



**TOWN OF BELMONT**

**OTHER POSTEMPLOYMENT BENEFITS PROGRAM**

**ACTUARIAL VALUATION**

**July 1, 2012**

Prepared by:

Linda L. Bournival, FSA, EA, MAAA  
KMS Actuaries, LLC  
Fellow, Society of Actuaries  
Enrolled Actuary  
Member, American Academy of Actuaries

and

Christopher E. Bean, ASA, MAAA  
DBR Group, Inc.  
Associate, Society of Actuaries  
Member, American Academy of Actuaries



May 23, 2013

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's Other Postemployment Benefits (OPEB) as of July 1, 2012. 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 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.

---

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

814 Elm Street, Suite 204 · Manchester, NH 03101 · p: (603) 792-9494 · f: (603) 792-9492 · lindab@kmsactuaries.com · kmsactuaries.com

Ms. Chitra Subramanian  
May 23, 2013  
Page 2

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 in the file "OPEB Study Cook & Co FY!# Health Rates.pdf".

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.

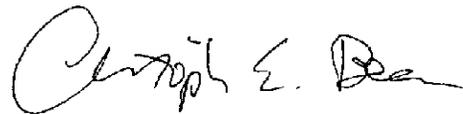
We appreciate this opportunity to be of service to the Town of Belmont. We are available to answer any questions with respect to our valuation.

Respectfully submitted,



---

Linda L. Bournival, FSA, EA, MAAA  
Member, American Academy of Actuaries  
603-792-9494



---

Christopher E. Bean, ASA, MAAA  
Member, American Academy of Actuaries  
508-628-9022

---

## TABLE OF CONTENTS

<b>ACTUARIAL CERTIFICATION</b>	<b>1</b>
<b>SECTION 1 - SUMMARY</b>	<b>2</b>
<b>SECTION 2 - PRINCIPAL VALUATION RESULTS</b>	<b>6</b>
TABLE 2.1 - OPEB TRUST ASSETS	
TABLE 2.2 - ACTUARIAL ACCRUED LIABILITY	
TABLE 2.3 - NORMAL COST	
TABLE 2.4 - ANNUAL REQUIRED CONTRIBUTION AND ANNUAL OPEB COST	
<b>SECTION 3 - GASB 45 ACCOUNTING DISCLOSURE</b>	<b>10</b>
<b>SECTION 4 - FORECASTS</b>	<b>11</b>
TABLE 4.1 - EXPECTED BENEFIT PAYMENTS PLUS OPEB CONTRIBUTION	
TABLE 4.2 - 10-YEAR FORECAST OF ANNUAL OPEB COST AND NET OPEB OBLIGATION	
<b>SECTION 5 - SENSITIVITY TO HEALTH CARE COST TREND RATE</b>	<b>14</b>
TABLE 5.1 - ACTUARIAL ACCRUED LIABILITY	
TABLE 5.2 - NORMAL COST	
<b>SECTION 6 - PLAN PROVISIONS</b>	<b>16</b>
<b>SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS</b>	<b>18</b>
<b>SECTION 8 - PLAN MEMBER INFORMATION</b>	<b>23</b>
TABLE 8.1 - ACTIVE EMPLOYEES BY AGE and YEARS OF SERVICE	
TABLE 8.2 - RETIRED PLAN PARTICIPANTS and SURVIVORS	
<b>SECTION 9 - GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 45 GLOSSARY OF TERMS</b>	<b>25</b>
<b>SECTION 10 - RESULTS BY SUBGROUP</b>	<b>27</b>

---

## 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, 2012. 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 and retiree data and financial information provided to us by the Town. The data required enhancements before our analysis could be performed and we obtained additional or corrected data from the Town. Judgmental adjustments were applied to the enhanced data that allowed us to perform the analysis and are disclosed in Section 7 - Actuarial Assumptions and Methods. We did not audit the data used in the valuation.

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.

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,



---

Linda L. Bournival, FSA, EA, MAAA  
Member, American Academy of Actuaries  
603-792-9494

---

Christopher E. Bean, ASA, MAAA  
Member, American Academy of Actuaries  
508-628-9022

---

## SECTION 1 - SUMMARY

### BACKGROUND

The Town of Belmont provides postemployment medical benefits to Town retirees and their covered dependents. The Town provides benefits for any employee who retires:

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

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, 2012, there are 670 active employees who may be eligible for benefits in the future and 690 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 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, 2012</u>	<u>July 1, 2010</u> *
<b>Summary of Member Data</b>		
Active Members **	670	750
Average Age	44.8	N/A
Average Service	10.8	N/A
Retired Members and Survivors	493	512
Average Age	71.9	N/A
Covered Spouses of Retired Members	197	
<b>Discount rate</b>	4.50%	5.00%
<b>Actuarial Accrued Liability</b>	\$195,943,349	\$184,907,102
<b>Normal Cost</b>	\$7,105,719	\$5,959,367
<b>Assets</b>	\$1,316,700	\$1,009,894
<b>Unfunded Actuarial Accrued Liability</b>	\$194,626,649	\$183,897,208
<b>Annual Required Contribution</b>	\$19,375,232	\$18,220,908
<b>Expected Benefit Payments</b>	\$4,581,828	\$7,571,592

\* From the July 1, 2010 valuation report prepared by Ricci Consultants.

\*\* See note in Section 7 - Actuarial Assumptions and Methods regarding decrease in employee count.

Town of Belmont Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2012

---

## 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, 2010 valuation and are detailed in Section 7. The major assumption changes are summarized below:

- ◆ the partial pre-funding discount rate was changed from 5% to 4.5% to reflect the estimated long-term investment yield on the investments that are expected to be used to finance the payment of benefits.
- ◆ the mortality table was changed from the RP-2000 Mortality Table to the RP-2000 Mortality Table projected to 2019 using Scale AA.
- ◆ demographic assumptions for Teachers were updated to reflect the turnover, disability and retirement rates used by the Massachusetts Teachers Retirement System's actuaries for the Retirement System pension valuations.
- ◆ disability rates for Group 1 and Group 4 employees were incorporated in this valuation to reflect the rates used by the Belmont Contributory Retirement System's actuaries for the Retirement System pension valuations.

### 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, 2013 under GASB 45 is \$18,720,146 and the estimated Annual OPEB Cost for the fiscal year ending June 30, 2014 under GASB 45 is \$19,359,643.

The accumulated Net OPEB Obligation as of June 30, 2013 is \$57,631,511 and the estimated Net OPEB Obligation as of June 30, 2014 is \$71,647,629.

The Actuarial Accrued Liability (AAL) as of July 1, 2012 is \$195,943,349. The AAL by status breakdown is shown below:

Actives:	\$106,595,221
Retirees, Beneficiaries and Surviving Spouses:	89,348,128
Total:	\$195,943,349

Town of Belmont Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2012

## SECTION 1 - SUMMARY

### ACTUARIAL GAIN/LOSS ANALYSIS

In performing the actuarial valuation, various assumptions are made regarding future premium rates, mortality, retirement, disability and withdrawal 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 Actuarial Gain/(Loss) for the current period:

	Year 1	Year 2
Actuarial Accrued Liability, prior valuation	\$184,907,102	\$192,648,911
Normal Cost, prior valuation	5,959,367	6,257,335
Expected Benefit Payments	7,571,592	8,198,567
Interest	9,354,034	9,740,348
Expected Actuarial Accrued Liability	\$192,648,911	\$200,448,027
Actual Actuarial Accrued Liability		\$195,943,349
Gain/(Loss)		\$4,504,678

The actuarial gain of \$4,504,678 was comprised of the following:

◆ gain as a result of demographic and premium changes from the prior valuation	26,353,322
◆ loss as a result of incorporating mortality improvement	(4,517,279)
◆ loss as a result of change in the discount rate from 5% to 4.5%	(17,331,365)
◆ Total Gain/(Loss)	\$4,504,678

### REIMBURSEMENT FOR HEALTHCARE PREMIUM CONTRIBUTIONS

Whenever the service of a retired employee is attributable to service in more than one 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

Section 20 of M.G.L. Chapter 32 allows municipal entities to establish an OPEB trust for purposes of accumulating assets to prefund the OPEB liabilities. We understand that the Town of Belmont has established an irrevocable trust for the purpose of prefunding OPEB liabilities. The market value of assets as of the valuation date is \$1,316,700.

The Actuarial Value of Plan Assets is equal to the market value. The asset activity during the 2-year period July 1, 2010 through June 30, 2012 is as follows:

**TABLE 2.1 - OPEB TRUST ASSETS**

<b>Market Value of Assets</b>	
Assets as of July 1, 2010	\$1,009,894
Employer Contributions	
Paid Premiums *	\$0
OPEB Trust Deposits	305,000
Total Employer Contributions *	\$305,000
Benefits Paid *	0
Expenses *	0
Investment Earnings	1,806
Assets as of June 30, 2012	\$1,316,700
Contribution appropriated and made	0
Assets as of July 1, 2012	\$1,316,700

\* These items were unavailable.

Information regarding the asset value as of June 30, 2012 held in the OPEB Trust were provided on the worksheet "Morgan Stanley/Barney Smith - Town of Belmont Other Post Employment Benefits".

## 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%, the rate of return on cash, 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	4.5%	7.5%
<b>Current Active Employees</b>		
Pre-Medicare Gross Benefit	\$27,943,546	\$18,384,218
Pre-Medicare Participant Contributions	4,320,897	2,851,073
Net Pre-Medicare Benefit	\$23,622,649	\$15,533,145
Post - Medicare Gross Benefit	\$115,013,460	\$56,326,858
Post - Medicare Participant Contributions	32,040,888	16,058,252
Net Post - Medicare Benefit	\$82,972,572	\$40,268,606
<b>Total Current Active Employees</b>	<b>\$106,595,221</b>	<b>\$55,801,751</b>
<b>Current Retirees</b>		
Pre-Medicare Gross Benefit	\$13,031,862	\$11,175,540
Pre-Medicare Participant Contributions	2,117,880	1,808,496
Net Pre-Medicare Benefit	\$10,913,982	\$9,367,044
Post - Medicare Gross Benefit	\$102,352,934	\$71,731,352
Post - Medicare Participant Contributions	23,918,788	17,646,636
Net Post - Medicare Benefit	\$78,434,146	\$54,084,716
<b>Total Current Retirees</b>	<b>\$89,348,128</b>	<b>\$63,451,760</b>
<b>Total Actuarial Accrued Liability (AAL)</b>	<b>\$195,943,349</b>	<b>\$119,253,511</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%, the rate of return on cash, 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	\$2,030,334	\$1,093,180
Pre-Medicare Participant Contributions	314,979	170,301
Net Pre-Medicare Benefit	\$1,715,355	\$922,879
Post - Medicare Gross Benefit	\$7,461,708	\$2,926,099
Post - Medicare Participant Contributions	2,071,344	831,833
Net Post - Medicare Benefit	\$5,390,364	\$2,094,266
<b>Total Current Active Employees</b>	<b>\$7,105,719</b>	<b>\$3,017,145</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>\$7,105,719</b>	<b>\$3,017,145</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, 2012, 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	\$7,105,719	\$3,017,145
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$195,943,349	\$119,253,511
b. Actuarial Value of Plan Assets	\$1,316,700	\$1,316,700
c. Unfunded Actuarial Accrued Liability	\$194,626,649	\$117,936,811
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$194,626,649	\$117,936,811
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.)	\$11,435,173	\$9,286,363
4. Interest on 1. and 3.e.	\$834,340	\$922,763
5. Annual Required Contribution (1. + 3.e. + 4.)	\$19,375,232	\$13,226,271
6. Net OPEB Obligation / (Asset) beginning of year	\$43,493,192	Not Applicable
7. Interest on Net OPEB Obligation at 5.00%	\$2,174,660	Not Applicable
8. Adjustment to Annual Required Contribution at 5.00%	\$2,829,746	Not Applicable
9. Annual OPEB Cost (5. + 7. - 8.)	\$18,720,146	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, 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</b>			
Fiscal Year Ending	<u>6/30/2012</u>	<u>6/30/2011</u>	<u>6/30/2010</u>
Discount rate	5.0%	5.0%	5.0%
Annual Required Contribution	\$19,033,041	\$18,220,908	\$16,827,151
Interest on Net OPEB Obligation	1,657,907	1,142,652	671,922
Adjustment to annual required contribution	(2,157,329)	(1,486,860)	(874,329)
Annual OPEB cost/(expense)	\$18,533,619	\$17,876,700	\$16,624,744
Employer contributions (including subsidy)	(8,198,567)	(7,571,592)	(7,210,150)
Change in Net OPEB Obligation	\$10,335,052	\$10,305,108	\$9,414,594
Net OPEB Obligation (Asset) - beginning of year	\$33,158,140	\$22,853,032	\$13,438,438
Net OPEB Obligation (Asset) - end of year	\$43,493,192	\$33,158,140	\$22,853,032

<b>Plan History</b>				
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation	
6/30/2012	18,533,619	44.2%	43,493,192	
6/30/2011	17,876,700	42.4%	33,158,140	
6/30/2010	16,624,744	43.4%	22,853,032	

<b>Schedule of Funding Progress</b>						
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)
7/1/2012	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%
7/1/2008	501,409	166,550,323	166,048,914	0.30%	33,252,323	499.4%

Town of Belmont Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2012

---

## 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 partial prefunding 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 Additional Funding amounts 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 with Interest and the Amortization Amount with Interest.

**Table 4.1** is based on funding the expected benefit payments on a pay-as-you go basis plus a nominal contribution to the OPEB Trust through Fiscal Year 2027. Contributions increase by \$11,000,000 in Fiscal Year 2028, when it is anticipated that the Belmont Retirement System's unfunded actuarial accrued liability will be fully amortized.

- ◆ The assumed discount rate is 4.5%.
- ◆ Amortization Amount with Interest 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 date.
- ◆ An additional funding amount is made to the OPEB trust in addition to the expected benefit payments.

## SECTION 4 - FORECASTS

**TABLE 4.1 - Funding the Expected Benefit Payments Plus Nominal OPEB Trust Contribution**

(1) FYE June 30	(2) Expected Benefit Payments	(3) AAL at Beginning of Year	(4) Assets at Beginning of Year	(5) Normal Cost with Interest	(6) Amortization Amount with Interest	(7) ARC (5) + (6)	(8) Additional Funding	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2013	4,581,828	195,943,349	1,316,700	7,425,476	11,949,756	19,375,232	-	1,375,952	207,502,491	206,126,540
2014	5,091,525	207,502,491	1,375,952	7,648,241	12,655,830	20,304,071	252,000	1,689,869	219,283,520	217,593,651
2015	5,541,564	219,283,520	1,689,869	7,877,688	13,359,892	21,237,580	252,000	2,017,913	231,364,090	229,346,176
2016	6,047,504	231,364,090	2,017,913	8,114,019	14,081,478	22,195,496	252,000	2,360,720	243,707,417	241,346,698
2017	6,545,099	243,707,417	2,360,720	8,357,439	14,818,290	23,175,729	252,000	2,718,952	256,340,947	253,621,995
2018	7,043,563	256,340,947	2,718,952	8,608,162	15,571,973	24,180,135	252,000	3,093,305	269,284,152	266,190,848
2019	7,499,038	269,284,152	3,093,305	8,866,407	16,343,680	25,210,087	252,000	3,484,503	282,602,436	279,117,933
2020	7,925,765	282,602,436	3,484,503	9,132,399	17,137,382	26,269,781	252,000	3,893,306	296,349,813	292,456,507
2021	8,336,829	296,349,813	3,893,306	9,406,371	17,956,348	27,362,720	252,000	4,320,505	310,569,583	306,249,078
2022	8,796,314	310,569,583	4,320,505	9,688,562	18,803,190	28,491,752	252,000	4,766,928	325,241,723	320,474,795
2023	9,188,037	325,241,723	4,766,928	9,979,219	19,676,625	29,655,845	252,000	5,233,439	340,464,327	335,230,887
2024	9,686,591	340,464,327	5,233,439	10,278,596	20,582,625	30,861,221	252,000	5,720,944	356,161,676	350,440,732
2025	10,116,035	356,161,676	5,720,944	10,586,954	21,516,484	32,103,438	252,000	6,230,387	372,434,765	366,204,378
2026	10,506,960	372,434,765	6,230,387	10,904,562	22,484,346	33,388,909	252,000	6,762,754	389,358,126	382,595,372
2027	10,916,245	389,358,126	6,762,754	11,231,699	23,490,726	34,722,426	252,000	7,319,078	406,951,783	399,632,705
2028	11,374,257	406,951,783	7,319,078	11,568,650	24,536,791	36,105,441	11,252,000	18,900,436	425,205,902	406,305,466
2029	11,763,801	425,205,902	18,900,436	11,915,710	24,946,487	36,862,197	11,252,000	31,002,956	444,230,303	413,227,347
2030	12,027,435	444,230,303	31,002,956	12,273,181	25,371,479	37,644,660	11,252,000	43,650,089	464,198,774	420,548,685
2031	12,367,442	464,198,774	43,650,089	12,641,376	25,820,997	38,462,374	11,252,000	56,866,343	485,086,448	428,220,105
2032	12,561,623	485,086,448	56,866,343	13,020,618	26,292,010	39,312,628	11,252,000	70,677,329	507,094,806	436,417,478
2033	12,824,353	507,094,806	70,677,329	13,411,236	26,795,315	40,206,551	11,252,000	85,109,808	530,215,583	445,105,775
2034	12,944,866	530,215,583	85,109,808	13,813,573	27,328,762	41,142,336	11,252,000	100,191,750	554,655,937	454,464,187
2035	13,104,516	554,655,937	100,191,750	14,227,981	27,903,353	42,131,334	11,252,000	115,952,378	580,447,311	464,494,933
2036	13,218,387	580,447,311	115,952,378	14,654,820	28,519,225	43,174,045	11,252,000	132,422,236	607,709,733	475,287,497
2037	13,240,691	607,709,733	132,422,236	15,094,465	29,181,870	44,276,335	11,252,000	149,633,236	636,615,807	486,982,571
2038	13,307,261	636,615,807	149,633,236	15,547,299	29,899,929	45,447,227	11,252,000	167,618,732	667,207,437	499,588,705
2039	13,312,738	667,207,437	167,618,732	16,013,717	30,673,925	46,687,642	11,252,000	186,413,575	699,636,511	513,222,936
2040	13,293,178	699,636,511	186,413,575	16,494,129	31,511,044	48,005,173	11,252,000	206,054,186	734,025,300	527,971,114
2041	13,157,956	734,025,300	206,054,186	16,988,953	32,416,558	49,405,511	11,252,000	226,578,624	770,594,639	544,016,015
2042	13,047,236	770,594,639	226,578,624	17,498,621	33,401,688	50,900,310	11,252,000	248,026,662	809,432,450	561,405,788
2043	12,863,916	809,432,450	248,026,662	18,023,580	34,469,392	52,492,972	11,252,000	270,690,246	850,730,322	580,040,076

30-years open, 4.5% discount rate.

Town of Belmont Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2012

## 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	Contributions	Change in Net OPEB Obligation	Net OPEB Obligation Balance
								43,493,192
2013	19,375,232	2,174,660	2,829,746	15.37	18,720,146	4,581,828	14,138,318	57,631,511
2014	20,304,071	2,593,418	3,537,846	16.29	19,359,643	5,343,525	14,016,118	71,647,629
2015	21,237,580	3,224,143	4,398,258	16.29	20,063,465	5,793,564	14,269,902	85,917,530
2016	22,195,496	3,866,289	5,274,250	16.29	20,787,535	6,299,504	14,488,032	100,405,562
2017	23,175,729	4,518,250	6,163,632	16.29	21,530,347	6,797,099	14,733,248	115,138,810
2018	24,180,135	5,181,246	7,068,067	16.29	22,293,314	7,295,563	14,997,751	130,136,562
2019	25,210,087	5,856,145	7,988,739	16.29	23,077,493	7,751,038	15,326,455	145,463,017
2020	26,269,781	6,545,836	8,929,590	16.29	23,886,027	8,177,765	15,708,263	161,171,279
2021	27,362,720	7,252,708	9,893,878	16.29	24,721,550	8,588,829	16,132,721	177,304,001
2022	28,491,752	7,978,680	10,884,223	16.29	25,586,209	9,048,314	16,537,895	193,841,895

Notes:

1. ARC and Contributions are from 30-Year Forecast of Annual Required Contribution (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 less ARC Adjustment.
5. Change in Net OPEB Obligation is the difference between the OPEB Cost and Contribution.
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 5.00%.
8. Subsequent years' Interest on Net OPEB Obligation and ARC Adjustment computed at current discount rate of 4.50%.

## 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	\$27,943,546	\$32,407,634	\$24,237,792
Pre-Medicare Participant Contributions	4,320,897	5,004,780	3,752,550
Net Pre-Medicare Benefit	\$23,622,649	\$27,402,854	\$20,485,242
Post - Medicare Gross Benefit	\$115,013,460	\$149,683,448	\$89,585,846
Post - Medicare Participant Contributions	32,040,888	41,353,450	25,161,896
Net Post - Medicare Benefit	\$82,972,572	\$108,329,998	\$64,423,950
<b>Total Current Active Employees</b>	<b>\$106,595,221</b>	<b>\$135,732,852</b>	<b>\$84,909,192</b>
<b>Current Retirees</b>			
Pre-Medicare Gross Benefit	\$13,031,862	\$13,724,896	\$12,407,506
Pre-Medicare Participant Contributions	2,117,880	2,235,827	2,012,697
Net Pre-Medicare Benefit	\$10,913,982	\$11,489,069	\$10,394,809
Post - Medicare Gross Benefit	\$102,352,934	\$116,366,230	\$90,655,590
Post - Medicare Participant Contributions	23,918,788	26,663,117	21,583,955
Net Post - Medicare Benefit	\$78,434,146	\$89,703,113	\$69,071,635
<b>Total Current Retirees</b>	<b>\$89,348,128</b>	<b>\$101,192,182</b>	<b>\$79,466,444</b>
<b>Total Actuarial Accrued Liability (AAL)</b>	<b>\$195,943,349</b>	<b>\$236,925,034</b>	<b>\$164,375,636</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	\$2,030,334	\$2,515,162	\$1,646,429
Pre-Medicare Participant Contributions	314,979	389,530	255,858
Net Pre-Medicare Benefit	\$1,715,355	\$2,125,632	\$1,390,571
Post - Medicare Gross Benefit	\$7,461,708	\$10,474,746	\$5,386,373
Post - Medicare Participant Contributions	2,071,344	2,883,093	1,507,810
Net Post - Medicare Benefit	\$5,390,364	\$7,591,653	\$3,878,563
<b>Total Current Active Employees</b>	<b>\$7,105,719</b>	<b>\$9,717,285</b>	<b>\$5,269,134</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>\$7,105,719</b>	<b>\$9,717,285</b>	<b>\$5,269,134</b>

## SECTION 6 - PLAN PROVISIONS

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

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

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

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

**Medical Premium Rates:** The total monthly cost by plan as of July 1, 2012 are shown below:

<u>Non-Medicare Plans</u>	<u>Individual</u>	<u>Family</u>
Harvard Pilgrim HMO	\$599.05	\$1,623.01
Harvard Pilgrim PPO	\$956.63	\$2,602.02
 <u>Medicare Plans</u>		
Enhance Value	\$413.87	
Tufts Medicare Preferred	\$255.50	

**Participant Contributions:** Retired employees contribute a percentage of the total premium cost, as follows:

<u>Non-Medicare Plans</u>	<u>Individual</u>	<u>Family</u>
Harvard Pilgrim HMO	20%	20%
Harvard Pilgrim PPO	50%	50%
 <u>Medicare Plans</u>		
Enhance Value	50%	
Tufts Medicare Preferred	50%	

**Medicare Part B Premium:** The Town reimburses retirees and spouses for 50% of Medicare Part B Premium. For 2013, 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.

---

## SECTION 6 - PLAN PROVISIONS

- 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:** Retirees contribute 50% of the premium for life insurance coverage.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Valuation Date:** July 1, 2012

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

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

**Health Care Cost Trend Rates:**

Year	Trend
1	10.00%
2	9.00%
3	8.00%
4	7.00%
5	6.00%
6	5.00%
Ultimate	5.00%

**Medicare Part B:** All 6.00%

**Mortality Table:** RP-2000 Healthy Annuitant Table, projected to 2019, using Scale AA. For the period after disability, RP-2000 Healthy Annuitant Table set forward 2 years.

**Turnover Rates:** *Non-Teachers:*

Groups 1 and 2		Group 4	
Service	Rate	Service	Rate
0	15.00%	0	1.50%
1	12.00%	1	1.50%
2	10.00%	2	1.50%
3	9.00%	3	1.50%
4	8.00%	4	1.50%
5-9	7.60%	5	1.50%
10-14	5.40%	6	1.50%
15-19	3.30%	7	1.50%
20-24	2.00%	8	1.50%
25-29	1.00%	9	1.50%
30+	0.00%	10	1.50%
		11+	0.00%

Town of Belmont Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2012

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Turnover Rates:**

*Teachers:*

<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	12.0%	10.0%	4.5%	9.0%	1.0%	5.0%
30	11.4%	12.0%	4.5%	9.0%	1.0%	5.0%
40	9.7%	11.0%	5.4%	6.5%	1.7%	2.9%
50	10.0%	8.2%	4.8%	4.2%	2.2%	2.1%

**Disability Rates:**

*Non-Teachers:*

<u>Groups 1 and 2</u>		<u>Group 4</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
25	0.02%	25	0.20%
30	0.03%	30	0.30%
35	0.06%	35	0.30%
40	0.10%	40	0.30%
45	0.15%	45	1.00%
50	0.19%	50	1.25%
55	0.24%	55	1.20%
60	0.28%	60	0.85%
62	0.30%	62	0.75%
62	0.30%	65	0.00%

*Teachers:*

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

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates:**

*Non-Teachers:*

<u>Age</u>	<b>Groups 1 and 2</b>		<b>Group 4</b>
	Male	Female	All
45-49	0.00%	0.00%	1.00%
50-54	1.00%	1.50%	2.00%
55-59	2.00%	5.50%	15.00%
60-61	12.00%	5.00%	20.00%
62-64	30.00%	15.00%	25.00%
65-68	40.00%	15.00%	100.00%
69	30.00%	20.00%	
70	100.00%	100.00%	

*Teachers:*

<u>Age</u>	<b>Years of Service</b>					
	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%

**Medical Plan Participation:** 95% of eligible retirees will elect to participate.

**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.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Medical Per Capita Costs:** Annual per capita costs for the fiscal year beginning July 1, 2012 are as follows:

<u>Age</u>	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>
Under 55	10,448	N/A	N/A
55-59	12,397	N/A	N/A
60-64	15,054	N/A	N/A
65-69	8,295	3,991	17,861
70-74	9,477	4,559	20,406
75-79	10,566	5,083	22,751
80-84	11,326	5,449	24,387
85-89	11,728	5,642	25,252
90+	11,846	5,699	25,505

**Group 1** - Future retirees and current retirees under 65.

**Group 2** - Current retirees over age 65 enrolled in Medicare plans.

**Group 3** - Current retirees over age 65 enrolled in non-Medicare plans.

**Retiree Contributions:** Annual per capita participant contributions for the fiscal year beginning July 1, 2012 are as follows:

<u>Plan</u>	
Non-Medicare Plans	2,176
Medicare Plans	2,360

**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, including the following:

The Town provided 670 active employees for this valuation as compared to 750 active employees provided for the prior valuation. We assumed that the Town provided all employees for the prior valuation but provided only employees currently enrolled in a medical plan for this valuation. We have modified the participation assumption from 85% to 95% to reflect our understanding of the change in the employees submitted.

---

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Employee Data:**

45 retirees over age 65 enrolled in non-Medicare plans are assumed to be ineligible for Medicare and will remain in the non-Medicare plan.

38 employees with hire dates after the valuation date are assumed hired on the valuation date.

5 Belmont Housing Authority retirees were removed from the valuation as the Town does not contribute towards their medical coverage.

25 retired teachers with missing birth dates are assumed born on 7/1/1947.

## SECTION 8 - PLAN MEMBER INFORMATION

**TABLE 8.1 - ACTIVE EMPLOYEES BY AGE and YEARS OF SERVICE AS OF JULY 1, 2012**

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	10	1	0	0	0	0	0	0	0	11	2%
25 to 29	74	18	3	0	0	0	0	0	0	95	14%
30 to 34	49	44	8	0	0	0	0	0	0	101	15%
35 to 39	13	35	17	2	0	0	0	0	0	67	10%
40 to 44	16	11	24	12	2	0	0	0	0	65	10%
45 to 49	13	8	19	16	4	9	1	0	0	70	10%
50 to 54	26	16	20	7	8	13	2	0	0	92	14%
55 to 59	9	7	15	13	7	13	4	1	0	69	10%
60 to 64	9	12	8	16	9	2	4	2	3	65	10%
65 to 69	2	7	2	1	5	1	1	2	1	22	3%
70 & up	0	2	1	2	1	1	1	4	1	13	2%
<b>Total</b>	<b>221</b>	<b>161</b>	<b>117</b>	<b>69</b>	<b>36</b>	<b>39</b>	<b>13</b>	<b>9</b>	<b>5</b>	<b>670</b>	
<b>Percent</b>	<b>34%</b>	<b>24%</b>	<b>17%</b>	<b>10%</b>	<b>5%</b>	<b>6%</b>	<b>2%</b>	<b>1%</b>	<b>1%</b>		<b>100%</b>
Average Age:			44.8		Average Service:			10.8			

## SECTION 8 - PLAN MEMBER INFORMATION

TABLE 8.2 - RETIRED PLAN PARTICIPANTS and SURVIVORS AS OF JULY 1, 2012

Age	Harvard Pilgrim HMO	Harvard Pilgrim PPO	Enhance Value	Tufts Medicare	Life Only	Medicare Part B Only	Total
Under 40	0	0	0	0	0	0	0
40 to 44	3	0	0	0	1	0	4
45 to 49	3	0	0	0	0	0	3
50 to 54	3	0	0	1	0	0	4
55 to 59	17	0	1	0	0	1	19
60 to 64	56	6	7	0	2	0	71
65 to 69	23	1	57	14	27	0	122
70 to 74	7	4	61	10	1	0	83
75 to 79	6	2	63	4	2	0	77
80 to 84	1	1	58	2	0	0	62
85 to 89	1	0	19	3	3	0	26
90+	2	2	12	2	4	0	22
Total	122	16	278	36	40	1	493
Covered Spouses	63	2	110	22	0	0	197

There are 314 retirees and 71 spouses reimbursed for Medicare Part B.

---

## 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.

**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.

**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.

---

## SECTION 9 - GASB 45 GLOSSARY OF TERMS

**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

Unit	<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	92	112	258	158	28	11	11	670
Average Age	52.1	43.0	39.6	49.7	46.4	50.4	45.4	44.8
Average Service	12.1	13.3	9.4	9.6	12.0	14.2	14.7	10.8
Retired Members and Survivors	70	123	208	47	23	13	9	493
Average Age	74.6	70.5	70.6	78.4	70.0	74.6	68.1	71.9
<b>Actuarial Accrued Liability - July 1, 2012</b>								
Active Employees	14,410,287	26,559,647	35,116,200	21,411,350	4,688,438	2,460,151	1,949,148	106,595,221
Retired Employees and Survivors	9,138,633	26,975,636	40,948,901	4,051,567	3,939,341	2,099,720	2,194,330	89,348,128
Total	23,548,920	53,535,283	76,065,101	25,462,917	8,627,779	4,559,871	4,143,478	195,943,349
<b>Actuarial Value of Plan Assets - July 1, 2012</b>	102,517	233,058	331,139	110,849	138,517	200,310	200,310	1,316,700
<b>Unfunded Actuarial Accrued Liability</b>	23,446,403	53,302,225	75,733,962	25,352,068	8,489,262	4,359,561	3,943,168	194,626,649
<b>Annual Required Contribution (ARC) for FYE 2012</b>								
Normal Cost	703,712	1,594,176	2,980,344	1,408,483	230,169	92,839	95,996	7,105,719
Amortization of UAL	1,377,579	3,131,741	4,449,704	1,489,546	498,782	256,143	231,678	11,435,173
Interest	93,658	212,666	334,353	130,411	32,803	15,704	14,745	834,340
<b>Total</b>	<b>2,174,949</b>	<b>4,938,583</b>	<b>7,764,401</b>	<b>3,028,440</b>	<b>761,754</b>	<b>364,686</b>	<b>342,419</b>	<b>19,375,232</b>
<b>Expected Benefit Payments</b>	506,436	1,244,407	2,072,572	348,312	190,452	116,478	103,171	4,581,828

Notes:

1. "School MTRB" includes School Employees who are members of the Massachusetts Teachers Retirement System.
2. "School BRS" includes School Employees who are members of the Belmont Contributory Retirement System.
3. The market value of assets as of June 30, 2012 were provided by the Town.
4. Assets allocated to the Water department are split 50/50 between the Water and Sewer departments.
5. Assets allocated to the Town and School are allocated based on their Actuarial Accrued Liability as of July 1, 2012.

Town of Belmont Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2012