

**THE TOWN OF ANDOVER,  
MASSACHUSETTS**

**Postemployment Benefits  
Other Than Pensions  
Actuarial Valuation  
June 30, 2011**

**October 2011**

*Submitted by:*

*Aon Hewitt*

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*Boston, MA 02110*



October 2011

Rodney Smith, Town Accountant  
Town of Andover  
36 Bartlett Street  
Andover, MA 01810

This report presents the June 30, 2011 Actuarial Valuation results for the retiree benefits (medical and life insurance) provided through the ***Town of Andover, Massachusetts ("the Town")***. The purposes of this report are to:

- (1) Determine the Town's June 30, 2011 obligations;
- (2) Determine the Town's Fiscal Year End June 30, 2011 accrual under the *Governmental Accounting Standards Board (GASB)* standard based on GASB Statement 45;
- (3) Provide information for the Town's June 30, 2011 financial statement disclosure; and
- (4) Provide information that may be helpful in future planning for the Town.

A summary of the major results is shown in the Executive Summary. The Accounting Information Section summarizes GASB Other Postemployment Benefit (OPEB) accounting treatment including the Fiscal Year End June 30, 2010 Annual Required Contribution (ARC), Annual OPEB Cost (AOC), and Net OPEB Obligation (NOO).

The Accounting Information Section summarizes GASB Other Postemployment Benefit (OPEB) accounting treatment including the Fiscal Year End June 30, 2011 Annual Required Contribution (ARC) and Annual OPEB Cost (AOC).

This report's costs and liabilities are based upon the demographic and premium data provided by the Town as of June 30, 2011 for active participants and non-teacher retirees. Demographic and premium data for participants in the Retired Municipal Teachers' (RMT) program was provided directly by the Group Insurance Commission (GIC). Data and plan provisions are summarized in the Demographic Information and Summary of Principal Plan Provisions Sections, respectively. The funding method and actuarial assumptions are outlined in the Methods and Assumptions Section of this report. This report presents our best estimate of the costs of the Plan in accordance with accepted actuarial principles and our understanding of GASB Statement 45.

Respectfully,

**Aon Hewitt**



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James M. Forbush, FSA  
Member of the American Academy of Actuaries  
Senior Vice President

## ***Table Of Contents***

	<i>Page</i>
Executive Summary	1
Actuarial Certification	4
Principal Valuation Results	5
Accounting Information	6
30-Year Payout Projection	10
30-Year Projection of Annual OPEB Cost	11
Demographic Information	12
Summary of Principal Plan Provisions	13
Methods and Assumptions	14
Appendix I	22
Appendix II	23
Appendix III	24

## **Executive Summary**

The **Town of Andover, Massachusetts (“the Town”)** provides medical and life insurance benefits to its retirees and their spouses. Details of the eligibility requirements and cost sharing arrangements can be found in the Plan Provisions section of this report. All active employees who retire from the Town and meet the eligibility criteria will receive these benefits.

This summary identifies the value of benefits at June 30, 2011 and costs for the 2011 Fiscal Year:

### **Summary of Benefit Obligations**

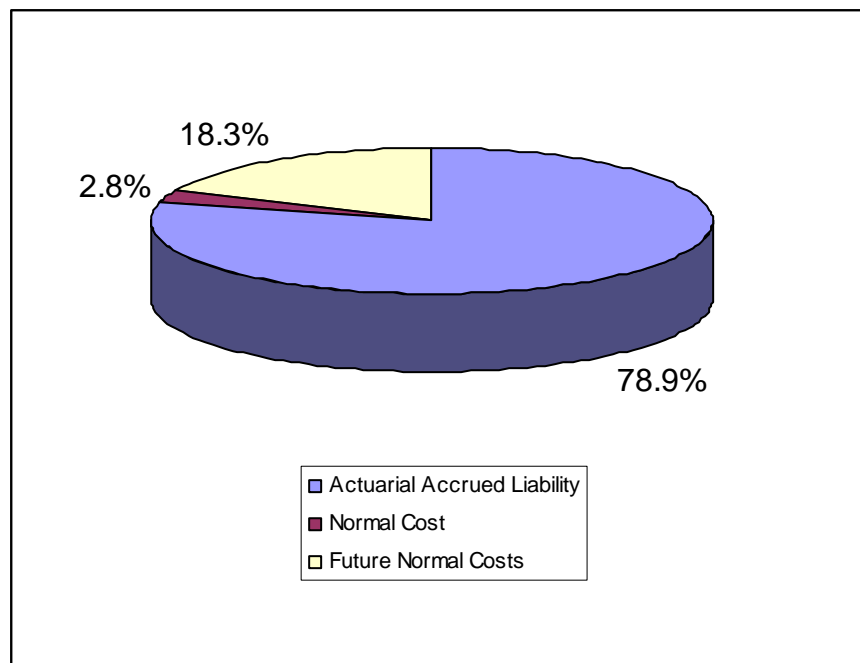
<b>GASB 45 Results</b>	
Actuarial Accrued Liability at June 30, 2011	\$215,257,672
FY2011 Annual Required Contribution (ARC)*	\$15,429,089
FY2011 Annual OPEB Cost (AOC)	\$15,693,605
FY2011 Expected Benefit Premiums	\$5,490,553
Contributions to Trust via Chapter 479 of the Acts of 2008	\$658,120
* <b>The Annual Required Contribution reflects a closed 30-year, 4.5% annual increasing amortization of the Unfunded Actuarial Accrued Liability.</b>	

- The **Present Value of all Projected Benefits** is the total present value of all expected future benefits, based on certain actuarial assumptions. The Present Value of all projected benefits is a measure of total liability or obligation. Essentially, the Present Value of all projected benefits is the value (on the valuation date) of the benefits promised to current and future retirees. The Plan’s present value of all projected benefits (at June 30, 2011) is \$272,729,388. The majority of this liability is for current active employees (future retirees).
- The **Actuarial Accrued Liability (AAL)** is the liability or obligation for benefits earned through the valuation date, based on certain actuarial methods and assumptions. The Plan’s Actuarial Accrued Liability (at June 30, 2011) is \$215,257,672. Approximately 55.8% of this obligation is for active employees.

## ***Executive Summary (continued)***

- **Normal Cost** is the value of benefits expected to be earned during the current year, based on the selected actuarial methods and assumptions. The 2011 Fiscal Year Normal Cost is \$7,673,165. In pension accounting, this is also known as “**service cost**.”
- **Future Normal Costs** represent the present value of the remaining balance of all projected benefits to be earned in future years.

The following graph illustrates the Present Value of all Projected Benefits, the yellow area representing the Actuarial Accrued Liability in total:



The Town has established a trust under Chapter 479 of the Acts of 2008. The purpose of this trust is to reduce the unfunded actuarial liability of the Town's retiree medical and life insurance program. The value of the trust is \$704,009 as of the valuation date. The town intends to contribute additional monies at least annually to the fund.

## ***Executive Summary (continued)***

The results were calculated based upon plan provisions, as provided by the Town, along with certain demographic and economic assumptions as recommended by Aon Hewitt, in conjunction with the Town, with guidance from the GASB statement.

### ***Demographic Assumptions***

Data was provided by the Town and the GIC as of June 30, 2011. There is no assumption for future new hires.

### ***Economic Assumptions***

The GASB statement requires that the discount rate used to determine the retiree healthcare liabilities should be the estimated long-term yield on the “investments that are expected to be used to finance the payments of benefits”. The Town has established a trust under Chapter 479 of the Acts of 2008 and begun pre-funding the plan. The value of the trust is \$704,009 as of the valuation date, which represents 0.3% of the Actuarial Accrued Liability. For the current fiscal year, Aon Hewitt will use a discount rate that is comparable to an unfunded discount rate. The discount rate for an unfunded scenario should be based on the portfolio of the Town’s “general assets” used to pay these benefits. Based on direction from the Town, Aon Hewitt will assume an ongoing discount rate of 4.5%. In the future, as the Town continues to pre-fund the plan, expected earnings from the trust fund may be factored into selection of the discount rate.

The trend assumption is used to project the growth of the expected claims over the lifetime of the healthcare recipients. The GASB statement does not require a particular source for information to determine healthcare trends, but it does recommend selecting a source that is “publicly available, objective and unbiased”.

Aon Hewitt developed the trend assumption utilizing the short-term rates expected on the Town’s plan along with information in published papers from other industry experts (actuaries, health economists, etc.). The pre-65 and post-65 assumption begins at 10.0% and decreases to a 5.0% long-term trend rate for medical benefits after ten years.

The balance of this report provides greater detail for the above results.

### ***Healthcare Reform***

The obligations developed and presented in this report do not incorporate any potential impact of the medical excise tax (“Cadillac Tax”) introduced by the Patient Protection and Affordable Care Act (PPACA) in March 2010. At this time, there is no formal guidance as to how the tax will be assessed to insurance companies and, ultimately, the Town. Therefore, the liabilities in this report have not been adjusted for the excise tax. We recommend a formal calculation be performed in conjunction with the next actuarial valuation.

## **Actuarial Certification**

This report presents the results of the Actuarial Valuation for the Town of Andover's Postemployment Benefits Other Than Pensions (the Plan) as of June 30, 2011 for development of accounting and financial reporting information under Statement No. 45 of the Governmental Accounting Standards Board.

This report has been prepared using generally accepted actuarial practices and methods. The actuarial assumptions (other than those strictly applicable to valuing the Plan, or as otherwise explicitly specified) used in the calculations are consistent with those used by similar entities. We have discussed Plan-specific assumptions with the Town and believe them to be reasonable.

Aon Hewitt did not audit the employee data and financial information used in this valuation. On the basis of our review of this data, we believe that the information is sufficiently complete and reliable, and that it is appropriate for the purposes intended.

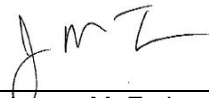
Actuarial computations under GASB 45 are for purposes of fulfilling governmental accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of the accounting standard. Determinations for purposes other than meeting governmental financial accounting requirements may be different from these results. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination.

This report is intended for the sole use of the Town. It is intended only to supply information for the Town to comply with the stated purposes of the report and may not be appropriate for other purposes. Reliance on information contained in this report by anyone for other than the intended purposes, puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions. Accordingly, no person or entity, including the Town should base any representations or warranties in any business agreement on any statements or conclusions contained in this report without the written consent of Aon Hewitt.

The actuaries whose signatures appear below collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. They are available to answer any questions with regard to the matters enumerated in this report.

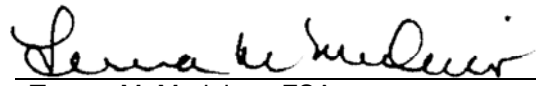
We further certify that this report is in compliance with Actuarial Standard of Practice No. 41, "Actuarial Communications".

Aon Hewitt's relationship with the Plan and the Town is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of our work.



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## Principal Valuation Results

The following highlights the Town's recognition of the above amounts:

- The FY 2011 Annual Required Contribution (ARC) is \$15,429,089.
- The FY 2011 Annual OPEB Cost (AOC) is \$15,693,605.
- Assets as of the beginning of the Fiscal Year were \$0. Contributions in the amount of \$658,120 were made during the year. The balance of the trust on June 30, 2011 is \$704,009.
- Expected Fiscal Year Ending June 30, 2011 benefit payments are \$5,490,553.
- The June 30, 2011 Net OPEB Obligation (NOO) is \$35,562,932.

The following table shows results by active and retired employee groups:

GASB Results	FY 2011	FY 2009
	Total	Total
<b>Actuarial Accrued Liability</b>		
Active	\$120,049,508	\$153,253,466
Inactive	95,208,164	91,854,728
<b>Total</b>	<b>\$215,257,672</b>	<b>\$245,108,194</b>
<b>Assets</b>	\$704,009	\$0
<b>Unfunded Actuarial Accrued Liability</b>	\$214,553,663	\$245,108,194
<b>Normal Cost at beginning of year</b>	\$7,673,165	\$10,968,278

The Actuarial Accrued Liability decreased from \$245,108,194 as of June 30, 2009 to \$215,257,672 as of June 30, 2011.

The liability was developed as follows:

	Actuarial Accrued Liability
<b>June 30, 2009 Valuation by Prior Actuary</b>	\$245,108,194
Expected Increase due to Passage of Time	\$29,835,829
Demographic (Gain) / Loss	\$11,464,552
Per Capita Cost and Medical Trend (Gain) / Loss	(\$28,507,730)
Discount Rate (Gain) / Loss	(\$42,643,173)
<b>June 30, 2011 Valuation</b>	<b>\$215,257,672</b>



## ***Accounting Information***

The effective date for the GASB OPEB Accounting Standard was the Fiscal Year Ending June 30, 2009. The following shows the Annual Required Contribution (ARC), Annual OPEB Cost (AOC), and the projected June 30, 2011 Net OPEB Obligation (NOO).

### **Annual Required Contribution (ARC)**

The Standard sets the method for determining the Town's postemployment benefits accrual, the Annual Required Contribution (ARC), to include both the value of benefits earned during the year (Normal Cost) and an amortization of the Unfunded Actuarial Accrued Liability. Accordingly, the following table shows the Town's Fiscal Year Ending June 30, 2011 Annual Required Contribution (ARC) based on a closed 30-year amortization of the Unfunded Actuarial Accrued Liability as a level percent of payroll amount.

<b>Fiscal Year Ending June 30,</b>	<b>2011</b>
Normal Cost at End of Year	\$7,673,165
Unfunded Actuarial Accrued Liability Amortization	<u>7,755,924</u>
Annual Required Contribution (ARC)	\$15,429,089

## Accounting Information (continued)

### Schedule of Amortization Bases

For each year the Annual Required Contribution (ARC) is calculated, a new amortization base is established. The sum of all amortization bases was previously shown as the Unfunded Actuarial Accrued Liability. The maximum available period under GASB 45 is 30 years. Prior years' bases are shown for historical benefit. The chart below illustrates the development of the total amortization calculation, when each base was established, the original amount of the base, and the payment associated with each for the current fiscal year.

Original Amount	Year Established	Years Left	Unamortized Amount	BOY Annual Payment
\$245,108,194	6/30/2009	28	\$247,318,966	\$8,832,820
\$13,226,748	6/30/2010	29	\$13,294,119	\$458,418
(\$46,059,422)	6/30/2011	30	(\$46,059,422)	(\$1,535,314)
<b>Total</b>			<b>\$214,553,663</b>	<b>\$7,755,924</b>

Calculation of 2011 Amortization Base	
Prior Year Contribution Deficiency	\$13,330,000
Interest Charges and Adjustments	1,000,938
Asset (Gain) / Loss	(704,009)
<u>Liability (Gain) / Loss</u>	<u>(59,686,351)</u>
<b>Total</b>	<b>(\$46,059,422)</b>

## ***Accounting Information (continued)***

### **Annual OPEB Cost (AOC)**

The accumulation of the unpaid ARC results in an adjustment to the Annual Required Contribution.

<b>Fiscal Year Ending June 30,</b>	<b>2011</b>
Annual Required Contribution (ARC)	\$15,429,089
Adjustment to Annual Required Contribution	
- Interest on Net OPEB Obligation	\$1,170,810
- Amortization of Net OPEB Obligation	<u>(\$906,294)</u>
Total Annual OPEB Cost (AOC)	\$15,693,605

### **Annual OPEB Cost Summary**

<b>Fiscal Year Ending</b>	<b>Annual OPEB Cost</b>	<b>Percentage of Annual OPEB Cost Contributed</b>	<b>Net OPEB Obligation</b>
6/30/2009	\$18,051,000	29.7%	\$12,688,000
6/30/2010	\$18,878,000	29.4%	\$26,018,000
6/30/2011	\$15,693,605	39.2%*	\$35,562,932

\* Based on expected benefit payments of \$5,490,553 for the applicable fiscal year plus \$658,120 of employer contributions.

## Accounting Information (continued)

### Projected June 30, 2011 Net OPEB Obligation (NOO)

Based on the Annual OPEB Cost developed above, the following is the projected June 30, 2011 Net OPEB Obligation (NOO):

	<b>Total</b>
Reported June 30, 2010 Net OPEB Obligation (NOO)	\$26,018,000
<i>Plus: FYE 2011 Annual OPEB Cost (AOC)</i>	\$15,693,605
<i>Less: Schedule of contributions from the employer and other contributing entities*</i>	(\$6,148,673)
<b>Equals: Expected June 30, 2011 Net OPEB Obligation (NOO)</b>	<b>\$35,562,932</b>

\* Based on expected benefit payments of \$5,490,553 for the applicable fiscal year plus \$658,120 of employer contributions.

### Required Supplementary Information

Below is the projected schedule of funding progress:

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability - Projected Unit Credit	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll
	(a)	(b)	(b) - (a)	(a) / (b)	(c)	[(b) - (a)] / (c)
6/30/2009	\$0	\$245,108,194	\$245,108,194	0.0%	\$80,800,000	304%
6/30/2011	\$704,009	\$215,257,672	\$214,553,663	0.3%	\$87,022,753	247%

## ***30-Year Payout Projection***

Annual payments expected based on assumptions and contributions detailed in the Methods and Assumptions Section.

<b>Fiscal Year Ending</b>	<b>Total</b>
06/30/2011	\$5,490,553
06/30/2012	\$6,074,876
06/30/2013	\$6,663,729
06/30/2014	\$7,366,335
06/30/2015	\$7,927,157
06/30/2016	\$8,619,750
06/30/2017	\$9,338,201
06/30/2018	\$9,955,234
06/30/2019	\$10,586,545
06/30/2020	\$11,120,039
06/30/2021	\$11,618,315
06/30/2022	\$11,949,644
06/30/2023	\$12,334,089
06/30/2024	\$12,744,985
06/30/2025	\$13,097,394
06/30/2026	\$13,415,855
06/30/2027	\$13,455,557
06/30/2028	\$13,774,584
06/30/2029	\$13,895,462
06/30/2030	\$14,009,412
06/30/2031	\$14,157,158
06/30/2032	\$14,153,621
06/30/2033	\$14,150,757
06/30/2034	\$14,145,090
06/30/2035	\$13,964,023
06/30/2036	\$13,789,423
06/30/2037	\$13,620,340
06/30/2038	\$13,301,471
06/30/2039	\$13,076,066
06/30/2040	\$12,773,089

## ***30-Year Projection of Annual OPEB Cost (AOC)***

Projections assume a closed group population (i.e., no new hires). We also assume pay-as-you-go contributions and a 4.5% annual rate of investment return.

<b>Fiscal Year Ending</b>	<b>ARC</b>	<b>Interest on NOO</b>	<b>NOO Adjustment</b>	<b>AOC</b>	<b>Expected Contributions*</b>	<b>Net OPEB Obligation at end of FY</b>
06/30/2011	\$15,429,089	\$1,170,810	(\$906,294)	\$15,693,605	(\$6,148,673)	\$35,562,932
06/30/2012	\$15,801,287	\$1,600,332	(\$1,238,775)	\$16,162,844	(\$6,074,876)	\$45,650,900
06/30/2013	\$16,156,785	\$2,054,291	(\$1,590,173)	\$16,620,903	(\$6,663,729)	\$55,608,074
06/30/2014	\$16,563,992	\$2,502,363	(\$1,937,015)	\$17,129,340	(\$7,366,335)	\$65,371,079
06/30/2015	\$16,814,316	\$2,941,699	(\$2,277,093)	\$17,478,922	(\$7,927,157)	\$74,922,844
06/30/2016	\$17,107,140	\$3,371,528	(\$2,609,812)	\$17,868,856	(\$8,619,750)	\$84,171,950
06/30/2017	\$17,440,394	\$3,787,738	(\$2,931,990)	\$18,296,142	(\$9,338,201)	\$93,129,891
06/30/2018	\$17,644,595	\$4,190,845	(\$3,244,025)	\$18,591,415	(\$9,955,234)	\$101,766,072
06/30/2019	\$17,911,554	\$4,579,473	(\$3,544,852)	\$18,946,175	(\$10,586,545)	\$110,125,702
06/30/2020	\$18,213,275	\$4,955,657	(\$3,836,045)	\$19,332,887	(\$11,120,039)	\$118,338,550
06/30/2021	\$18,730,428	\$5,325,235	(\$4,122,126)	\$19,933,537	(\$11,618,315)	\$126,653,772
06/30/2022	\$19,429,470	\$5,699,420	(\$4,411,773)	\$20,717,117	(\$11,949,644)	\$135,421,245
06/30/2023	\$20,257,925	\$6,093,956	(\$4,717,173)	\$21,634,708	(\$12,334,089)	\$144,721,864
06/30/2024	\$21,005,775	\$6,512,484	(\$5,041,145)	\$22,477,114	(\$12,744,985)	\$154,453,993
06/30/2025	\$21,810,913	\$6,950,430	(\$5,380,147)	\$23,381,196	(\$13,097,394)	\$164,737,795
06/30/2026	\$22,739,660	\$7,413,201	(\$5,738,367)	\$24,414,494	(\$13,415,855)	\$175,736,434
06/30/2027	\$23,684,031	\$7,908,140	(\$6,121,486)	\$25,470,685	(\$13,455,557)	\$187,751,562
06/30/2028	\$24,686,169	\$8,448,820	(\$6,540,013)	\$26,594,976	(\$13,774,584)	\$200,571,954
06/30/2029	\$25,947,284	\$9,025,738	(\$6,986,590)	\$27,986,432	(\$13,895,462)	\$214,662,924
06/30/2030	\$27,156,380	\$9,659,832	(\$7,477,425)	\$29,338,787	(\$14,009,412)	\$229,992,299
06/30/2031	\$28,753,407	\$10,349,653	(\$8,011,398)	\$31,091,662	(\$14,157,158)	\$246,926,803
06/30/2032	\$30,569,988	\$11,111,706	(\$8,601,284)	\$33,080,410	(\$14,153,621)	\$265,853,592
06/30/2033	\$32,531,971	\$11,963,412	(\$9,260,567)	\$35,234,816	(\$14,150,757)	\$286,937,651
06/30/2034	\$34,650,973	\$12,912,194	(\$9,994,995)	\$37,568,172	(\$14,145,090)	\$310,360,733
06/30/2035	\$36,939,657	\$13,966,233	(\$10,810,899)	\$40,094,991	(\$13,964,023)	\$336,491,701
06/30/2036	\$39,417,581	\$15,142,127	(\$11,721,128)	\$42,838,580	(\$13,789,423)	\$365,540,858
06/30/2037	\$42,099,674	\$16,449,339	(\$12,733,007)	\$45,816,006	(\$13,620,340)	\$397,736,524
06/30/2038	\$45,002,091	\$17,898,144	(\$13,854,489)	\$49,045,746	(\$13,301,471)	\$433,480,799
06/30/2039	\$48,147,575	\$19,506,636	(\$15,099,581)	\$52,554,630	(\$13,076,066)	\$472,959,363
06/30/2040	\$51,552,399	\$21,283,171	(\$16,474,751)	\$56,360,819	(\$12,773,089)	\$516,547,093

\* For FY2011, expected contributions include expected benefit payments of \$5,490,553 plus employer contributions of \$658,120. Expected contributions in future years equal expected benefit payments, as shown on the previous page.

## Demographic Information

The following tables summarize active and retiree demographic information. The data collected, as well as age and service information shown, is as of June 30, 2011.

Active Participants			
Sex	Counts	Average Age	Average Service
Female	824	47.98	10.32
Male	387	45.51	13.05
<b>Total</b>	<b>1,211</b>	<b>47.19</b>	<b>11.19</b>

Inactive Participants		
	Medical Insurance	
	Counts	Average Age
Retirees	540	71.30
Spouses of Retirees	262	69.06
Survivors	70	75.27
<b>Total</b>	<b>872</b>	<b>70.95</b>

## ***Summary of Principal Plan Provisions***

- Eligibility: Retire on or after reaching the earlier of 20 years of service or age 55 and completing 10 years of service.
- Benefit:
- Medical coverage continues for the lifetime of the retiree.
  - In general, the non-teacher retirees and their spouses pay between 13-35% of the cost of coverage.
  - Teachers who retired on or before July 1, 1990 pay 10% of the cost of coverage. Teachers who retired after July 1, 1990 pay 15% of the cost of coverage.
  - Surviving spouses can remain enrolled under the same cost-sharing arrangement.
  - A \$1,000 life insurance benefit is provided. The town pays \$1.28 per month.
- Coordination with Medicare: • The Town has not adopted Section 18 of Chapter 32B.



## ***Methods and Assumptions***

<b>Actuarial Method</b>	Projected Unit Credit Cost Method	
<b>Normal Cost</b>	Determined for each active employee as the Actuarial Present Value of benefits allocated to the valuation year. The benefit attributed to the valuation year is that incremental portion of the total projected benefit earned during the year in accordance with the plan provisions. This allocation is based on each individual's service between date of hire and date the individual becomes fully eligible for benefits. Determined for each active employee as the Actuarial Present Value of benefits allocated to the valuation year. The benefit attributed to the valuation year is that incremental portion of the total projected benefit earned during the year in accordance with the plan provisions. This allocation is based on each individual's service between date of hire and date the individual becomes fully eligible for benefits.	
<b>Accumulated Post-Retirement Benefit Obligation</b>	The Actuarial Present Value of Benefits allocated to all periods prior to the valuation year.	
<b>Discount Rate</b>	June 30, 2011:	4.5%
	June 30, 2009:	3.5%
<b>Mortality Rates</b>	Males:	RP 2000 Combined Healthy Table for Males
	Females:	RP 2000 Combined Healthy Table for Females
		For the period after disability retirement, the RP-2000 Combined Healthy Table set forward 2 years is used.

## ***Methods and Assumptions (continued)***

**Withdrawal Rates**      The following table shows sample annual rates of withdrawal for participants

<b>Annual Rate of Withdrawal Prior to Retirement</b>		
<b>Years of Service</b>	<b>Groups 1 and 2 (Teachers and Non-Teachers)</b>	<b>Group 4</b>
0	15.0%	1.5%
1	12.0%	1.5%
2	10.0%	1.5%
3	9.0%	1.5%
4	8.0%	1.5%
5	7.6%	1.5%
6	7.5%	1.5%
7	6.7%	1.5%
8	6.3%	1.5%
9	5.9%	1.5%
10	5.4%	1.5%
11	5.0%	0.0%
12	4.6%	0.0%
13	4.1%	0.0%
14	3.7%	0.0%
15	3.3%	0.0%
16	2.0%	0.0%
17	2.0%	0.0%
18	2.0%	0.0%
19	2.0%	0.0%
20	2.0%	0.0%
21	1.0%	0.0%
22	1.0%	0.0%
23	1.0%	0.0%
24	1.0%	0.0%
25	1.0%	0.0%
26	1.0%	0.0%
27	1.0%	0.0%
28	1.0%	0.0%
29	1.0%	0.0%
30+	0.0%	0.0%

## Methods and Assumptions (continued)

**Retirement Rates** The following table shows sample annual rates of retirement at selected ages.

**(Non-Teachers)**

Age	Annual Rate of Retirement		
	Groups 1 and 2		Group 4
	Male	Female	Male and Female
45	0.0%	0.0%	1.0%
50	1.0%	1.5%	2.0%
55	2.0%	5.5%	15.0%
60	12.0%	5.0%	20.0%
61	20.0%	13.0%	20.0%
62	30.0%	15.0%	25.0%
63	25.0%	12.5%	25.0%
64	22.0%	18.0%	30.0%
65	40.0%	15.0%	100.0%
66	25.0%	20.0%	100.0%
67	25.0%	20.0%	100.0%
68	30.0%	25.0%	100.0%
69	30.0%	20.0%	100.0%
70	100.0%	100.0%	100.0%

**Retirement Rates** The following table shows sample annual rates of retirement at selected ages.

**(Teachers)**

Age	Annual Rate of Retirement			
	Male		Female	
	<20 Years	20+ Years	<20 Years	20+ Years
50	0.0%	1.0%	0.0%	1.0%
55	2.0%	3.0%	2.0%	4.0%
60	12.0%	20.0%	12.0%	16.0%
61	15.0%	30.0%	15.0%	20.0%
62	18.0%	35.0%	18.0%	25.0%
63	15.0%	35.0%	15.0%	25.0%
64	25.0%	30.0%	25.0%	30.0%
65	40.0%	50.0%	40.0%	40.0%
66	40.0%	30.0%	40.0%	30.0%
67	40.0%	30.0%	40.0%	25.0%
68	40.0%	30.0%	40.0%	35.0%
69	40.0%	40.0%	40.0%	35.0%
70	100.0%	100.0%	100.0%	100.0%

## ***Methods and Assumptions (continued)***

### **Disability Rates**

The following table shows sample annual rates of disability at selected ages.

<b>Age</b>	<b>Annual Rate of Disability</b>
25	0.02%
30	0.03%
35	0.06%
40	0.10%
45	0.15%
50	0.19%
55	0.24%
60	0.28%
62	0.30%
65	0.30%

## **Methods and Assumptions (continued)**

### **Medical Claims (Non-Teachers)**

A blended premium is computed for all retirees, based on the weighted average of plan enrollment. The blended premium is then age graded, and the resulting per capita costs are valued for each future retiree and spouse. The non-age graded blended premium is used as the basis for the retiree or spouse contribution to offset the per capita costs.

It is assumed that all current actives and pre-65 retirees are Medicare eligible and will move into a Medicare supplement plan upon the attainment of age 65. Current retirees over age 65 are assumed to remain in their current plan.

The following are the representative costs developed from the Town's FY 2011 premium rates:

<b>Age</b>	<b>Blended Per Capita Costs (Non-Teachers)</b>	
	<i>Retirees and Spouses Eligible for Medicare</i>	<i>Retirees and Spouses Not Eligible for Medicare</i>
50	\$7,915	\$7,915
55	\$9,337	\$9,337
60	\$11,208	\$11,208
65	\$3,609	\$13,610
70	\$4,183	\$15,701
75	\$4,733	\$17,678
80	\$5,175	\$19,327
85	\$5,412	\$20,212

	<b>Blended Employee Contributions (Non-Teachers)</b>	
	<i>Retiree</i>	<i>Spouse</i>
Contribution for Non-Medicare Ages	\$1,604	\$3,441
Contribution for Medicare Ages	\$1,316	\$1,316

## Methods and Assumptions (continued)

### Medical Claims (Teachers)

A blended premium is computed for all retirees, based on the weighted average of plan enrollment. The blended premium is then age graded, and the resulting per capita costs are valued for each future retiree and spouse. The non-age graded blended premium is used as the basis for the retiree or spouse contribution to offset the per capita costs.

It is assumed that all current actives and pre-65 retirees are Medicare eligible and will move into a Medicare supplement plan upon the attainment of age 65. Current retirees over age 65 are assumed to remain in their current plan.

The following are the representative costs developed from the Town's FY 2011 premium rates:

Age	Blended Per Capita Costs (Teachers)	
	Retirees and Spouses Eligible for Medicare	Retirees and Spouses Not Eligible for Medicare
50	\$5,212	\$5,212
55	\$6,132	\$6,132
60	\$7,319	\$7,319
65	\$3,050	\$8,990
70	\$3,535	\$10,372
75	\$4,000	\$11,677
80	\$4,373	\$12,766
85	\$4,574	\$13,351

	Blended Employee Contributions (Teachers retiring on or before 7/1/1990)	
	Retiree	Spouse
Contribution for Non-Medicare Ages	\$1,353	\$1,948
Contribution for Medicare Ages	\$517	\$517

	Blended Employee Contributions (Teachers retiring after 7/1/1990)	
	Retiree	Spouse
Contribution for Non-Medicare Ages	\$1,792	\$2,566
Contribution for Medicare Ages	\$711	\$711

## ***Methods and Assumptions (continued)***

**Morbidity/Aging** GASB requires that the costs for retiree benefits be separately identified. Currently, the Town provides benefits for actives and retirees not eligible for Medicare under one rating structure. As we see in the morbidity table below, retirees utilize benefits at a greater rate than the active population, due to their age. The active employees are "implicitly" subsidizing the retiree cost of the plan of benefits in the Town's rate basis. GASB requires that the Town utilize actual experience or actuarial adjustments in order to calculate the true cost of retiree benefits in order to calculate the present value of the retiree benefits. The actuarial assessment of the best estimate of retiree cost of benefits is premised on utilizing the morbidity/aging table below in developing the claims costs by age shown in the table above.

<b>Age</b>	<b>Annual Increase %</b>
50 – 54	3.3%
55 – 59	3.6%
60 – 64	4.2%
65 – 69	3.0%
70 – 74	2.5%
75 – 79	2.0%
80 – 84	1.0%
85 – 89	0.5%
90 +	0.0%

**Medical Trend** Medical costs are assumed to increase at the following rates:

<b>Year</b>	<b>Trend</b>
2011	10.0%
2012	9.5%
2013	9.0%
2014	8.5%
2015	8.0%
2016	7.5%
2017	7.0%
2018	6.5%
2019	6.0%
2020	5.5%
2021+	5.0%

## ***Methods and Assumptions (continued)***

<b>Spouse Age Difference/ Percent Married</b>	Males are assumed to be 3 years older than females. 80% of male employees and 60% of female employees are assumed to have a covered spouse at retirement.
<b>Coverage Assumptions</b>	95% of future town retirees are assumed to participate in the retiree medical plan, and 100% of future teacher retirees are assumed to participate in the retiree medical plan. 65% of future town retirees are expected to elect life insurance.
<b>Valuation Methodology and Terminology</b>	We have used GASB accounting methodology to determine the postretirement medical benefit obligations.
<b>Amortization Period</b>	The amortization cost for the initial Unfunded Actuarial Accrued Liability is a level percent of payroll amount for a closed period of 30 years.
<b>Salary Scale</b>	4.5%



## ***Appendix I – Demographic Information***

The following table summarizes the demographic information used in the retiree medical valuation.

	<b>Town</b>	<b>School</b>	<b>Water</b>	<b>Sewer</b>	<b>Total</b>
<b>Counts:</b>					
Actives	311	875	19	6	1,211
Retirees	173	359	6	2	540
Spouses of Retirees	97	161	3	1	262
Surviving Spouses	50	20	0	0	70
<b>Total</b>	<b>631</b>	<b>1,415</b>	<b>28</b>	<b>9</b>	<b>2,083</b>
<b>Average Age:</b>					
Actives	47.66	46.93	50.22	50.22	47.19
Retirees	69.86	72.01	72.82	64.00	71.30
Spouses of Retirees	66.67	70.69	62.14	58.90	69.06
Surviving Spouses	72.88	81.24	n/a	n/a	75.27
<b>Average Service:</b>					
Active	14.81	9.71	17.61	19.48	11.19

## ***Appendix II – Valuation Results by Employee Groups***

The following table shows the results by employee group.

	<b>Town</b>	<b>School</b>	<b>Water</b>	<b>Sewer</b>	<b>Total</b>
<b>Accrued Liability</b>					
Actives	\$45,325,570	\$70,632,480	\$3,052,359	\$1,039,100	\$120,049,509
Retirees	<u>48,738,270</u>	<u>44,703,573</u>	<u>1,169,159</u>	<u>597,161</u>	<u>95,208,163</u>
Total	\$94,063,840	\$115,336,053	\$4,221,518	\$1,636,261	\$215,257,672
<b>Assets</b>	\$489,400	\$0	\$106,973	\$107,636	\$704,009
<b>Unfunded Accrued Liability</b>	\$93,574,440	\$115,336,053	\$4,114,545	\$1,528,625	\$214,553,663
<b>Benefit Payments</b>	\$2,638,069	\$2,753,502	\$64,923	\$34,057	\$5,490,551
<b>Annual Required Contribution (ARC)</b>					
Service Cost	\$2,283,862	\$5,290,566	\$79,471	\$19,266	\$7,673,165
Amortization	<u>\$3,389,203</u>	<u>\$4,155,660</u>	<u>\$152,105</u>	<u>\$58,956</u>	<u>\$7,755,924</u>
Total	\$5,673,065	\$9,446,226	\$231,576	\$78,222	\$15,429,089

### **Appendix III – Payout Projection Employee Groups**

<b>Year Beginning</b>	<b>Town</b>	<b>School</b>	<b>Water</b>	<b>Sewer</b>	<b>Total</b>
2011	\$2,638,069	\$2,753,502	\$64,923	\$34,057	\$5,490,551
2012	2,918,821	3,046,539	71,832	37,681	6,074,873
2013	3,201,750	3,341,848	78,795	41,334	6,663,727
2014	3,539,334	3,694,204	87,103	45,692	7,366,333
2015	3,808,795	3,975,455	93,734	49,171	7,927,155
2016	4,141,568	4,322,789	101,924	53,467	8,619,748
2017	4,486,765	4,683,091	110,419	57,923	9,338,198
2018	4,783,233	4,992,532	117,715	61,750	9,955,230
2019	5,086,562	5,309,133	125,180	65,666	10,586,541
2020	5,342,892	5,576,679	131,488	68,975	11,120,034
2021	5,582,301	5,826,563	137,380	72,066	11,618,315
2022	5,741,496	5,992,724	141,298	74,121	11,949,644
2023	5,926,212	6,185,522	145,844	76,506	12,334,089
2024	6,123,637	6,391,586	150,703	79,055	12,744,985
2025	6,292,960	6,568,318	154,870	81,241	13,097,394
2026	6,445,972	6,728,026	158,636	83,216	13,415,855
2027	6,465,048	6,747,936	159,105	83,462	13,455,557
2028	6,618,332	6,907,927	162,877	85,441	13,774,584
2029	6,676,411	6,968,547	164,306	86,191	13,895,462
2030	6,731,161	7,025,693	165,653	86,898	14,009,412
2031	6,802,149	7,099,787	167,400	87,814	14,157,158
2032	6,800,450	7,098,013	167,358	87,792	14,153,621
2033	6,799,074	7,096,577	167,324	87,774	14,150,757
2034	6,796,351	7,093,735	167,257	87,739	14,145,090
2035	6,709,353	7,002,930	165,116	86,616	13,964,023
2036	6,625,462	6,915,368	163,051	85,533	13,789,423
2037	6,544,222	6,830,573	161,052	84,484	13,620,340
2038	6,391,014	6,670,661	157,282	82,506	13,301,471
2039	6,282,713	6,557,621	154,617	81,108	13,076,066
2040	6,137,140	6,405,679	151,034	79,229	12,773,089