

**CITY OF NEWTON**

OTHER THAN PENSION  
POST-RETIREMENT EMPLOYEE BENEFITS (OPEB) ANALYSIS  
AS OF JUNE 30, 2009

**AUGUST 10, 2009**

August 10, 2009

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

Dear David:

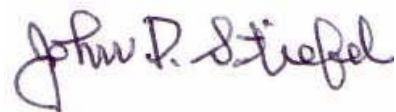
Enclosed please find our report regarding the indicated other than pension post-retirement benefit (OPEB) liabilities as of June 30, 2009 for the City. The liability calculation is in accordance with Governmental Accounting Standards Board Statement 45 (GASB-45).

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

## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	2
CONDITIONS AND LIMITATIONS .....	4
DISTRIBUTION AND USE.....	6
REQUIRED DISCLOSURES .....	7
ANALYSIS .....	12
SCHEDULES OF EMPLOYER CONTRIBUTIONS .....	16
EXHIBITS	

# CITY OF NEWTON

---

## **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 6-30-09. The City initially complied with GASB-45 for the fiscal year 7-1-07 to 7-1-08.

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.

GASB-45 requires that public entities begin accruing the expected future costs of OPEB over the expected future employment period of employees, much like they now do for pension benefits. The effective date of GASB-45 is the end of fiscal years beginning on or after December 16, 2006 for public entities with annual revenue of more than \$100 million. The effective date is one year later for public entities with annual revenue between \$10 million and \$100 million and two years later for public entities with annual revenue under \$10 million.

The City presently provides life and health insurance benefits for active and retired employees and their covered dependents. The City has reported to us 2,538 active employees, 448 pre-Medicare retirees, 1,875 Medicare retirees and 177 over age 65 non-Medicare retirees who have elected health insurance.

Health insurance benefits provided to active employees and the Tufts Medicare Complement Plan for Medicare retirees are self insured while other health insurance benefits provided to Medicare retirees are fully insured. Life insurance benefits provided by the City are fully insured. For health insurance, active employees and retirees not on Medicare have a choice among the Harvard, Tufts-EPO and Tufts-POS plans. Most retirees on Medicare are in the Tufts

## **CITY OF NEWTON**

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 10, 11, and 12.

# CITY OF NEWTON

---

## **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.

## **CITY OF NEWTON**

### ***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.

# CITY OF NEWTON

---

## **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, 2008 through June 30, 2009. 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.



# CITY OF NEWTON

---

## **REQUIRED DISCLOSURES**

---

---

### **Required Information for the Fiscal Year July 1, 2008 through June 30, 2009**

As displayed on Exhibit 1.1, 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 meant to approximate a risk free rate of return based on current risk-free marketplace yields.

We present the 2008 results along side of the 2009 results as required by GASB-45. Separate tables are provided for results using an unfunded discount rate (3.75% last year and 2.00% this year) and a 7.75% discount rate.

## CITY OF NEWTON

City of Newton GASB-45 Required Disclosures		
	Unfunded Discount Rate	
	2008	2009
<b>A. Expected Post Retirement Benefit Obligation</b>	\$625,700,000	\$956,315,374
	(run at 3.75%)	(run at 2.00%)
<b>B. Funded Status</b>		
1. Actuarial Accrued Liability (AAL)		
Active Employees	\$152,890,000	\$247,015,973
Retirees	\$280,070,000	\$348,656,080
Total	\$432,960,000	\$595,672,053
2. Actuarial Value of Assets	\$0	\$0
3. Unfunded Actuarial Accrued Liability (1) - (2)	\$432,960,000	\$595,672,053
4. Funded Ratio (2)/(3)	0%	0%
5. Annual Covered Payroll (to be Filled in by the City)	not available	not available
6. Ratio of Unfunded AAL to Covered Payroll (3)/(5)	(3)/(5)	(3)/(5)
<b>C. Annual Required Contribution (ARC)</b>		
1. Normal Cost (Service Cost)	\$12,050,000	\$20,839,131
2. Amortization of Unfunded Accrued Liability	\$23,390,000	\$26,734,203
3. