



TOWN OF BEDFORD

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

ACTUARIAL VALUATION

July 1, 2012

Prepared by:

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January 23, 2013

Mr. Victor Garofalo
Finance Director, Treasurer/Collector
Town of Bedford
Town Hall, 10 Mudge Way
Bedford, MA 01730-2144

Dear Victor:

Enclosed is our report summarizing the results of an actuarial valuation of the Town of Bedford'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 Bedford 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 4.0% 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 several 30-year forecasts of the OPEB liability under various funding arrangements 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

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Mr. Victor Garofalo
January 23, 2013
Page 2

Our calculations were based on participant census data and other information provided by the Town of Bedford and the benefit provisions of your medical plans as described in your benefit summaries. Our valuation is also based on medical plan rates provided in the files "Group Health Rates FY13 Medicare Retirees.pdf" and "Group Health Rates FY13 Non-Medicare Retirees.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.

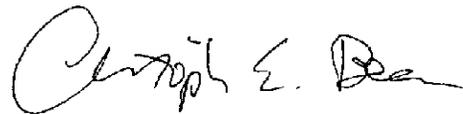
We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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

Respectfully submitted,



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TABLE OF CONTENTS

ACTUARIAL CERTIFICATION	1
SECTION 1 - SUMMARY	2
SECTION 2 - PRINCIPAL VALUATION RESULTS	6
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	
SECTION 3 - GASB 45 ACCOUNTING DISCLOSURE	10
SECTION 4 - FORECASTS	11
TABLE 4.1 - EXPECTED BENEFIT PAYMENTS PAY-AS-YOU-GO	
TABLE 4.2 - ANNUAL REQUIRED CONTRIBUTION	
TABLE 4.3 - ADDITIONAL FUNDING	
TABLE 4.4 - UAL REMAINS UNCHANGED AFTER 30 YEARS	
TABLE 4.5 - UAL CONSTANT % OF TOWN OPERATING BUDGET	
TABLE 4.6 - 10-YEAR FORECAST OF ANNUAL OPEB COST AND NET OPEB OBLIGATION	
SECTION 5 - SENSITIVITY TO HEALTH CARE COST TREND RATE	19
TABLE 5.1 - ACTUARIAL ACCRUED LIABILITY	
TABLE 5.2 - NORMAL COST	
SECTION 6 - PLAN PROVISIONS	21
SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS	23
SECTION 8 - PLAN MEMBER INFORMATION	26
TABLE 8.1 - ACTIVE EMPLOYEES BY AGE and YEARS OF SERVICE	
TABLE 8.2 - RETIRED PLAN PARTICIPANTS and SURVIVORS	
SECTION 9 - GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 45 GLOSSARY OF TERMS	29
SECTION 10 - RESULTS BY SUBGROUP	31

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

ACTUARIAL CERTIFICATION

This report presents the results of the Actuarial Valuation for the Town of Bedford 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 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 Middlesex County 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 Bedford and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

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

Respectfully submitted,



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SECTION 1 - SUMMARY

BACKGROUND

The Town of Bedford 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 for Group 1 employees hired before April 2, 2012.
- ◆ after attaining age 55 or any age with 20 or more years of service for Group 4 employees hired before April 2, 2012.
- ◆ after attaining age 60 with 10 or more years of service for Group 1 employees hired on or after April 2, 2012.
- ◆ after attaining age 55 for Group 4 employees hired on or after April 2, 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 598 active employees who may be eligible for benefits in the future and 367 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 Bedford, the payment of future benefits is determined using the current schedule of premiums under the Group Insurance Commission plans. We have used a single unadjusted premium rate applicable to both active employees and non-Medicare-eligible retirees because the Group Insurance Commission would offer the same premium rates if only non-Medicare-eligible retirees from the Town of Bedford were covered. These premiums are increased in the future under the annual healthcare cost trend rate assumptions. The per capita costs utilized in this valuation are detailed in Section 7, Actuarial Assumptions and Methods.

SUMMARY OF PRINCIPAL RESULTS

Valuation Date	<u>July 1, 2012</u>	<u>July 1, 2010</u> *
Summary of Member Data		
Active Members**	598	381
Average Age	45.1	45.0
Average Service	9.6	10.6
Retired Members and Survivors	267	337
Average Age	73.2	72.4
Covered Spouses of Retired Members	100	included above
Discount rate	4.00%	4.00%
Actuarial Accrued Liability	\$48,839,208	\$71,292,434
Normal Cost	\$2,141,719	\$2,577,750
Assets	\$2,961,186	\$0
Unfunded Actuarial Accrued Liability	\$45,878,022	\$71,292,434
Annual Required Contribution	\$3,817,825	\$5,052,276
Net OPEB Obligation/(Asset) - EOY	\$17,329,102	\$6,690,572

* From the July 1, 2010 valuation report prepared by the Segal Group.

** For 2010, there were 381 covered employees. For 2012, there were 598 total employees, of which approximately 378 have elected medical coverage.

Town of Bedford 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 Bedford, we selected a 4.0% discount rate to reflect a pay-as-you-go system with an expected return close to the rate of return on cash.

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 mortality table was changed from the RP-2000 Mortality projected to 2010 using Scale AA to the RP-2000 Mortality Table projected to 2012 using Scale AA.
- ◆ the participant rate for medical plan participation was changed from 100% to 75%, although in the prior valuation, only eligible active employees were included and in the current valuation, all active employees are included.
- ◆ The per capita claims costs are based on the rates published by the Group Insurance Commission (GIC) effective July 1, 2012. Previously, the per capita claims costs were developed from age-adjusted premiums for the plans in effect at the time of the valuation.

RESULTS

We have provided results based on a discount rate of 4.0%. As shown in Table 4.6 of Section 4, the Annual OPEB Cost for the fiscal year ending June 30, 2013 under GASB 45 is \$3,915,523 and the estimated Annual OPEB Cost for the fiscal year ending June 30, 2014 under GASB 45 is \$4,120,257.

The accumulated Net OPEB Obligation as of June 30, 2013 is \$17,329,102 and the estimated Net OPEB Obligation as of June 30, 2014 is \$20,080,903.

