

CITY OF NEWTON

OTHER THAN PENSION
POST-RETIREMENT EMPLOYEE BENEFITS (OPEB) VALUATION
FISCAL YEAR ENDING JUNE 30, 2012

AUGUST 20, 2012

FINANCIAL RISK ANALYSTS



August 20, 2012

Sent Via Email

Mr. David C. Wilkinson
Comptroller
City of Newton
Commonwealth Avenue and Walnut St.
Newton Centre, MA 02159

Dear David:

Enclosed please find our report regarding other than pension post-retirement benefit (OPEB) liability valuation for the City of Newton's fiscal year ending June 30, 2012. The valuation is in accordance with Governmental Accounting Standards Board Statement 45 (GASB-45).

It has been a pleasure being of service to you again on this project. If after reviewing this report you have any questions please do not hesitate to call.

Sincerely,

Robert Van Epps, FCAS, MAAA
Principal

John D. Stiefel, FSA, MAAA
Associated Consultant

CITY OF NEWTON

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INTRODUCTION

Financial Risk Analysts, LLC has been retained by the City of Newton (the City) to provide an actuarial valuation of the City's retiree medical and life insurance post-retirement benefits program for the fiscal year ending June 30, 2012. The City initially complied with GASB-45 for the fiscal year July 1, 2007 to June 30, 2008.

Medical and life insurance are the two most common types of other (than pension) post-retirement employee benefits (OPEB) provided by an employer to retirees and their beneficiaries.

The City presently provides life and health insurance benefits for active and retired employees and their covered dependents. The City has reported to us 2,320 active employees, 359 pre-Medicare retirees, 2,709 Medicare retirees and 167 over age 65 non-Medicare retirees who have elected health insurance.

Harvard Pilgrim, Tufts EPO, Tufts POS and Tufts Medicare Complement Plan are self insured. Both the Legacy and Advantage plans are self insured. Tufts Medicare Preferred and Medicare HMO Blue are fully insured.

Life insurance benefits provided by the City are fully insured. For health insurance, active have a choice among the Harvard, Tufts-EPO and Tufts-POS Preferred Advantage plans while retirees not on Medicare can access these 3 "Legacy" plans as well as the "Advantage" plans. Most retirees on Medicare are in the Tufts Medicare Complement Plan. For life insurance, the only option is a flat \$5,000 benefit which does not reduce at retirement. As required by Massachusetts law, retirees not on Medicare have the same benefit options as active employees.

A detailed description of the City's census, benefit, and premium information is presented on Exhibits 7, 8, and 9.

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CONDITIONS AND LIMITATIONS

DATA

Within this report we used data and other information provided to us by the City. This data consisted of the following:

- Census Information - the demographics of the active, pre-Medicare retiree and Medicare retiree population covered for medical and life insurance benefits as of the date of the most recent pension valuation. For active employees, date of hire was also included.
- Benefit Information - a description of the different health and life insurance plans available to participants.
- Funding Information – a description of how the life and health insurance plans are funded including the contributions required from employees and retirees.
- Premium Rates – the premium rates for the various plans and the percentage of each premium rate that the City pays.
- Life Insurance In-Force Information – a summary of the life insurance schedules for actives and retirees and the participant contributions required.
- Requirements for Retirement – the age/service requirements for retirement with an unreduced pension benefit and the amount of benefit reduction for early retirement.
- Probabilities of Retirement – the probability that a general or uniformed employee eligible to retire will actually retire.
- Retirement Election Rates - The percentage of active participants who opt to continue their life and health insurance benefits (and pay the associated premiums) at retirement.

Although the data supplied were reviewed for purposes of reasonability, we have not independently audited or verified this information and we assume it to be accurate and complete. The results of our analysis will be contingent upon the reliability of the information supplied to us and such reliability is the responsibility of the City. Should the City become aware of any significant discrepancies in the data reported to us, we should be notified of such discrepancies and this report will be amended, if necessary.

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UNCERTAINTY

Actuarial projections, by their nature, are estimates of future contingent events, which cannot be known with certainty. The City's ultimate liability for medical and life insurance benefits will be subject to events that have yet to occur such as the future employee attrition rate, retirements, and particularly interest rates and medical cost inflation.

While we believe the results presented in this report are reasonable and reflect the use of accepted actuarial principles and standards of practice, it is possible that the actual future OPEB liability of the City will differ, perhaps materially, from what we have projected herein. Nothing in this report should be construed as a warranty or guarantee as to the adequacy of the liability estimates contained herein.

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DISTRIBUTION AND USE

This report is provided solely for the use of the City of Newton in evaluating its OPEB liability for the fiscal year July 1, 2011 through June 30, 2012. A copy of this report may also be provided to the City's auditor with the proviso that the report is copied in its entirety and that each party receiving a copy of this report agrees to not distribute the report to any other third party.

We request that the City inform us of distribution of this report to parties other than those referenced above.

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REQUIRED DISCLOSURES

Required Information for the Fiscal Year July 1, 2011 through June 30, 2012

As displayed on Exhibits 1.1 and 1.2, the tables below present a summary of the results of our analysis. To derive values reflecting partial funding, linear interpolation between the full funding (7.75% discount rate) and pay-as-you-go funding (2.00% discount rate) values may be used. The 2.00% discount rate was selected by the City for purposes of discounting an unfunded liability. The 2.00% rate is a meant to approximate a risk free rate of return based on current risk-free marketplace yields.

We present the 2010 and 2011 results along side of the 2012 results as required by GASB-45. Separate tables are provided for results using an unfunded discount rate (2.00%) and a fully funded discount rate (7.75%).

