benefit	\$1,827,592	\$2,246,496	\$1,494,167
Post - Medicare Gross Benefit	\$5,909,627	\$8,360,571	\$4,233,650
Post - Medicare Participant Contributions	1,492,349	2,081,160	1,084,541
Net Post - Medicare Benefit	\$4,417,278	\$6,279,411	\$3,149,109
<b>Total Current Active Employees</b>	<b>\$6,244,870</b>	<b>\$8,525,907</b>	<b>\$4,643,276</b>
<b>Current Retirees</b>			
Pre-Medicare Gross Benefit	\$0	\$0	\$0
Pre-Medicare Participant Contributions	0	0	0
Net Pre-Medicare Benefit	\$0	\$0	\$0
Post - Medicare Gross Benefit	\$0	\$0	\$0
Post - Medicare Participant Contributions	0	0	0
Net Post - Medicare Benefit	\$0	\$0	\$0
<b>Total Current Retirees</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Normal Cost</b>	<b>\$6,244,870</b>	<b>\$8,525,907</b>	<b>\$4,643,276</b>

	<b>Change \$</b>	\$2,281,037	(\$1,601,594)
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	<b>Change %</b>	36.5%	-25.6%
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## SECTION 6 - 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, 2015</u>	<u>Individual</u>	<u>Family</u>
Harvard Pilgrim HMO	\$626.01	\$1,696.05
Harvard Pilgrim PPO	\$999.67	\$2,719.11

<u>Medicare Plans - July 1, 2015</u>	
Harvard Pilgrim Medicare Enhance Value	\$432.49
Tufts Medicare Preferred HMO Prime*	\$277.50

\* rates effective January 1, 2015

**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.

**Medicare Part B:** The Town reimburses retirees and spouses 50% of the monthly Medicare Part B premium. For 2014, the monthly Medicare Part B premium is \$104.90.

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

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## SECTION 6 - PLAN PROVISIONS

<b>Life Insurance Benefit:</b>	Retirees are eligible for a \$2,000 life insurance benefit.
<b>Life Insurance Premium:</b>	The total monthly cost is \$4.74.
<b>Life Insurance Contributions:</b>	Retired employees contribute 50% of the total life insurance premium rates.
<b>Medicare Part B Penalty:</b>	Retirees and spouses are reimbursed any Medicare late enrollment penalty based on the information provided in the data.
<b>PPACA Excise Tax:</b>	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 2018. The 2018 thresholds are assumed to be \$10,200 for individual and \$27,500 for family coverage and increase by the Consumer Price Index (CPI) in future years. The annual limits are increased by \$1,650 for individual and \$3,450 for family coverage for retirees not eligible for Medicare benefits.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Valuation Date:** July 1, 2014

**Discount Rates:** 4.50% partial pre-funding.  
7.50% full pre-funding.

**Amortization Method:** Level dollar amount over 30 years on an open amortization period for partial pre-funding.  
Level dollar amount over 30 years on a closed amortization period for full pre-funding.

Health Care Cost Trend Rates:	<u>Year</u>	<u>Current</u>	<u>Prior</u>
	1	8.00%	10.00%
	2	7.00%	9.00%
	3	6.00%	8.00%
	4	5.00%	7.00%
	5	5.00%	6.00%
	6	5.00%	5.00%
	Ultimate	5.00%	5.00%

**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. Previously, 95%.

**Life Insurance Participation:** 60% of eligible retirees will elect to participate.

**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.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Medical Per Capita Costs:** Annual per capita costs for the fiscal year beginning July 1, 2014 are shown below, along with the costs used in the prior valuation:

<u>Age</u>	<u>Current</u>	<u>Prior*</u>
Under 25	\$3,962	
25-29	\$5,108	
30-34	\$6,441	
35-39	\$7,132	
40-44	\$7,920	
45-49	\$9,263	
50-54	\$11,516	\$10,448
55-59	\$13,664	\$12,397
60-64	\$16,592	\$15,054
65-69	\$5,620	\$8,295
70-74	\$6,421	\$9,477
75-79	\$7,159	\$10,566
80-84	\$7,674	\$11,326
85-89	\$7,946	\$11,728
90+	\$8,026	\$11,846

\* per capita costs for ages prior to 50 were not disclosed in the prior valuation report.

**Retiree Contributions:** Annual average per capita participant contributions for the fiscal year beginning July 1, 2014 are shown below, along with the contributions used in the prior valuation:

<u>Age</u>	<u>Current</u>	<u>Prior</u>
Under 65	\$2,126	\$2,176
65 and older	\$2,259	\$2,360

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## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**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 2018, a 40% excise tax is applied on the excess of the plan costs over the thresholds, which increase annually by CPI.

**Actuarial Cost Method:** Projected Unit Credit. The costs of each employee's postemployment benefits are allocated on a pro rata basis from the employee's date of hire to the date the employee is fully eligible for benefits.

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

The Town provided data on 801 active employees for this valuation as compared to 670 active employees for the prior valuation. We assumed that the Town provided only employees enrolled in a medical plan for the prior valuation, and provided all potentially eligible employees for this valuation. We have modified the participation assumption from 95% to 90% to reflect our understanding of the change in the employees submitted.

## 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, projected to 2019, using Scale AA.

**Pre-Retirement Mortality:** Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2000 Employee Mortality Table, projected to 2027, using Scale AA.

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

General		Public Safety	
Service	Rate	Service	Rate
0	15.00%	0-10	1.5%
1	12.00%	11	0.0%
2	10.00%		
3	9.00%		
4	8.00%		
5	7.60%		
6	7.50%		
7	6.70%		
8	6.30%		
9	5.90%		
10	5.40%		
11	5.00%		
12	4.60%		
13	4.10%		
14	3.70%		
15	3.30%		
16-20	2.00%		
21-29	1.00%		
30+	0.00%		

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

General		Public Safety
Age	Rate	Rate
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 the disabilities are job-related.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates:**

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

<u>Age</u>	<b>General</b>		<b>Public Safety</b>
	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-2000 Healthy Annuitant Mortality Table, adjusted for large annuity amounts, projected to 2017, using Scale AA.

**Pre-Retirement Mortality:** Pre-retirement mortality rates for Teachers are based on the RP-2000 Mortality Table, adjusted for 'white collar' employment, projected to 2022, using Scale AA.

**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:

<u>Age</u>	<u>Rate</u>
20	0.004%
30	0.006%
40	0.010%
50	0.050%
60	0.100%

35% of the disabilities are job-related.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates:**

Retirement rates for Teachers are as follows:

<u>Age</u>	<u>Years of Service</u>			
	<u>Less than 20</u>		<u>20+</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
50	0.0%	0.0%	2.0%	1.0%
51	0.0%	0.0%	2.0%	1.0%
52	0.0%	0.0%	2.0%	1.5%
53	0.0%	0.0%	2.0%	2.0%
54	0.0%	0.0%	3.0%	2.0%
55	3.5%	3.5%	3.0%	4.0%
56	3.5%	3.5%	3.5%	4.0%
57	5.0%	3.5%	4.0%	4.0%
58	5.5%	5.0%	5.0%	6.0%
59	6.0%	6.5%	6.0%	8.0%
60	7.5%	8.5%	15.0%	15.0%
61	12.0%	10.0%	25.0%	20.0%
62	14.0%	12.0%	30.0%	25.0%
63	14.0%	12.0%	30.0%	25.0%
64	14.0%	20.0%	30.0%	30.0%
65	30.0%	30.0%	30.0%	40.0%
66	30.0%	30.0%	25.0%	30.0%
67	30.0%	30.0%	25.0%	30.0%
68	30.0%	30.0%	25.0%	30.0%
69	30.0%	30.0%	25.0%	30.0%
70	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, 2014**

Age	Years of Service									Total	Percent
	<u>0 to 4</u>	<u>5 to 9</u>	<u>10 to 14</u>	<u>15 to 19</u>	<u>20 to 24</u>	<u>25 to 29</u>	<u>30 to 34</u>	<u>35 to 39</u>	<u>40 &amp; up</u>		
Under 25	25	0	0	0	0	0	0	0	0	25	3%
25 to 29	87	19	1	0	0	0	0	0	0	107	13%
30 to 34	65	61	14	1	0	0	0	0	0	141	18%
35 to 39	25	34	29	4	0	0	0	0	0	92	11%
40 to 44	16	15	22	15	3	0	0	0	0	71	9%
45 to 49	21	16	11	28	3	3	0	0	0	82	10%
50 to 54	24	21	17	13	5	18	5	0	0	103	13%
55 to 59	10	17	10	18	5	14	5	2	0	81	10%
60 to 64	11	9	9	11	7	4	1	1	0	53	7%
65 to 69	3	11	3	5	3	2	1	1	3	32	4%
70 & up	0	3	2	2	3	1	1	0	2	14	2%
Total	287	206	118	97	29	42	13	4	5	801	
Percent	35%	26%	15%	12%	4%	5%	2%	0%	1%		100%
	Average Age:		43.8		Average Service:		9.8				

## SECTION 8 - PLAN MEMBER INFORMATION

**TABLE 8.2 - RETIRED EMPLOYEES, COVERED SPOUSES and SURVIVORS AS OF JULY 1, 2014**

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	2	0	0	0	0	2
45 to 49	2	0	0	0	0	2
50 to 54	6	0	0	1	0	7
55 to 59	16	0	1	1	0	18
60 to 64	32	2	14	5	2	55
65 to 69	10	2	77	15	28	132
70 to 74	10	3	53	14	4	84
75 to 79	4	2	58	8	2	74
80 to 84	2	0	53	1	3	59
85 to 89	0	1	25	5	2	33
90+	2	2	14	2	4	24
Total	87	12	295	52	45	491
Covered Spouses	53	1	120	26		200

347 retirees and 146 spouses receive a monthly reimbursement of 50% of the Medicare Part B premium.

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## 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.

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## 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 (MTRB)</u>	<u>School (BRS)</u>	<u>Light</u>	<u>Water</u>	<u>Sewer</u>	<u>Total</u>
<b>Summary of Member Data</b>								
Active Members	117	118	313	204	29	11	9	801
Average Age	50.3	43.7	39.1	46.3	46.1	52.4	47.8	43.8
Average Service	10.9	13.9	8.3	8.0	12.7	16.2	14.5	9.8
Retired Members and Survivors	78	121	198	54	21	11	8	491
Average Age	74.2	70.8	72.0	77.2	71.3	78.1	69.3	72.7
<b>Actuarial Accrued Liability - July 1, 2014</b>								
Active Employees	12,698,183	29,031,200	30,582,454	19,053,297	4,223,215	2,243,078	1,676,011	99,507,438
Retired Employees and Survivors	10,296,299	21,972,711	28,443,117	6,567,403	3,169,955	1,344,798	1,443,492	73,237,775
Total	22,994,482	51,003,911	59,025,571	25,620,700	7,393,170	3,587,876	3,119,503	172,745,213
<b>Actuarial Value of Plan Assets - July 1, 2014</b>	160,166	355,263	411,137	178,458	165,299	225,033	225,033	1,720,389
<b>Unfunded Actuarial Accrued Liability</b>	22,834,316	50,648,648	58,614,434	25,442,242	7,227,871	3,362,843	2,894,470	171,024,824
<b>Annual Required Contribution (ARC) for FYE 2015</b>								
Normal Cost	716,700	1,256,842	2,661,471	1,290,699	169,753	72,807	76,598	6,244,870
Amortization of UAL	1,341,617	2,975,831	3,443,856	1,494,844	424,669	197,582	170,063	10,048,462
Interest	92,624	190,470	274,740	125,349	26,749	12,168	11,100	733,200
<b>Total</b>	<b>2,150,941</b>	<b>4,423,143</b>	<b>6,380,067</b>	<b>2,910,892</b>	<b>621,171</b>	<b>282,557</b>	<b>257,761</b>	<b>17,026,532</b>
<b>Annual OPEB Cost for FYE 2015</b>								
Annual Required Contribution	2,150,941	4,423,143	6,380,067	2,910,892	621,171	282,557	257,761	17,026,532
Interest on Net OPEB Obligation	385,529	774,590	1,254,641	572,427	126,650	62,528	47,695	3,224,060
Adjustment to annual required contribution	(525,925)	(1,056,667)	(1,711,535)	(780,884)	(172,771)	(85,298)	(65,064)	(4,398,144)
Annual OPEB cost/(expense)	2,010,545	4,141,066	5,923,173	2,702,435	575,050	259,787	240,392	15,852,448
Expected Benefit Payments	(688,003)	(1,349,784)	(1,657,777)	(530,970)	(180,398)	(124,381)	(72,002)	(4,603,315)
OPEB Trust contributions	(35,053)	(77,750)	(89,978)	(39,056)	(11,920)	(5,563)	(5,562)	(264,882)
Employer contributions	(723,056)	(1,427,534)	(1,747,755)	(570,026)	(192,318)	(129,944)	(77,564)	(4,868,197)
Change in Net OPEB Obligation	1,287,489	2,713,532	4,175,418	2,132,409	382,732	129,843	162,828	10,984,251
Net OPEB Obligation (Asset) - beginning of year	8,567,312	17,213,106	27,880,914	12,720,607	2,814,436	1,389,500	1,059,893	71,645,768
Net OPEB Obligation (Asset) - end of year	9,854,801	19,926,638	32,056,332	14,853,016	3,197,168	1,519,343	1,222,721	82,630,019

Town of Belmont, Massachusetts Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2014

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## 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 market value of assets as of July 1, 2014 were provided by the Town.
4. Assets and OPEB Trust contributions for Water and Sewer departments are split 50/50.
5. Assets and OPEB Trust contributions for Town and School are allocated based on their Actuarial Accrued Liability as of July 1, 2014.