The Actuarial Accrued Liability (AAL) as of July 1, 2012 is \$48,839,208. The AAL by status breakdown is shown below:

Actives:	\$29,802,159
Retirees, Beneficiaries and Surviving Spouses:	19,037,049
Total:	\$48,839,208

SECTION 1 - SUMMARY

ACTUARIAL GAIN/LOSS ANALYSIS

In performing the actuarial valuation, various assumptions are made regarding future premium rates, mortality, retirement 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:

	<u>Year 1</u>	<u>Year 2</u>
Actuarial Accrued Liability, prior valuation	\$71,292,434	\$74,993,735
Normal Cost, prior valuation	2,577,750	2,680,860
Expected Benefit Payments	1,795,349	1,995,651
Interest	2,918,900	3,067,071
Expected Actuarial Accrued Liability	\$74,993,735	\$78,746,015
Actual Actuarial Accrued Liability		\$48,839,208
Gain/(Loss)		\$29,906,807

The actuarial gain of \$29,906,807 was comprised of the following:

◆ gain as a result of demographic changes from the prior valuation	4,466,021
◆ gain as a result of changes in premium rates from the last valuation	12,628,963
◆ loss as a result of changes to the mortality table projection year	(401,758)
◆ gain as a result of the elimination of the implicit subsidy for GIC plans, which are considered community rated plans	13,213,581

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 Bedford'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 Bedford nor have we taken into account any service rendered by former Town of Bedford employees currently working at or retired from other Massachusetts entities that may notify the Town of Bedford of reimbursement due for former Town of Bedford employees.

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Actuarial Value of Plan Assets is equal to the market value. The asset activity during the current fiscal year is as follows:

TABLE 2.1 - OPEB TRUST ASSETS

Market Value of Assets	
Fiscal Year Ending	<u>June 30, 2012</u>
Assets as of July 1, 2011	\$2,378,909
Contribution Receivable	\$0
Adjusted Assets, July 1	\$2,378,909
Employer Contributions	
Paid Premiums	\$0
OPEB Trust Deposits	0
Total Employer Contributions	\$0
Benefits Paid	0
Expenses	0
Investment Earnings	57,277
Assets as of June 30, 2012	\$2,436,186
Contribution appropriated and made	525,000
Assets as of July 1, 2012	2,961,186

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 Bedford has established an irrevocable trust for the purposes of prefunding OPEB liabilities.

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 4.0%, 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

	Pay-As-You-Go	Full Pre-Funding
Discount Rate	4.0%	7.5%
Current Active Employees		
Pre-Medicare Gross Benefit	\$10,574,691	\$6,510,399
Pre-Medicare Participant Contributions	3,848,492	2,369,520
Net Pre-Medicare Benefit	\$6,726,199	\$4,140,879
Post - Medicare Gross Benefit	\$41,259,250	\$18,328,368
Post - Medicare Participant Contributions	18,183,290	8,077,824
Net Post - Medicare Benefit	\$23,075,960	\$10,250,544
Total Current Active Employees	\$29,802,159	\$14,391,423
 Current Retirees		
Pre-Medicare Gross Benefit	\$2,507,165	\$2,279,749
Pre-Medicare Participant Contributions	912,370	829,616
Net Pre-Medicare Benefit	\$1,594,795	\$1,450,133
Post - Medicare Gross Benefit	\$30,636,659	\$21,445,800
Post - Medicare Participant Contributions	13,194,405	9,232,193
Net Post - Medicare Benefit	\$17,442,254	\$12,213,607
Total Current Retirees	\$19,037,049	\$13,663,740
Total Actuarial Accrued Liability (AAL)	\$48,839,208	\$28,055,163

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 4.0%, 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

	Pay-As-You-Go	Full Pre-Funding
Discount Rate	4.0%	7.5%
Current Active Employees		
Pre-Medicare Gross Benefit	\$820,156	\$420,440
Pre-Medicare Participant Contributions	298,444	153,001
Net Pre-Medicare Benefit	\$521,712	\$267,439
Post - Medicare Gross Benefit	\$2,896,402	\$1,035,460
Post - Medicare Participant Contributions	1,276,395	456,325
Net Post - Medicare Benefit	\$1,620,007	\$579,135
Total Current Active Employees	\$2,141,719	\$846,574
Current Retirees		
Pre-Medicare Gross Benefit	\$0	\$0
Pre-Medicare Participant Contributions	0	0
Net Pre-Medicare Benefit	\$0	\$0
Post - Medicare Gross Benefit	\$0	\$0
Post - Medicare Participant Contributions	0	0
Net Post - Medicare Benefit	\$0	\$0
Total Current Retirees	\$0	\$0
Total Normal Cost (NC)	\$2,141,719	\$846,574

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 increasing 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

	Pay-As-You-Go	Full Pre-Funding
Discount Rate	4.0%	7.5%
1. Normal Cost	\$2,141,719	\$846,574
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$48,839,208	\$28,055,163
b. Actuarial Value of Plan Assets	\$2,961,186	\$2,961,186
c. Unfunded Actuarial Accrued Liability	\$45,878,022	\$25,093,977
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$45,878,022	\$25,093,977
b. Amortization Period in years	30	30
c. Factor Increasing Rate	4.0%	4.0%
d. Amortization Factor	30.00	19.34
e. Amortization Amount (3.a. / 3.d.)	\$1,529,267	\$1,297,517
4. Interest	\$146,839	\$160,807
5. Annual Required Contribution (1. + 3.e. + 4.)	\$3,817,825	\$2,304,898
6. Net OPEB Obligation / (Asset) beginning of year	\$14,654,696	Not Applicable
7. Interest on Net OPEB Obligation at 4.00%	\$586,188	Not Applicable
8. Adjustment to Annual Required Contribution at 4.00%	\$488,490	Not Applicable
9. Annual OPEB Cost (5. + 7. - 8.)	\$3,915,523	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.

Annual OPEB Cost and Net OPEB Obligation				
Fiscal Year Ending	<u>6/30/2013</u>	<u>6/30/2012</u>	<u>6/30/2011</u>	<u>6/30/2010</u>
Discount rate	4.0%	4.0%	4.0%	4.0%
1. Annual Required Contribution	\$3,817,825	\$5,309,548	\$5,052,276	\$4,763,158
2. Interest on Net OPEB Obligation	586,188	423,688	267,623	123,159
3. Adjustment to annual required contribution	488,490	392,304	238,949	106,172
4. Annual OPEB cost/(expense)	\$3,915,523	\$5,340,932	\$5,080,950	\$4,780,145
5. Employer contributions (including subsidy)	1,241,117	1,278,432	1,179,326	1,168,549
6. Change in Net OPEB Obligation	\$2,674,406	\$4,062,500	\$3,901,624	\$3,611,596
7. Net OPEB Obligation (Asset) - beginning of year	\$14,654,696	\$10,592,196	\$6,690,572	\$3,078,976
8. Net OPEB Obligation (Asset) - end of year	\$17,329,102	\$14,654,696	\$10,592,196	\$6,690,572

Plan History				
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation	
6/30/2013	3,915,523	31.7%	17,329,102	
6/30/2012	5,340,932	23.9%	14,654,696	
6/30/2011	5,080,950	23.2%	10,592,196	

Schedule of Funding Progress						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) / c)
7/1/2012	2,961,186	48,839,208	45,878,022	6.06%	Not available	Not available
7/1/2010	0	71,292,434	71,292,434	0.00%	37,108,987	192.1%
7/1/2008	0	61,170,521	61,170,521	0.00%	32,019,829	191.0%

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

SECTION 4 - FORECASTS

OVERVIEW

In Section 4, we have provided 30-year forecasts of the annual funding requirements, accrued liability, assets and unfunded actuarial accrued liability under various funding scenarios. Tables 4.1 through 4.5 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 4%.
- ◆ 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.

- ◆ The assumed discount rate is 4%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 4% on an open amortization basis. The open amortization period is 30 years, recalculated at each valuation date.
- ◆ No additional funding is made as contributions are made to fund the expected benefit payments only.

Table 4.2 is based on fully funding the Annual Required Contribution (ARC) each year.

- ◆ The assumed discount rate is 7.5%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 7.5% on a closed amortization basis. The closed amortization period is 30 years at year one declining to zero after 30 years. This method fully funds the UAL at the end of 30 years.
- ◆ Assumes Additional Funding of the excess of the ARC over the Expected Benefit Payments.

SECTION 4 - FORECASTS

Table 4.3 is based on funding the expected benefit payments plus an additional contribution of \$525,000 for FY2013, increasing by 2.5% annually.

- ◆ The assumed discount rate is 5.5%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 5.5% on an open amortization basis. The open amortization period is 30 years, recalculated at each valuation date.
- ◆ Assumes Additional Funding of \$525,000 for FY2013, increasing annually by 2.5%.

Table 4.4 is based on funding the expected benefit payments plus an additional contribution for FY2013 that will increase by 2.5% annually and further ensure that the UAL as of FY2042 is the same as the UAL as of FY2013.

- ◆ The assumed discount rate is 5.5%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 5.5% on an open amortization basis. The open amortization period is 30 years, recalculated at each valuation date.
- ◆ Assumes Additional Funding as of FY2013, increasing annually by 2.5%, so that the UAL as of FY2042 is the same as the UAL as of FY2013.

Table 4.5 is based on funding the expected benefit payments plus an additional contribution for FY2013 and beyond that will ensure that the UAAL remains the same percentage of the Town's operating budget as it is for FY2013 (48%). This scenario assumes the Town's operating budget will increase by 3.5% per year.

- ◆ The assumed discount rate is 5.5%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 5.5% on an open amortization basis. The open amortization period is 30 years, recalculated at each valuation date.
- ◆ Assumes Additional Funding as of FY2013, increasing annually by 2.5%, so that the UAL as of FY2042 is the same as the UAL as of FY2013.

SECTION 4 - FORECASTS

TABLE 4.1 - Funding the Expected Benefit Payments Pay-As-You-Go

(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 (7) - (2)	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2013	1,241,117	48,839,208	2,961,186	2,227,388	1,590,438	3,817,825	-	3,055,054	51,754,468	48,699,413
2014	1,368,455	51,754,468	3,055,054	2,316,483	1,688,246	4,004,730	-	3,150,156	54,745,574	51,595,418
2015	1,481,449	54,745,574	3,150,156	2,409,143	1,788,641	4,197,784	-	3,246,824	57,833,753	54,586,929
2016	1,590,087	57,833,753	3,246,824	2,505,508	1,892,347	4,397,855	-	3,345,207	61,031,034	57,685,827
2017	1,686,344	61,031,034	3,345,207	2,605,729	1,999,775	4,605,504	-	3,445,619	64,358,264	60,912,645
2018	1,770,508	64,358,264	3,445,619	2,709,958	2,111,638	4,821,596	-	3,548,381	67,836,981	64,288,601
2019	1,856,190	67,836,981	3,548,381	2,818,356	2,228,671	5,047,028	-	3,653,556	71,475,867	67,822,311
2020	1,933,065	71,475,867	3,653,556	2,931,090	2,351,173	5,282,264	-	3,761,416	75,294,644	71,533,228
2021	2,020,137	75,294,644	3,761,416	3,048,334	2,479,819	5,528,153	-	3,871,866	79,294,620	75,422,754
2022	2,101,482	79,294,620	3,871,866	3,170,267	2,614,655	5,784,923	-	3,985,123	83,493,573	79,508,450
2023	2,192,610	83,493,573	3,985,123	3,297,078	2,756,293	6,053,371	-	4,101,106	87,894,361	83,793,256
2024	2,286,281	87,894,361	4,101,106	3,428,961	2,904,833	6,333,794	-	4,219,873	92,507,539	88,287,666
2025	2,362,867	92,507,539	4,219,873	3,566,120	3,060,639	6,626,759	-	4,341,874	97,364,299	93,022,425
2026	2,460,505	97,364,299	4,341,874	3,708,764	3,224,777	6,933,542	-	4,466,821	102,458,403	97,991,582
2027	2,520,629	102,458,403	4,466,821	3,857,115	3,397,041	7,254,156	-	4,595,576	107,843,307	103,247,731
2028	2,606,549	107,843,307	4,595,576	4,011,400	3,579,255	7,590,654	-	4,727,779	113,510,270	108,782,491
2029	2,681,485	113,510,270	4,727,779	4,171,856	3,771,126	7,942,982	-	4,863,786	119,487,947	114,624,161
2030	2,764,343	119,487,947	4,863,786	4,338,730	3,973,638	8,312,367	-	5,003,593	125,787,107	120,783,514
2031	2,844,103	125,787,107	5,003,593	4,512,279	4,187,162	8,699,441	-	5,147,412	132,430,442	127,283,030
2032	2,883,440	132,430,442	5,147,412	4,692,770	4,412,478	9,105,248	-	5,296,205	139,479,887	134,183,681
2033	2,928,017	139,479,887	5,296,205	4,880,481	4,651,701	9,532,182	-	5,450,067	146,953,560	141,503,493
2034	2,965,550	146,953,560	5,450,067	5,075,700	4,905,454	9,981,155	-	5,609,340	154,883,123	149,273,782
2035	2,962,606	154,883,123	5,609,340	5,278,728	5,174,824	10,453,553	-	5,775,043	163,335,898	157,560,855
2036	2,935,413	163,335,898	5,775,043	5,489,877	5,462,110	10,951,987	-	5,947,912	172,365,666	166,417,754
2037	2,931,111	172,365,666	5,947,912	5,709,472	5,769,149	11,478,621	-	6,127,781	181,980,606	175,852,825
2038	2,911,310	181,980,606	6,127,781	5,937,851	6,096,231	12,034,082	-	6,315,237	192,228,716	185,913,480
2039	2,879,457	192,228,716	6,315,237	6,175,365	6,445,001	12,620,366	-	6,510,822	203,156,749	196,645,927
2040	2,856,603	203,156,749	6,510,822	6,422,380	6,817,059	13,239,439	-	6,714,683	214,792,224	208,077,541
2041	2,833,591	214,792,224	6,714,683	6,679,275	7,213,355	13,892,630	-	6,927,154	227,173,481	220,246,326
2042	2,797,270	227,173,481	6,927,154	6,946,446	7,635,206	14,581,652	-	7,148,843	240,354,199	233,205,356
2043	2,743,425	240,354,199	7,148,843	7,224,304	8,084,452	15,308,756	-	7,434,797	254,394,915	246,960,118

30-years open, 4.0% discount rate.

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

SECTION 4 - FORECASTS

TABLE 4.2 - Funding the Annual Required Contribution (ARC)

(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 (7) - (2)	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2013	1,241,117	28,055,163	2,961,186	910,067	1,394,831	2,304,898	1,063,780	4,201,355	29,782,550	25,581,195
2014	1,368,455	29,782,550	4,201,355	946,470	1,451,176	2,397,646	1,029,191	5,495,258	31,543,866	26,048,608
2015	1,481,449	31,543,866	5,495,258	984,329	1,508,742	2,493,071	1,011,622	6,864,474	33,357,986	26,493,512
2016	1,590,087	33,357,986	6,864,474	1,023,702	1,569,175	2,592,877	1,002,789	8,323,549	35,234,899	26,911,350
2017	1,686,344	35,234,899	8,323,549	1,064,650	1,632,602	2,697,251	1,010,908	9,896,628	37,193,728	27,297,100
2018	1,770,508	37,193,728	9,896,628	1,107,236	1,697,188	2,804,424	1,033,916	11,607,597	39,254,791	27,647,194
2019	1,856,190	39,254,791	11,607,597	1,151,525	1,764,889	2,916,414	1,060,224	13,470,042	41,425,887	27,955,845
2020	1,933,065	41,425,887	13,470,042	1,197,586	1,835,830	3,033,416	1,100,351	15,509,467	43,726,170	28,216,703
2021	2,020,137	43,726,170	15,509,467	1,245,490	1,908,934	3,154,423	1,134,287	17,732,578	46,156,600	28,424,022
2022	2,101,482	46,156,600	17,732,578	1,295,309	1,985,434	3,280,743	1,179,261	20,164,400	48,734,791	28,570,390
2023	2,192,610	48,734,791	20,164,400	1,347,122	2,065,445	3,412,567	1,219,957	22,815,951	51,463,675	28,647,724
2024	2,286,281	51,463,675	22,815,951	1,401,006	2,147,580	3,548,587	1,262,306	25,705,267	54,353,991	28,648,723
2025	2,362,867	54,353,991	25,705,267	1,457,047	2,233,312	3,690,359	1,327,492	28,873,649	57,437,714	28,564,065
2026	2,460,505	57,437,714	28,873,649	1,515,329	2,322,721	3,838,049	1,377,545	32,326,116	60,709,765	28,383,649
2027	2,520,629	60,709,765	32,326,116	1,575,942	2,415,869	3,991,810	1,471,182	36,128,942	64,225,496	28,096,554
2028	2,606,549	64,225,496	36,128,942	1,638,979	2,512,795	4,151,774	1,545,226	40,287,859	67,978,860	27,691,001
2029	2,681,485	67,978,860	40,287,859	1,704,539	2,613,505	4,318,044	1,636,559	44,847,270	72,001,590	27,154,320
2030	2,764,343	72,001,590	44,847,270	1,772,720	2,717,960	4,490,680	1,726,337	49,835,363	76,308,297	26,472,934
2031	2,844,103	76,308,297	49,835,363	1,843,629	2,826,058	4,669,687	1,825,584	55,293,874	80,926,220	25,632,346
2032	2,883,440	80,926,220	55,293,874	1,917,374	2,940,744	4,858,118	1,974,678	61,309,418	85,923,446	24,614,028
2033	2,928,017	85,923,446	61,309,418	1,994,069	3,055,436	5,049,505	2,121,488	67,921,297	91,325,940	23,404,643
2034	2,965,550	91,325,940	67,921,297	2,073,832	3,180,783	5,254,615	2,289,065	75,195,261	97,174,470	21,979,209
2035	2,962,606	97,174,470	75,195,261	2,156,785	3,304,566	5,461,351	2,498,745	83,224,561	103,547,645	20,323,083
2036	2,935,413	103,547,645	83,224,561	2,243,056	3,440,522	5,683,578	2,748,165	92,106,481	110,513,273	18,406,793
2037	2,931,111	110,513,273	92,106,481	2,332,779	3,578,174	5,910,953	2,979,842	101,886,379	118,095,507	16,209,128
2038	2,911,310	118,095,507	101,886,379	2,426,090	3,723,251	6,149,340	3,238,030	112,658,687	126,360,249	13,701,562
2039	2,879,457	126,360,249	112,658,687	2,523,133	3,865,926	6,389,060	3,509,603	124,511,664	135,374,917	10,863,253
2040	2,856,603	135,374,917	124,511,664	2,624,059	4,026,895	6,650,954	3,794,351	137,539,204	145,190,306	7,651,101
2041	2,833,591	145,190,306	137,539,204	2,729,021	4,175,093	6,904,114	4,070,523	151,820,829	155,870,669	4,049,841
2042	2,797,270	155,870,669	151,820,829	2,838,182	4,353,579	7,191,761	4,394,491	167,498,881	167,498,881	-
2043	2,743,425	167,498,881	167,498,881	2,951,709	-	2,951,709	208,284	180,168,562	180,168,562	-

30-years closed, 7.5% discount rate.

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

SECTION 4 - FORECASTS

TABLE 4.3 - Additional Funding

(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 (7) - (2)	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2013	1,241,117	37,687,140	2,961,186	1,481,048	1,491,689	2,972,737	525,000	3,615,377	39,966,190	36,350,812
2014	1,368,455	39,966,190	3,615,377	1,540,290	1,561,486	3,101,776	538,125	4,315,219	42,299,036	37,983,817
2015	1,481,449	42,299,036	4,315,219	1,601,902	1,631,634	3,233,535	551,578	5,063,940	44,705,741	39,641,802
2016	1,590,087	44,705,741	5,063,940	1,665,978	1,702,854	3,368,832	565,367	5,864,681	47,197,305	41,332,624
2017	1,686,344	47,197,305	5,864,681	1,732,617	1,775,485	3,508,102	579,501	6,720,986	49,793,676	43,072,690
2018	1,770,508	49,793,676	6,720,986	1,801,921	1,850,232	3,652,153	593,989	7,636,592	52,515,705	44,879,113
2019	1,856,190	52,515,705	7,636,592	1,873,998	1,927,828	3,801,827	608,839	8,615,081	55,371,515	46,756,433
2020	1,933,065	55,371,515	8,615,081	1,948,958	2,008,471	3,957,429	624,060	9,660,523	58,380,393	48,719,870
2021	2,020,137	58,380,393	9,660,523	2,026,917	2,092,812	4,119,728	639,662	10,776,704	61,543,284	50,766,580
2022	2,101,482	61,543,284	10,776,704	2,107,993	2,180,731	4,288,724	655,654	11,968,059	64,877,658	52,909,599
2023	2,192,610	64,877,658	11,968,059	2,192,313	2,272,786	4,465,099	672,045	13,238,858	68,386,143	55,147,285
2024	2,286,281	68,386,143	13,238,858	2,280,005	2,368,908	4,648,914	688,846	14,593,810	72,079,074	57,485,264
2025	2,362,867	72,079,074	14,593,810	2,371,206	2,469,339	4,840,544	706,067	16,038,427	75,987,652	59,949,225
2026	2,460,505	75,987,652	16,038,427	2,466,054	2,575,180	5,041,234	723,719	17,577,501	80,105,764	62,528,263
2027	2,520,629	80,105,764	17,577,501	2,564,696	2,685,966	5,250,662	741,812	19,217,686	84,487,259	65,269,572
2028	2,606,549	84,487,259	19,217,686	2,667,284	2,803,721	5,471,005	760,357	20,964,295	89,124,072	68,159,777
2029	2,681,485	89,124,072	20,964,295	2,773,975	2,927,873	5,701,848	779,366	22,823,944	94,045,633	71,221,689
2030	2,764,343	94,045,633	22,823,944	2,884,934	3,059,401	5,944,335	798,850	24,803,109	99,263,731	74,460,623
2031	2,844,103	99,263,731	24,803,109	3,000,332	3,198,532	6,198,864	818,821	26,908,935	104,802,299	77,893,364
2032	2,883,440	104,802,299	26,908,935	3,120,345	3,345,989	6,466,334	839,292	29,149,985	110,725,097	81,575,112
2033	2,928,017	110,725,097	29,149,985	3,245,159	3,504,143	6,749,301	860,274	31,534,065	117,052,676	85,518,611
2034	2,965,550	117,052,676	31,534,065	3,374,965	3,673,540	7,048,505	881,781	34,069,759	123,819,527	89,749,768
2035	2,962,606	123,819,527	34,069,759	3,509,964	3,855,293	7,365,257	903,826	36,767,040	131,096,577	94,329,537
2036	2,935,413	131,096,577	36,767,040	3,650,362	4,052,022	7,702,384	926,422	39,636,006	138,942,194	99,306,188
2037	2,931,111	138,942,194	39,636,006	3,796,377	4,265,799	8,062,176	949,583	42,686,043	147,369,754	104,683,712
2038	2,911,310	147,369,754	42,686,043	3,948,232	4,496,796	8,445,028	973,323	45,928,109	156,433,023	110,504,914
2039	2,879,457	156,433,023	45,928,109	4,106,161	4,746,852	8,853,013	997,656	49,373,685	166,185,418	116,811,733
2040	2,856,603	166,185,418	49,373,685	4,270,407	5,017,768	9,288,175	1,022,597	53,034,330	176,661,915	123,627,585
2041	2,833,591	176,661,915	53,034,330	4,441,224	5,310,550	9,751,773	1,048,162	56,922,499	187,909,072	130,986,573
2042	2,797,270	187,909,072	56,922,499	4,618,873	5,626,663	10,245,535	1,074,366	61,051,707	199,989,778	138,938,071
2043	2,743,425	199,989,778	61,051,707	4,803,628	5,968,227	10,771,855	1,101,225	64,540,670	209,995,241	145,454,571

30-years open, 5.5% discount rate.

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

SECTION 4 - FORECASTS

TABLE 4.4 - Unfunded Actuarial Accrued Liability Remains Unchanged After 30 Years

(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 (7) - (2)	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2013	1,241,117	37,687,140	2,961,186	1,481,048	1,491,689	2,972,737	1,608,141	4,698,519	39,966,190	35,267,671
2014	1,368,455	39,966,190	4,698,519	1,540,290	1,514,959	3,055,249	1,648,345	6,568,153	42,299,036	35,730,883
2015	1,481,449	42,299,036	6,568,153	1,601,902	1,534,857	3,136,758	1,689,554	8,578,761	44,705,741	36,126,980
2016	1,590,087	44,705,741	8,578,761	1,665,978	1,551,872	3,217,849	1,731,793	10,739,244	47,197,305	36,458,062
2017	1,686,344	47,197,305	10,739,244	1,732,617	1,566,093	3,298,710	1,775,088	13,059,237	49,793,676	36,734,440
2018	1,770,508	49,793,676	13,059,237	1,801,921	1,577,966	3,379,887	1,819,465	15,548,922	52,515,705	36,966,783
2019	1,856,190	52,515,705	15,548,922	1,873,998	1,587,946	3,461,944	1,864,952	18,218,703	55,371,515	37,152,812
2020	1,933,065	55,371,515	18,218,703	1,948,958	1,595,937	3,544,895	1,911,576	21,079,860	58,380,393	37,300,533
2021	2,020,137	58,380,393	21,079,860	2,026,917	1,602,283	3,629,199	1,959,365	24,143,807	61,543,284	37,399,477
2022	2,101,482	61,543,284	24,143,807	2,107,993	1,606,533	3,714,526	2,008,349	27,423,048	64,877,658	37,454,610
2023	2,192,610	64,877,658	27,423,048	2,192,313	1,608,901	3,801,214	2,058,558	30,930,384	68,386,143	37,455,759
2024	2,286,281	68,386,143	30,930,384	2,280,005	1,608,951	3,888,956	2,110,022	34,679,546	72,079,074	37,399,528
2025	2,362,867	72,079,074	34,679,546	2,371,206	1,606,535	3,977,741	2,162,773	38,685,585	75,987,652	37,302,068
2026	2,460,505	75,987,652	38,685,585	2,466,054	1,602,349	4,068,402	2,216,842	42,963,376	80,105,764	37,142,388
2027	2,520,629	80,105,764	42,963,376	2,564,696	1,595,489	4,160,185	2,272,263	47,530,235	84,487,259	36,957,024
2028	2,606,549	84,487,259	47,530,235	2,667,284	1,587,527	4,254,811	2,329,070	52,402,747	89,124,072	36,721,325
2029	2,681,485	89,124,072	52,402,747	2,773,975	1,577,402	4,351,377	2,387,297	57,599,441	94,045,633	36,446,191
2030	2,764,343	94,045,633	57,599,441	2,884,934	1,565,584	4,450,518	2,446,979	63,139,388	99,263,731	36,124,344
2031	2,844,103	99,263,731	63,139,388	3,000,332	1,551,758	4,552,090	2,508,153	69,043,041	104,802,299	35,759,258
2032	2,883,440	104,802,299	69,043,041	3,120,345	1,536,076	4,656,420	2,570,857	75,333,032	110,725,097	35,392,065
2033	2,928,017	110,725,097	75,333,032	3,245,159	1,520,302	4,765,461	2,635,128	82,032,034	117,052,676	35,020,642
2034	2,965,550	117,052,676	82,032,034	3,374,965	1,504,348	4,879,313	2,701,006	89,164,341	123,819,527	34,655,186
2035	2,962,606	123,819,527	89,164,341	3,509,964	1,488,649	4,998,613	2,768,531	96,756,529	131,096,577	34,340,048
2036	2,935,413	131,096,577	96,756,529	3,650,362	1,475,112	5,125,474	2,837,744	104,836,239	138,942,194	34,105,955
2037	2,931,111	138,942,194	104,836,239	3,796,377	1,465,056	5,261,433	2,908,688	113,431,393	147,369,754	33,938,361
2038	2,911,310	147,369,754	113,431,393	3,948,232	1,457,857	5,406,089	2,981,405	122,572,535	156,433,023	33,860,487
2039	2,879,457	156,433,023	122,572,535	4,106,161	1,454,512	5,560,673	3,055,940	132,291,840	166,185,418	33,893,578
2040	2,856,603	166,185,418	132,291,840	4,270,407	1,455,933	5,726,341	3,132,339	142,622,725	176,661,915	34,039,190
2041	2,833,591	176,661,915	142,622,725	4,441,224	1,462,188	5,903,412	3,210,647	153,600,741	187,909,072	34,308,331
2042	2,797,270	187,909,072	153,600,741	4,618,873	1,473,750	6,092,622	3,290,913	165,263,799	199,989,778	34,725,979
2043	2,743,425	199,989,778	165,263,799	4,803,628	1,491,690	6,295,318	3,373,186	175,193,207	209,995,241	34,802,034

30-years open, 5.5% discount rate.

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

SECTION 4 - FORECASTS

TABLE 4.5 - Unfunded Actuarial Accrued Liability Remains Constant Percentage of Town Operating Budget

(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 (7) - (2)	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2013	1,241,117	37,687,140	2,961,186	1,481,048	1,491,689	2,972,737	934,450	4,024,827	39,966,190	35,941,362
2014	1,368,455	39,966,190	4,024,827	1,540,290	1,543,898	3,084,188	890,662	5,099,726	42,299,036	37,199,310
2015	1,481,449	42,299,036	5,099,726	1,601,902	1,597,935	3,199,836	864,439	6,204,456	44,705,741	38,501,286
2016	1,590,087	44,705,741	6,204,456	1,665,978	1,653,862	3,319,840	845,916	7,348,475	47,197,305	39,848,831
2017	1,686,344	47,197,305	7,348,475	1,732,617	1,711,747	3,444,364	843,250	8,550,136	49,793,676	41,243,540
2018	1,770,508	49,793,676	8,550,136	1,801,921	1,771,659	3,573,580	856,284	9,828,641	52,515,705	42,687,064
2019	1,856,190	52,515,705	9,828,641	1,873,998	1,833,667	3,707,665	871,549	11,190,403	55,371,515	44,181,111
2020	1,933,065	55,371,515	11,190,403	1,948,958	1,897,845	3,846,803	899,515	12,652,943	58,380,393	45,727,450
2021	2,020,137	58,380,393	12,652,943	2,026,917	1,964,270	3,991,186	921,329	14,215,373	61,543,284	47,327,911
2022	2,101,482	61,543,284	14,215,373	2,107,993	2,033,019	4,141,012	953,069	15,893,271	64,877,658	48,984,388
2023	2,192,610	64,877,658	15,893,271	2,192,313	2,104,175	4,296,488	979,391	17,687,302	68,386,143	50,698,841
2024	2,286,281	68,386,143	17,687,302	2,280,005	2,177,821	4,457,826	1,007,701	19,605,773	72,079,074	52,473,301
2025	2,362,867	72,079,074	19,605,773	2,371,206	2,254,044	4,625,250	1,057,805	21,677,786	75,987,652	54,309,866
2026	2,460,505	75,987,652	21,677,786	2,466,054	2,332,936	4,798,990	1,091,746	23,895,053	80,105,764	56,210,712
2027	2,520,629	80,105,764	23,895,053	2,564,696	2,414,589	4,979,285	1,168,281	26,309,172	84,487,259	58,178,086
2028	2,606,549	84,487,259	26,309,172	2,667,284	2,499,099	5,166,383	1,224,297	28,909,753	89,124,072	60,214,319
2029	2,681,485	89,124,072	28,909,753	2,773,975	2,586,568	5,360,543	1,296,777	31,723,812	94,045,633	62,321,821
2030	2,764,343	94,045,633	31,723,812	2,884,934	2,677,098	5,562,032	1,367,027	34,760,647	99,263,731	64,503,084
2031	2,844,103	99,263,731	34,760,647	3,000,332	2,770,796	5,771,128	1,446,290	38,041,607	104,802,299	66,760,692
2032	2,883,440	104,802,299	38,041,607	3,120,345	2,867,774	5,988,119	1,572,118	41,627,780	110,725,097	69,097,317
2033	2,928,017	110,725,097	41,627,780	3,245,159	2,968,146	6,213,305	1,699,088	45,536,953	117,052,676	71,515,723
2034	2,965,550	117,052,676	45,536,953	3,374,965	3,072,031	6,446,996	1,839,730	49,800,754	123,819,527	74,018,773
2035	2,962,606	123,819,527	49,800,754	3,509,964	3,179,552	6,689,516	2,027,733	54,487,147	131,096,577	76,609,430
2036	2,935,413	131,096,577	54,487,147	3,650,362	3,290,837	6,941,199	2,247,137	59,651,434	138,942,194	79,290,760
2037	2,931,111	138,942,194	59,651,434	3,796,377	3,406,016	7,202,393	2,451,081	65,303,818	147,369,754	82,065,937
2038	2,911,310	147,369,754	65,303,818	3,948,232	3,525,227	7,473,458	2,678,240	71,494,778	156,433,023	84,938,244
2039	2,879,457	156,433,023	71,494,778	4,106,161	3,648,609	7,754,770	2,925,469	78,274,335	166,185,418	87,911,083
2040	2,856,603	166,185,418	78,274,335	4,270,407	3,776,311	8,046,718	3,172,026	85,673,944	176,661,915	90,987,971
2041	2,833,591	176,661,915	85,673,944	4,441,224	3,908,482	8,349,705	3,427,392	93,736,522	187,909,072	94,172,550
2042	2,797,270	187,909,072	93,736,522	4,618,873	4,045,279	8,664,151	3,705,054	102,521,189	199,989,778	97,468,589
2043	2,743,425	199,989,778	102,521,189	4,803,628	4,186,863	8,990,491	4,009,574	112,094,994	212,974,984	100,879,990

30-years open, 5.5% discount rate.

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

SECTION 4 - FORECASTS

TABLE 4.6 - 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
								14,654,696
2013	3,817,825	586,188	488,490	30.00	3,915,523	1,241,117	2,674,406	17,329,102
2014	4,004,730	693,164	577,637	30.00	4,120,257	1,368,455	2,751,802	20,080,903
2015	4,197,784	803,236	669,363	30.00	4,331,657	1,481,449	2,850,208	22,931,111
2016	4,397,855	917,244	764,370	30.00	4,550,729	1,590,087	2,960,642	25,891,753
2017	4,605,504	1,035,670	863,058	30.00	4,778,116	1,686,344	3,091,772	28,983,525
2018	4,821,596	1,159,341	966,118	30.00	5,014,819	1,770,508	3,244,311	32,227,837
2019	5,047,028	1,289,113	1,074,261	30.00	5,261,880	1,856,190	3,405,689	35,633,526
2020	5,282,264	1,425,341	1,187,784	30.00	5,519,821	1,933,065	3,586,755	39,220,281
2021	5,528,153	1,568,811	1,307,343	30.00	5,789,621	2,020,137	3,769,484	42,989,765
2022	5,784,923	1,719,591	1,432,992	30.00	6,071,522	2,101,482	3,970,040	46,959,805

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 4.00%.
8. Subsequent years' Interest on Net OPEB Obligation and ARC Adjustment computed at current discount rate of 4.00%.

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>
Discount Rate	4.0%	4.0%	4.0%
Current Active Employees			
Pre-Medicare Gross Benefit	\$10,574,691	\$12,252,003	\$9,174,886
Pre-Medicare Participant Contributions	3,848,492	4,458,578	3,339,343
Net Pre-Medicare Benefit	\$6,726,199	\$7,793,425	\$5,835,543
Post - Medicare Gross Benefit	\$41,259,250	\$53,342,576	\$32,299,858
Post - Medicare Participant Contributions	18,183,290	23,507,394	14,235,641
Net Post - Medicare Benefit	\$23,075,960	\$29,835,182	\$18,064,217
Total Current Active Employees	\$29,802,159	\$37,628,607	\$23,899,760
Current Retirees			
Pre-Medicare Gross Benefit	\$2,507,165	\$2,565,115	\$2,451,067
Pre-Medicare Participant Contributions	912,370	933,448	891,966
Net Pre-Medicare Benefit	\$1,594,795	\$1,631,667	\$1,559,101
Post - Medicare Gross Benefit	\$30,636,659	\$34,188,332	\$27,601,258
Post - Medicare Participant Contributions	13,194,405	14,725,552	11,885,937
Net Post - Medicare Benefit	\$17,442,254	\$19,462,780	\$15,715,321
Total Current Retirees	\$19,037,049	\$21,094,447	\$17,274,422
Total Actuarial Accrued Liability (AAL)	\$48,839,208	\$58,723,054	\$41,174,182

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>
Discount Rate	4.0%	4.0%	4.0%
Current Active Employees			
Pre-Medicare Gross Benefit	\$820,156	\$1,001,609	\$674,782
Pre-Medicare Participant Contributions	298,444	364,443	245,567
Net Pre-Medicare Benefit	\$521,712	\$637,166	\$429,215
Post - Medicare Gross Benefit	\$2,896,402	\$3,991,162	\$2,127,347
Post - Medicare Participant Contributions	1,276,395	1,758,763	937,537
Net Post - Medicare Benefit	\$1,620,007	\$2,232,399	\$1,189,810
Total Current Active Employees	\$2,141,719	\$2,869,565	\$1,619,025
Current Retirees			
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
Total Current Retirees	\$0	\$0	\$0
Total Normal Cost	\$2,141,719	\$2,869,565	\$1,619,025

SECTION 6 - PLAN PROVISIONS

Eligibility: Retirement after attaining age 55 with 10 or more years of service or any age with 20 or more years of service for Group 1 employees hired before April 2, 2012 or retirement after attaining age 55 or any age with 20 or more years of service for Group 4 employees hired before April 2, 2012.

Retirement after attaining age 60 with 10 or more years of service for Group 1 employees hired on or after April 2, 2012 or retirement after attaining age 55 for Group 4 employees hired on or after April 2, 2012.

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>
Fallon Direct	\$454.50	\$1,090.80
Harvard Pilgrim Independence	\$654.56	\$1,597.13
Harvard Pilgrim Primary Choice	\$523.65	\$1,277.70
Tufts Health Plan Navigator	\$600.36	\$1,463.98
Tufts Health Plan Spirit	\$478.41	\$1,166.63
UniCare State Indemnity Comm. Choice	\$423.67	\$1,016.79
UniCare State Indemnity Plus	\$577.78	\$1,379.15
UniCare State Indemnity Basis w/CIC	\$892.93	\$2,085.15
 <u>Medicare Plans</u>		
Harvard Pilgrim Medicare Enhance	\$387.44	
Tufts Medicare Complement	\$390.95	
Tufts Medicare Preferred	\$243.21	
UniCare State Indemnity OME w/CIC	\$373.53	

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>
Fallon Direct	17%	39%
Harvard Pilgrim Independence	17%	39%
Harvard Pilgrim Primary Choice	17%	39%
Tufts Health Plan Navigator	17%	39%
Tufts Health Plan Spirit	17%	39%
UniCare State Indemnity Comm. Choice	17%	39%
UniCare State Indemnity Plus	17%	39%
UniCare State Indemnity Basis w/CIC	50%	50%
 <u>Medicare Plans</u>		 50%

SECTION 6 - PLAN PROVISIONS

- Medicare Part B Premium:** The Town reimburses retirees and spouses for 50% of Medicare Part B Premium.
- Medicare Penalty:** The Town reimburses certain retirees as provided in the data for the full Medicare penalty.
- Continuation of Coverage to Spouse After Death of Retiree:** Surviving spouse may continue coverage for lifetime by paying the required medical premium rates.
- Life Insurance Benefit:** Retirees are eligible for a \$5,000 life insurance benefit.
- Life Insurance Premium:** The total monthly cost is \$4.18.
- 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: 4.00% pay-as-you-go.
5.50% partial pre-funding.
7.50% full pre-funding.

Amortization Method: Increasing at 4.0% over thirty (30) years on an open amortization period for pay-as-you-go.
Increasing at 4.0% over thirty (30) years on a closed amortization period for full pre-funding.

Health Care Cost Trend Rates:

<u>Year</u>	<u>Trend</u>
1	9.00%
2	8.25%
3	7.50%
4	6.75%
5	6.00%
6	5.25%
Ultimate	5.00%

Mortality Table: RP-2000 Mortality Table, projected to 2012, using Scale AA.

Turnover Rates: *Non-Teachers:*

<u>Groups 1 and 2</u>		<u>Group 4</u>	
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%

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:

None.

Retirement Rates:

Non-Teachers:

<u>Age</u>	<u>Groups 1 and 2</u>		<u>Group 4</u>
	<u>Male</u>	<u>Female</u>	<u>All</u>
45-49	0.00%	0.00%	1.00%
50-54	0.00%	0.00%	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	50.00%	20.00%	
70	100.00%	100.00%	

Retirement Rates:

Teachers:

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

Medical Plan Participation: 75% of eligible retirees will elect to participate.

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

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

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.

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>
Under 65	\$8,271	\$8,271
65 and Older	\$4,448	\$8,271

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

<u>Age</u>	<u>Group 1</u>	<u>Group 2</u>
Under 65	\$3,008	\$3,008
65 and Older	\$2,224	\$3,008

Group 1 - Future retirees and current retirees not in Group 2.

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

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.

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 & up</u>		
Under 25	24	0	0	0	0	0	0	0	0	24	4%
25 to 29	54	6	0	0	0	0	0	0	0	60	10%
30 to 34	36	30	7	0	0	0	0	0	0	73	12%
35 to 39	15	16	16	2	0	0	0	0	0	49	8%
40 to 44	30	16	29	11	1	0	0	0	0	87	15%
45 to 49	20	14	12	7	10	5	0	0	0	68	11%
50 to 54	16	29	21	12	8	7	2	0	0	95	16%
55 to 59	7	16	26	13	6	3	3	0	0	74	12%
60 to 64	7	5	12	9	7	3	2	1	3	49	8%
65 to 69	2	3	6	2	2	0	1	0	0	16	3%
70 & up	0	1	1	0	1	1	0	0	0	3	1%
Total	211	136	130	56	35	18	8	1	3	598	
Percent	35%	23%	22%	9%	6%	3%	1%	0%	1%		100%
	Average Age: 45.1			Average Service: 9.6							

SECTION 8 - PLAN MEMBER INFORMATION

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

Non-Medicare Plans:

Age	Fallon Direct	Harvard Pilgrim Independence	Harvard Pilgrim Primary Choice	Tufts Navigator	Tufts Spirit	UniCare State Indemnity Community Choice	UniCare State Indemnity Plus	UniCare State Indemnity Basic w/CIC	Total
Under 40	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0	0
55 to 59	0	0	0	8	3	0	0	0	11
60 to 64	0	0	1	20	4	1	1	1	28
65 to 69	0	0	0	2	2	0	0	4	8
70 to 74	0	1	0	2	0	0	0	1	4
75 to 79	1	0	0	0	0	0	0	1	2
80 to 84	0	0	0	1	0	0	0	0	1
85 to 89	0	0	0	0	1	0	0	0	1
90+	0	0	0	0	0	0	0	0	0
Total	1	1	1	33	10	1	1	7	55
Covered Spouses	1	2	1	14	4	1	5	2	30

In addition, there are 32 retired employees with life insurance coverage only.

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

SECTION 8 - PLAN MEMBER INFORMATION

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

Medicare Plans:

Age	Harvard Pilgrim Medicare Enhance	Tufts Medicare Complement	Tufts Medicare Preferred	UniCare State Indemnity OME w/CIC	Total
Under 40	0	0	0	0	0
40 to 44	0	0	0	0	0
45 to 49	0	0	0	0	0
50 to 54	0	0	0	0	0
55 to 59	0	0	0	0	0
60 to 64	2	0	0	3	5
65 to 69	8	3	5	23	39
70 to 74	6	5	3	31	45
75 to 79	6	5	2	21	34
80 to 84	1	3	0	25	29
85 to 89	2	2	0	15	19
90+	2	2	0	5	9
Total	27	20	10	123	180
Covered Spouses	11	6	3	50	70

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>School MRS</u>	<u>School MTRB</u>	<u>Total</u>
Summary of Member Data				
Active Members	179	169	250	598
Average Age	45.6	48.7	42.4	45.1
Average Service	12.1	8.2	8.8	9.6
Retired Members and Survivors	125	28	114	267
Average Age	75.0	73.9	71.1	73.2
Actuarial Accrued Liability - July 1, 2012				
Active Employees	11,148,870	6,489,405	12,163,884	29,802,159
Retired Employees and Survivors	6,786,418	1,850,661	10,399,970	19,037,049
Total	17,935,288	8,340,066	22,563,854	48,839,208
Actuarial Value of Plan Assets - July 1, 2012	1,087,440	505,669	1,368,077	2,961,186
Unfunded Actuarial Accrued Liability	16,847,848	7,834,397	21,195,777	45,878,022
Annual Required Contribution (ARC) for FYE 2012				
Normal Cost	617,081	476,076	1,048,562	2,141,719
Amortization of UAL	561,595	261,147	706,525	1,529,267
Interest	47,147	29,489	70,203	146,839
Total	1,225,823	766,712	1,825,290	3,817,825
Expected Benefit Payments	465,200	139,741	636,176	1,241,117

Note:

"School MRS" includes School Employees who are members of the Middlesex County Retirement System.

"School MTRB" includes School Employees who are members of the Massachusetts Teachers Retirement System.