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City of Newton GASB-45 Required Disclosures			
	Unfunded Discount Rate		
	<u>FY 2009-10</u>	<u>FY 2010-11</u>	<u>FY 2011-12</u>
	2.00%	2.00%	2.00%
A. Expected Post Retirement Benefit Obligation	\$895,271,377	\$1,007,933,551	\$966,938,192
B. Funded Status			
1. Actuarial Accrued Liability (AAL)			
Active Employees	\$232,188,128	\$280,553,245	\$235,579,731
Retirees	\$299,486,423	\$358,557,048	\$365,719,948
Total	\$531,674,551	\$639,110,293	\$601,299,679
2. Actuarial Value of Assets	\$0	\$137,295	\$312,973
3. Unfunded Actuarial Accrued Liability (1) - (2)	\$531,674,551	\$638,972,998	\$600,986,706
4. Funded Ratio (2)/(3)	0%	0%	0.05%
5. Annual Covered Payroll	\$ 175,729,105	\$ 176,190,563	\$176,524,732
6. Ratio of Unfunded AAL to Covered Payroll (3)/(5)	303%	363%	340%
C. Annual Required Contribution (ARC)			
1. Normal Cost (Service Cost)	\$20,351,759	\$21,921,755	\$20,512,617
2. Amortization of Unfunded Accrued Liability	\$24,493,346	\$30,259,420	\$29,298,168
3. Annual Required Contribution (ARC) (1) + (2)	\$44,845,104	\$52,181,175	\$49,810,785
D. Annual OPEB Cost			
1. ARC	\$44,845,104	\$52,181,175	\$49,810,785
2. Interest on Net OPEB Obligation	\$1,120,340	\$1,669,996	\$2,361,795
3. Adjustment to ARC	\$2,580,607	\$3,953,395	\$5,753,892
4. Annual OPEB Cost (1) + (2) - (3)	\$43,384,837	\$49,897,776	\$46,418,688
E. Net OPEB Obligation Estimates			
1. Net OPEB Obligation - beginning of year	\$54,894,373	\$83,499,791	\$118,089,758
2. Annual OPEB Cost	\$43,384,837	\$49,897,776	\$46,418,688
3. Expected Contributions during the year	\$14,779,419	\$15,307,809	\$16,633,367
4. Net OPEB Obligation - end of year (1)+(2)-(3)	\$83,499,791	\$118,089,758	\$147,875,079

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City of Newton GASB-45 Required Disclosures			
	Funded Discount Rate		
	<u>FY 2009-10</u> 7.75%	<u>FY 2010-11</u> 7.75%	<u>FY 2011-12</u> 7.75%
A. Expected Post Retirement Benefit Obligation	\$288,991,375	\$349,452,645	\$336,165,668
B. Funded Status			
1. Actuarial Accrued Liability (AAL)			
Active Employees	\$61,644,327	\$74,374,599	\$69,450,444
Retirees	\$171,336,316	\$215,243,920	\$206,037,528
Total	\$232,980,643	\$289,618,519	\$275,487,972
2. Actuarial Value of Assets	\$0	\$137,295	\$0
3. Unfunded Actuarial Accrued Liability (1) - (2)	\$232,980,643	\$289,481,224	\$275,487,972
4. Funded Ratio (2)/(3)	0%	0%	0%
5. Annual Covered Payroll	\$ 175,729,105	\$ 176,190,563	\$176,524,732
6. Ratio of Unfunded AAL to Covered Payroll (3)/(5)	133%	164%	156%
C. Annual Required Contribution (ARC)			
1. Normal Cost (Service Cost)	\$4,311,040	\$4,808,387	\$4,773,650
2. Amortization of Unfunded Accrued Liability	\$19,122,466	\$24,034,057	\$22,861,430
3. Annual Required Contribution (ARC) (1) + (2)	\$23,433,506	\$28,842,445	\$27,635,081
D. Annual OPEB Cost			
1. ARC	\$23,433,506	\$28,842,445	\$27,635,081
2. Interest on Net OPEB Obligation	\$1,907,632	\$2,569,592	\$3,604,431
3. Adjustment to ARC	\$2,020,305	\$2,751,460	\$3,859,542
4. Annual OPEB Cost (1) + (2) - (3)	\$23,320,833	\$28,660,576	\$27,379,970
E. Net OPEB Obligation Estimates			
1. Net OPEB Obligation - beginning of year	\$24,614,606	\$33,156,020	\$46,508,787
2. Annual OPEB Cost	\$23,320,833	\$28,660,576	\$27,379,970
3. Expected Contributions during the year	\$14,779,419	\$15,307,809	\$16,633,367
4. Net OPEB Obligation - end of year (1)+(2)-(3)	\$33,156,020	\$46,508,787	\$57,255,390

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The following is an explanation of the above:

Expected Post-Retirement Benefit Obligation (EPBO) – This is the present value of the future post-retirement life and health insurance benefits for all currently retired employees and active employees eligible for those benefits. For active employees, the EPBO includes the full present value of benefits even though some employees have not yet fully earned or vested in those benefits. The government needs to be aware of this liability but does not need to disclose or recognize it on any of its financial statements.

Actuarial Accrued Liability (AAL) – This is also known as the Accumulated Post-Retirement Benefit Obligation (APBO) or the Transition Obligation. This is that portion of the EPBO that has been accrued to date. For existing retirees and active employees who have fully earned their benefit, the AAL equals the EPBO. Upon implementation of GASB-45, the AAL is the transition obligation (current liability) that must be recognized on the government's balance sheet if the government chooses immediate recognition. Alternatively, the government can choose to amortize the current APBO. GASB-45 permits amortization over a period of from 10 to 30 years.

Plan Assets – The amount of assets held in trust to fund the plan (if the plan is being funded).

Unfunded Actuarial Accrued Liability – The excess of the AAL over the plan assets.

Normal Cost – Also known as the Service Cost, this is the portion of the EPBO for active employees attributable to employee service during the year.

Amortization of Unfunded Accrued Liability – This is the annual amortization of the AAL (Transition Obligation) if the Government chooses to amortize the AAL. If the government chooses to amortize the AAL, the amortization cost should be booked as a current year expense. We used an initial 30 year period for purposes of amortizing the AAL. This is the maximum period of time allowed under GASB. GASB allows amortization on an open, closed or level %

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of payroll basis. We selected the closed basis; i.e. the amortization period declines 1 year every year. Therefore, the amortization period is 26 years for the fiscal year ending June 30, 2012.

Annual Required Contribution (ARC) – This is the total amount that should be booked as a current year expense. During the initial year of implementation of GASB-45, ARC is equal to the sum of the Normal Cost (Service Cost) and Amortization of Actuarial Accrued Liability (Transition Obligation). GASB-45 recommends, but does not require, that the ARC actually be contributed (funded) each year.

Net OPEB Obligation – Beginning of Year – This is last year's Net OPEB Obligation – End of Year Estimate.

Interest of Net OPEB Obligation – This is interest, at the assumed interest rate, on the Net OPEB Obligation – Beginning of Year.

Adjustment to ARC – This is the Net OPEB Obligation – Beginning of Year divided by the amortization factor.

Annual OPEB Cost – This is the ARC + Interest on Net OPEB Obligation - Adjustment to the ARC

Expected Contributions During the Year – This is the amount of OPEB payments the Government made for retiree OPEB during the just-completed fiscal year.

Net OPEB Obligation – End of Year Estimate – This is the Net OPEB Obligation – Beginning of Year + Annual OPEB Cost - the Expected Contributions during the Year.

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ANALYSIS

Assumptions

1. **Interest discount rate** - 2.00% per year, net of expenses, for an unfunded plan. 7.75% per year, net of expenses, if funded. GASB-45 requires that the selection of an interest discount rate be based on the expected long term rate of return on the (General Fund) assets expected to be available to pay the benefits when due. (We considered a slightly higher interest rate assumption, since Newton has funded its liabilities to the extent of \$312,793; but we decided to stick with 2% because the City's Net OPEB Obligation at 2% is over \$100 million and its General Fund is currently earning only 0.25%). We note that a level 1% increase in assumed interest rate will decrease the City's liability by about 15%.
2. **Trend**- Medical Costs are assumed to increase each year according to the following schedule:

<u>Year</u>	<u>Medical Trend</u>
2012	0.00%
2013	1.53%
2014	3.05%
2015	4.58%
2016	6.10%
2017	6.07%
2018	6.03%
2019	6.00%
2020	5.97%
2025	5.84%
2030	5.97%
2040	5.33%
2050	5.03%
2060	4.87%
2070	4.76%
2080	4.42%
2085+	4.24%

The above trend rates were developed using the baseline projection of the SOA Long-Run Medical Cost Trend Model v12.2 (March 2012). The short-term (first 4 years) trend rates were based on the fact that the City's recent rate increase averaged 0.00% for retirees. The long-term (after 4 years) trend rates were based on the following assumptions:

Rate of Inflation 2.5%
Rate of Growth in Real Income / GDP per capita 1.7%
Income Multiplier for Health Spending 1.40

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Extra Trend due to Technology and other factors 1.1%
 Health Share of GDP Resistance Point 25.0%
 Year for Limiting Cost Growth to GDP Growth 2075

The Society of Actuaries' (SOA's) Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical US medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of an SOA Project Oversight Group. The above schedule represents a reasonable medical trend projection for the current plan provisions and demographics of the City's Retiree Welfare Benefits Plan, and no changes to these baseline assumptions are necessary.

3. **Amortization Period**-Thirty years (initial), 26 years (remaining). 30 years is the maximum period permitted by GASB-45. GASB-45 permits amortization payments to increase at a rate not to exceed projected salary growth. We assumed level amortization payments, which we think are more realistic for budgeting purposes.
4. **Retirement Eligibility**-As prescribed by the terms of the City's Retirement System.
5. **Marital Status**-Active participants are assumed to keep their current marital status upon retirement.
6. **Turnover**-Representative values of assumed annual turnover rates for general and uniformed employees are as follows.

Age Group	General Employees	Uniformed Employees
<20	15.00%	1.50%
20-24	13.13%	1.50%
25-29	10.12%	1.50%
30-34	8.33%	1.46%
35-39	6.78%	1.22%
40-44	5.96%	0.28%
45-49	5.13%	0.03%
50-54	3.23%	0.03%
55-59	2.45%	0.00%
60-64	2.07%	0.00%
65-69	1.94%	0.00%
70-74	1.22%	0.00%
75+	0.00%	0.00%

7. **Mortality**- Mortality assumptions are used to project the expected number of employees who will be receiving benefits each year in the future. We used the RP-2000 mortality table (combined healthy lives) with projected mortality. This represents a change from last year when we used the 1985-1989 Group Life Insurance Mortality tables. This change is for two purposes – to update mortality rates and to reflect expected future

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mortality improvements in our calculations (as is now required by the American Academy of Actuaries).

8. **Disability**-Disability assumptions are used to project the number of people who will retire early due to disability. The possibility of disability was accounted for by assuming average retirement ages that were 1 year younger than were observed by the City (see (10) below)
9. **Requirements for Retirement**-The City has informed us it requires attainment of age 65 for general employees to retire with an unreduced pension benefit. For uniformed employees this age is 55. Early retirement is available with twenty years of service with a reduced benefit. Retirement is no longer mandatory at age 70 for general employees and age 65 for uniformed employees.
10. **Age at Retirement**-Representative assumed average retirement ages are shown below. These values are consistent with the requirements for retirement stated above, the input provided by the City and the adjustment for disability retirements (see (8) and (9) above).

<u>Age</u>	<u>General Employees</u>	<u>Uniformed Employees</u>
45	63	58
50	63	59
55	64	61
60	66	64
62	67	65
65	69	65
69	72	69
70	72	70

11. **Retirement Election Rates**-The City provided us data for each group showing total retirees and how many retirees have elected to continue post-retirement benefits and pay the associated premiums. That data showed that retirement election rates have been as follows.

	<u>All Employees</u>
Health Insurance	100%
Life Insurance	25%

12. **Plan Changes**- the City has informed us that two significant plan changes were implemented in 2011. The first change is that all active employees must elect one of the (less expensive) “Advantage” plans. This change reduces what the City’s cost will be when these employees retire. The second change is that all active employees must contribute 25% (for unions constituting 88% of actives) or 30% (for the other 12%) instead of the previous 20%. This further reduces what the City’s cost will be when these employees retire. The financial impact of both these changes has been reflected in our 2012 valuation.
13. **Expenses**- We did not make an explicit assumption for expenses because our assumed interest discount rates are net of expenses.

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Methodology

We used the Projected Unit Credit actuarial cost method to perform our estimate of the OPEB liability. The following is a summary of the steps employed in our analysis.

- 1. Determine current annual subsidy for life and health insurance for the pre-Medicare retirees, Medicare retirees and retirees over age 65 not on Medicare.** We used the most recently available census data, current premiums, participant contribution requirements and age-sex adjustment factors to make these calculations.
- 2. Calculate the EPBO.** This is the present value of future subsidies for life and health insurance for the actives, pre-Medicare retirees, retirees over 65 not on Medicare and Medicare retirees. Separate calculations were required for active general and active uniformed employees.
- 3. Calculate the AAL from the EPBO and the active employee age and service information from the census.**
- 4. Calculate the other GASB-45 required disclosures.**

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SCHEDULES OF EMPLOYER CONTRIBUTIONS

The schedules below are based on the normal cost and amortization of the unfunded actuarial accrued liability calculated for the fiscal year beginning June 30, 2012, future normal costs increasing at 5.0% per year and future amortization payments increasing at the assumed future healthcare trend rates.

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Schedule of Employer Contributions 2.00% Discount Rate						
Fiscal Year Ending in		Normal Cost		Amortization Payment		Total City ARC
2012		\$20,512,617		\$29,298,168		\$49,810,785
2013		\$21,538,248		\$29,298,168		\$50,836,416
2014		\$22,615,160		\$29,744,965		\$52,360,125
2015		\$23,745,918		\$30,652,187		\$54,398,105
2016		\$24,933,214		\$32,054,524		\$56,987,738
2017		\$26,179,875		\$34,009,214		\$60,189,089
2018		\$27,488,868		\$36,072,066		\$63,560,934
2019		\$28,863,312		\$38,248,737		\$67,112,049
2020		\$30,306,477		\$40,545,174		\$70,851,652
2021		\$31,821,801		\$42,967,621		\$74,789,422
2022		\$33,412,891		\$45,522,635		\$78,935,527
2023		\$35,083,536		\$48,217,106		\$83,300,642
2024		\$36,837,713		\$51,058,268		\$87,895,980
2025		\$38,679,598		\$54,053,717		\$92,733,315
2026		\$40,613,578		\$57,211,431		\$97,825,009
2027		\$42,644,257		\$60,690,882		\$103,335,139
2028		\$44,776,470		\$64,364,699		\$109,141,169
2029		\$47,015,294		\$68,243,205		\$115,258,499
2030		\$49,366,058		\$72,337,252		\$121,703,311
2031		\$51,834,361		\$76,658,249		\$128,492,610
2032		\$54,426,079		\$81,218,189		\$135,644,268
2033		\$57,147,383		\$86,029,679		\$143,177,062
2034		\$60,004,752		\$91,105,971		\$151,110,723
2035		\$63,004,990		\$96,460,993		\$159,465,983
2036		\$66,155,240		\$102,109,384		\$168,264,624
2037		\$69,463,002		\$107,845,677		\$177,308,679
2038		\$72,936,152		\$113,786,831		\$186,722,982
2039		\$76,582,959		\$119,973,252		\$196,556,211
2040		\$80,412,107		\$126,427,084		\$206,839,191
2041		\$84,432,712		\$133,166,456		\$217,599,169
2042		\$88,654,348		\$140,208,168		\$228,862,516

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Schedule of Employer Contributions						
7.75% Discount Rate						
Fiscal Year Ending in		Normal Cost		Amortization Payment		Total City ARC
2012		\$4,773,650		\$22,861,430		\$27,635,081
2013		\$5,012,333		\$22,861,430		\$27,873,763
2014		\$5,262,949		\$23,210,067		\$28,473,017
2015		\$5,526,097		\$23,917,974		\$29,444,071
2016		\$5,802,402		\$25,012,222		\$30,814,623
2017		\$6,092,522		\$26,537,471		\$32,629,993
2018		\$6,397,148		\$28,147,119		\$34,544,267
2019		\$6,717,005		\$29,845,581		\$36,562,586
2020		\$7,052,856		\$31,637,496		\$38,690,352
2021		\$7,405,498		\$33,527,737		\$40,933,235
2022		\$7,775,773		\$35,521,421		\$43,297,194
2023		\$8,164,562		\$37,623,923		\$45,788,485
2024		\$8,572,790		\$39,840,888		\$48,413,678
2025		\$9,001,430		\$42,178,244		\$51,179,674
2026		\$9,451,501		\$44,642,216		\$54,093,717
2027		\$9,924,076		\$47,357,240		\$57,281,316
2028		\$10,420,280		\$50,223,928		\$60,644,208
2029		\$10,941,294		\$53,250,336		\$64,191,630
2030		\$11,488,359		\$56,444,931		\$67,933,289
2031		\$12,062,777		\$59,816,615		\$71,879,391
2032		\$12,665,915		\$63,374,747		\$76,040,662
2033		\$13,299,211		\$67,129,164		\$80,428,375
2034		\$13,964,172		\$71,090,206		\$85,054,378
2035		\$14,662,380		\$75,268,743		\$89,931,123
2036		\$15,395,499		\$79,676,196		\$95,071,695
2037		\$16,165,274		\$84,152,239		\$100,317,513
2038		\$16,973,538		\$88,788,135		\$105,761,673
2039		\$17,822,215		\$93,615,415		\$111,437,630
2040		\$18,713,326		\$98,651,355		\$117,364,681
2041		\$19,648,992		\$103,910,103		\$123,559,095
2042		\$20,631,442		\$109,404,768		\$130,036,209

**CITY OF NEWTON
GASB 45 DETERMINATION**

REQUIRED DISCLOSURES-SUMMARY
2.00% Interest

	<u>Active</u>	<u>Retired</u>	<u>Total</u>
A. Expected Post-Retirement Benefit Obligation	\$601,218,244	\$365,719,948	\$966,938,192
B. Actuarial Accrued Liability (AAL)	\$235,579,731	\$365,719,948	\$601,299,679
C. Plan Assets			\$0
D. Unfunded Actuarial Accrued Liability			\$601,299,679
E. Service Cost (Normal Cost)	\$20,512,617	\$0	\$20,512,617
F. Amortization of unfunded accrued liability	\$11,478,560	\$17,819,608	\$29,298,168
G. Annual Required Contribution (ARC)	\$31,991,177	\$17,819,608	\$49,810,785
H. Unamortized Portion of AAL	\$224,101,170	\$347,900,340	\$572,001,511
I. Expected Benefit (Premium) Payments	n/a	\$16,633,367	\$16,633,367

A-B. Exhibit 2.1

C. Since plan is not funded, current assets = 0.

D. B - C

E-H. Exhibit 2.1

I. These are the City's share of the annual retiree life and health insurance premiums.

**CITY OF NEWTON
GASB 45 DETERMINATION**

REQUIRED DISCLOSURES-SUMMARY
7.75% Interest

	<u>Active</u>	<u>Retired</u>	<u>Total</u>
A. Expected Post-Retirement Benefit Obligation	\$130,128,140	\$206,037,528	\$336,165,668
B. Actuarial Accrued Liability (AAL)	\$69,450,444	\$206,037,528	\$275,487,972
C. Plan Assets			\$0
D. Unfunded Actuarial Accrued Liability			\$275,487,972
E. Service Cost (Normal Cost)	\$4,773,650	\$0	\$4,773,650
F. Amortization of unfunded accrued liability	\$5,763,360	\$17,098,070	\$22,861,430
G. Annual Required Contribution (ARC)	\$10,537,011	\$17,098,070	\$27,635,081
H. Unamortized Portion of AAL	\$63,687,083	\$188,939,458	\$252,626,541
I. Expected Benefit (Premium) Payments	n/a	\$16,633,367	\$16,633,367

A-B. Exhibit 2.2

C. Since plan is not funded, current assets = 0.

D. B - C

E-H. Exhibit 2.2

I. These are the City's share of the annual retiree life and health insurance premiums.

**CITY OF NEWTON
GASB 45 DETERMINATION**

REQUIRED DISCLOSURES-DETAIL

2.00% Interest

	Active Employees			Retirees			Total
	General	Uniformed	Total	Pre-Medicare	Age 65+ Not on MC	Medicare	Total
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)	(7)=(3)+(4)+(5)+(6)
A. Number of Members Generating a Liability (Medical)	1,993	327	2,320	359	167	2,710	5,556
B. Expected Post Retirement Benefit Obligation							
Medical/Rx/Vision	\$422,537,811	\$177,023,210	\$599,561,022	\$111,480,527	\$72,049,149	\$181,182,188	\$964,272,885
Dental	\$0	\$0	\$0	\$0	Incl in PMR	Incl in PMR	\$0
Life	\$1,167,919	\$489,303	\$1,657,222	\$308,139	\$199,148	\$500,798	\$2,665,307
Total	\$423,705,731	\$177,512,513	\$601,218,244	\$111,788,665	\$72,248,297	\$181,682,986	\$966,938,192
C. Actuarial Accrued Liability	\$165,290,849	\$70,288,881	\$235,579,731	\$111,788,665	\$72,248,297	\$181,682,986	\$601,299,679
D. Service Cost (Normal Cost)	\$14,868,749	\$5,643,867.45	\$20,512,617	\$0	\$0	\$0	\$20,512,617
E. Amortization Factor	20.52	20.52	20.52	20.52	20.52	20.52	20.52
F. Amortization of Actuarial Accrued Liability	\$8,053,753	\$3,424,807	\$11,478,560	\$5,446,873	\$3,520,279	\$8,852,456	\$29,298,168
G. Annual Required Contribution	\$22,922,502	\$9,068,675	\$31,991,177	\$5,446,873	\$3,520,279	\$8,852,456	\$49,810,785
H. Unamortized Portion of Actuarial Accrued Liability	\$157,237,096	\$66,864,074	\$224,101,170	\$106,341,792	\$68,728,018	\$172,830,530	\$572,001,511

- A. Exhibit 9
- B. Exhibit 4. Dental EPBO = \$0 because there is only 1 retiree dental plan and retirees pay the full cost.
Life EPBO = ratio of Life premium to Medical premium x Medical EPBO
- C. For retired lives AAL = EPBO. For active lives AAL = EPBO x C from Exhibit 3
- D. For retired lives Service Cost = 0. For active lives Service Cost = EPBO X D from Exhibit 3
- E. Amortization factor = present value at 2.00% interest of a 26-year annuity due
- F. C/E
- G. D + F
- H. C - F

**CITY OF NEWTON
GASB 45 DETERMINATION**

REQUIRED DISCLOSURES-DETAIL
7.75% Interest

	Active Employees			Retirees			Total
	General (1)	Uniformed (2)	Total (3)=(1)+(2)	Pre-Medicare (4)	Age 65+ Not on MC (5)	Medicare (6)	Total (7)=(3)+(4)+(5)+(6)
A. Number of Members Generating a Liability (Medical)	1,993	327	2,320	359	167	2,710	5,556
B. Expected Post Retirement Benefit Obligation							
Medical/Rx/Vision	\$93,931,624	\$35,736,961	\$129,668,585	\$55,799,541	\$40,402,779	\$109,107,575	\$334,978,480
Dental	\$0	\$0	\$0	\$0	Incl in PMR	Incl in PMR	\$0
Life	\$332,901	\$126,654	\$459,555	\$197,758	\$143,190	\$386,685	\$1,187,188
Total	\$94,264,524	\$35,863,616	\$130,128,140	\$55,997,299	\$40,545,969	\$109,494,261	\$336,165,668
C. Actuarial Accrued Liability	\$50,714,352	\$18,736,092	\$69,450,444	\$55,997,299	\$40,545,969	\$109,494,261	\$275,487,972
D. Service Cost (Normal Cost)	\$3,623,098	\$1,150,552	\$4,773,650	\$0	\$0	\$0	\$4,773,650
E. Amortization Factor	12.05	12.05	12.05	12.05	12.05	12.05	12.05
F. Amortization of Actuarial Accrued Liability	\$4,208,542	\$1,554,819	\$5,763,360	\$4,646,948	\$3,364,716	\$9,086,406	\$22,861,430
G. Annual Required Contribution	\$7,831,640	\$2,705,371	\$10,537,011	\$4,646,948	\$3,364,716	\$9,086,406	\$27,635,081
H. Unamortized Portion of Actuarial Accrued Liability	\$46,505,810	\$17,181,273	\$63,687,083	\$51,350,350	\$37,181,253	\$100,407,855	\$252,626,541

- A. Exhibit 9
- B. Exhibit 4. Dental EPBO = \$0 because there is only 1 retiree dental plan and retirees pay the full cost.
Life EPBO = ratio of Life premium to Medical premium x Medical EPBO
- C. For retired lives AAL = EPBO. For active lives AAL = EPBO x C from Exhibit 3
- D. For retired lives Service Cost = 0. For active lives Service Cost = EPBO X D from Exhibit 3
- E. Amortization factor = present value at 7.75% interest of a 26-year annuity due
- F. C/E
- G. D + F
- H. C - F

**CITY OF NEWTON
GASB 45 DETERMINATION**

ACTIVE EMPLOYEE ACCRUED BENEFITS
2.00% Interest

	Active Employees	
	<u>General</u> (1)	<u>Uniform</u> (2)
A. Average Projected Service at Retirement = Attribution Period	28.1	30.8
B. Weighted Average Service to Date	11.0	12.2
C. Weighted Average Percent of Retirement Benefits Accrued to Date	39.0%	39.6%
D. Percent of OPEB Accrued in Fiscal Year 2008	3.5%	3.2%

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- A. Calculated from the census data
 - B. Calculated from the census data
 - C. B/A
 - D. Calculated from the census data

**CITY OF NEWTON
GASB 45 DETERMINATION**

ACTIVE EMPLOYEE ACCRUED BENEFITS
7.75% Interest

	Active Employees	
	<u>General</u> (1)	<u>Uniform</u> (2)
A. Average Projected Service at Retirement = Attribution Period	28.1	30.8
B. Weighted Average Service to Date	15.1	16.1
C. Weighted Average Percent of Retirement Benefits Accrued to Date	53.8%	52.2%
D. Percent of OPEB Accrued in Fiscal Year 2008	3.8%	3.2%

-
- A. Calculated from the census data
 - B. Calculated from the census data
 - C. B/A
 - D. Calculated from the census data

**CITY OF NEWTON
GASB 45 DETERMINATION**

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - MEDICAL/Rx
2.00% interest

	Active Employees		Retirees			Total (6)
	(1)	(2)	(3)	(4)	(5)	
	<u>General</u>	<u>Uniformed</u>	<u>Pre-Medicare</u>	<u>Age 65+ Not on MC</u>	<u>Medicare</u>	
A. Number of Contracts	1,993	327	359	167	2,710	5,556
B. Annual Subsidy per Contract	n/a	n/a	\$17,038	\$23,708	\$4,892	
C. PV of Future Subsidies for All Employees	\$418,354,269	\$175,270,505	\$110,376,759	\$71,335,791	\$178,398,206	\$953,735,530
D. Percent Expected to Elect Medical at Retirement	100%	100%	100%	100%	100%	
E. Expenses	0%	0%	0%	0%	0%	0%
F. Adjustment to Account for Survivor Benefits	101%	101%	101%	101%	101%	101%
G. PV of Medicare Part B Late Enrollment Penalties					\$1,000,000	
H. Expected Post-Retirement Benefit Obligation	\$422,537,811	\$177,023,210	\$111,480,527	\$72,049,149	\$181,182,188	\$964,272,885
I. EPBO per Contract	\$212,011	\$541,355	\$310,531	\$431,432	\$66,857	\$173,555

- A. Exhibit 9
- B. Exhibit 5
- C. Calculated from B and the age and sex of each contractholder.
- D. Calculation only considered participants who actually elected medical.
- E. Expenses are 0% because the assumed interest rate is net of expenses.
- F. Survivors can continue coverage and pay the same 20% their deceased spouse paid.
Also, retirees and survivors can resume coverage any time even if they decline it initially.
- G. Assumes an annual cost of \$20,000 per year.
- H. $C \times D \times (1 + E) \times F + G$
- I. H / A

CITY OF NEWTON
GASB 45 DETERMINATION

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - MEDICAL/Rx
 7.75% interest

	Active Employees		Retirees			Total (6)
	(1)	(2)	(3)	(4)	(5)	
	<u>General</u>	<u>Uniformed</u>	<u>Pre-Medicare</u>	<u>Age 65+ Not on MC</u>	<u>Medicare</u>	
A. Number of Contracts	1,993	327	359	167	2,710	5,556
B. Annual Subsidy per Contract	n/a	n/a	\$17,038	\$23,708	\$4,892	
C. PV of Future Subsidies for All Employees	\$93,001,608	\$35,383,130	\$55,247,070	\$40,002,751	\$107,771,793	\$331,406,352
D. Percent Expected to Elect Medical at Retirement	100%	100%	100%	100%	100%	
E. Expenses	0%	0%	0%	0%	0%	0%
F. Adjustment to Account for Survivor Benefits	101%	101%	101%	101%	101%	101%
G. PV of Medicare Part B Late Enrollment Penalties					\$258,065	
H. Expected Post-Retirement Benefit Obligation	\$93,931,624	\$35,736,961	\$55,799,541	\$40,402,779	\$109,107,575	\$334,978,480
I. EPBO per Contract	\$47,131	\$109,287	\$155,430	\$241,933	\$40,261	\$60,291

- A. Exhibit 9
 B. Exhibit 5
 C. Calculated from B and the age and sex of each contractholder.
 D. Calculation only considered participants who actually elected medical.
 E. Expenses are 0% because the assumed interest rate is net of expenses.
 F. Survivors can continue coverage and pay the same 20% their deceased spouse paid.
 Also, retirees and survivors can resume coverage any time even if they decline it initially.
 G. Assumes an annual cost of \$20,000 per year.
 H. $C \times D \times (1 + E) \times F + G$
 I. H / A

**CITY OF NEWTON
GASB 45 DETERMINATION**

CURRENT ANNUAL SUBSIDY - MEDICAL/Rx

	Current Actives During Pre-Med <u>Retirement</u> (1)	Current Actives During Med <u>Retirement</u> (2)	Current Pre-Med. <u>Retirees</u> (3)	Retirees >65 Not on <u>Medicare</u> (4)	Current Medicare <u>Retirees 65+</u> (5)
A. Average Annual Premium per Contract excluding Med Part B	\$12,012	\$4,959	\$13,098	\$10,679	\$4,959
B. Actual Annual Cost per Contract excluding Med Part B	\$18,029	\$4,959	\$19,657	\$25,843	\$4,959
C. Flat Annual City Contribution Toward the Medicare Part B Premium	n/a	\$925.44	n/a	\$0	\$925.44
D. Blended Annual ASO/Stop Loss Premium paid by the City	\$0	\$0	\$0	\$0	\$0
E. Total Actual Annual City Cost per Contract	\$18,029	\$5,884	\$19,657	\$25,843	\$5,884
F. Annual Member Contributions per Contract	\$2,402	\$992	\$2,620	\$2,136	\$992
G. Current Annual Subsidy per Contract	\$15,626	\$4,892	\$17,038	\$23,708	\$4,892

-
- A. Exhibit 6
 - B. For PMR, equal to A times an age-sex factor to account for the "implicit subsidy". This factor is 1.50
For retirees > 65 not on Medicare, equal to an age-sex factor to account for no Medicare. This is 2.42
 - C. The City reimburses its retirees and their spouses \$925.44 a year for the Medicare Part B premium. This is a flat amount that does not increase when the Medicare Part B premium increases. Previously the City reimbursed 80% of the then-current Medicare Part B premium.
 - D. Since the City's insurance contracts are insured, the stop loss costs are included in the premium rates.
 - E. B + C + D
 - F. Exhibit 6
 - G. E - F

CITY OF NEWTON
GASB 45 DETERMINATION

MEMBER CONTRIBUTIONS

	<u>Medical/Rx</u>	<u>Life Insurance</u>
<u>Current Pre-Medicare Retirees - < 65</u>		
Average Monthly Premium per Contract	\$ 1,091.46	\$9.45
Average Annual Premium per Contract	\$13,097.54	\$113.40
Percent Paid By Members	20.00%	50.00%
Current Annual Amount Members Pay	\$2,619.51	\$56.70
<u>Future Pre-Medicare Retirees - <65</u>		
Average Monthly Premium per Contract	\$ 1,001.04	\$9.45
Average Annual Premium per Contract	\$12,012.43	\$113.40
Percent Paid By Members	20.00%	50.00%
Current Annual Amount Members Pay	\$2,402.49	\$56.70
<u>Retirees >65 Not on Medicare</u>		
Average Monthly Premium per Contract	\$ 889.92	\$9.45
Average Annual Premium per Contract	\$10,679.10	\$113.40
Percent Paid By Members	20.00%	50.00%
Current Annual Amount Members Pay	\$2,135.82	\$56.70
<u>Current Medicare Retirees</u>		
Average Monthly Premium per Contract	\$ 413.23	\$9.45
Average Annual Premium per Contract	\$4,958.72	\$113.40
Percent Paid By Members	20.00%	50.00%
Current Annual Amount Members Pay	\$991.74	\$56.70

Monthly costs calculated from census and premium rates.

Percent paid by members from Exhibit 7

Current group of post 8/31/11 hires will pay an average of 25.6% during retirement.

**CITY OF NEWTON
GASB 45 DETERMINATION**

FUNDING INFORMATION

<u>Actives</u>	
Medical	Pre-8/31/11 hires pay 20% of blended cost of actives and retirees not on Medicare. Employees hired on or after 8/31/11 currently pay an average of 25.8% of the cost. They will also pay this amount when they retire. Harvard Pilgrim, Tufts EPO, Tufts POS and Tufts MCP are self insured Both the Legacy Plans and Advantage plans are self insured.
Drugs	Included with Medical
Dental	Actives pay <100% of the cost of the coverage.
Life Insurance	Fully insured. Current 100% monthly premium rate is \$9.45 per month for \$5,000 of coverage. Members pay 50% of the total premium - so they pay \$4.72 per month.
<u>Retirees Not on Medicare</u>	
Medical	Pre-8/31/11 retirees and their spouses pay 20% of blended cost of actives and retirees not on Medicare. Post-8/31/11 retirees will pay >20% (depending on their bargaining unit).
Drugs	Same as for Actives
Dental	For the only plan available, retirees have to pay 100% of the cost of the coverage.
Life Insurance	Retirees pay 50% of the premium.
<u>Retirees on Medicare</u>	
Medical	Plans designed for these participants are fully insured. When eligible for Medicare, retiree is transferred to a Medicare Supplement plan. Tufts Medicare Complement plan is self insured. Tufts Medicare Preferred and Medicare HMO Blue are fully insured. Pre-8/31/11 retirees and their spouses pay 20% of the cost.
Drugs and Vision	Since plan is fully insured, stop loss coverage is included in the insurance rates. Post - 8/31/11 retirees will pay more.
Drugs	Same as for Actives
Dental	For the only plan available, retirees have to pay 100% of the cost of the coverage.
Life Insurance	Retirees pay 50% of the premium.

**CITY OF NEWTON
GASB 45 DETERMINATION**

BENEFIT INFORMATION

<u>Actives</u>	
Medical	Choice of Harvard Pilgrim, Tufts EPO and Tufts POS Advantage plans. These plans are new effective 12/1/11. Rates depend on choice of coverage The City only offers Individual and Family plans.
Drugs and Vision	Included if Medical Elected (Drug Copays per Medical Plan Elected Apply)
Dental	Several plans are available.
Life Insurance	All life insurance benefits are a flat \$5,000 with no reduction at retirement.
<u>Retirees Not on Medicare</u>	
Medical	Same Choices as for Actives plus Harvard Pilgrim, Tufts EPO and Tufts POS "Legacy" plans are available for those who retired before 8/31/11. Those who retired after 8/31/11 can only chose among the Harvard Pilgrim, Tufts EPO and Tufts POS Advantage plans. Survivors from family contracts can continue coverage until they die. They may also re-enter the plan after initially declining coverage.
Drugs and Vision	Same Choices as for Actives
Dental	Only 1 plan is available. It is not subsidized by the City, so the City has no GASB-45 liability for dental benefits.
Life Insurance	Flat \$5,000
<u>Retirees on Medicare</u>	
Medical	Most participants have elected the Tufts Medicare Complement Plan (Medicare Supplement). A minority have elected Tufts Medicare Preferred. The City reimburses a flat \$925.44 per year toward the cost of the Medicare Part B premium for retirees and their spouses. This flat amount does not increase when the Medicare Part B premium increases. Surviving spouse can continue coverage on the same terms as the deceased retiree, per Massachusetts law. Survivors from family contracts can continue coverage until they die. They may also re-enter the plan after initially declining coverage. The City has adopted Section 18 of MGL Chapter 32B. Effective July 1, 2010, the City is responsible to reimburse 100% of the penalties paid by retirees for enrolling late in Medicare B. The City is still gathering information to determine how much this will cost. Its best current estimate is about \$20,000 per year.
Drugs and Vision	Same Choices as for Actives Drug Plan Not Eliminated When Medicare Part D Took Effect
Dental	Only 1 plan is available. It is not subsidized by the City, so the City has no GASB-45 liability for dental benefits.
Life Insurance	Flat \$5,000

Data provided by the City of Newton

**CITY OF NEWTON
GASB 45 DETERMINATION**

CENSUS INFORMATION

	<u>General</u> (1)	<u>Uniformed</u> (2)	<u>Elected No Coverage</u> (3)	<u>Total</u> (4)
<u>Actives - Medical</u>				
Number of Contracts	1,993	327	50	2,370
Average Age	45	43		45
Average Service Years	146	15		
<u>Pre-Medicare Retirees - Medical/Under 65</u>				
Number of Contracts	359	Incl in Gen	Incl Above	359
Average Age	60			
<u>Retirees > 65 Not on Medicare</u>				
Number of Contracts	167	Incl in Gen	Incl Above	167
Average Age	74			
<u>Medicare Retirees - Medical</u>				
Number of Contracts	2,710	Incl in Gen	Incl Above	2,710
Average Age	77			
<u>Life Insurance</u>				
Number of Contracts - Actives	927	Incl in Gen	1,392	2,319
Number of Contracts - Retirees	810	Incl in Gen	2,429	3,239
Number Electing Life Insurance - Total	1,737	Incl in Gen	3,821	5,558
Percent of New Retirees Electing Medical				100%
Percent Under-65 Retirees Keeping Medical at Age 65				100%
Percent of New Retirees Electing Life Insurance				25%

Data provided by the City of Newton
The City has noted that the declination rate for retiree medical insurance is negligible.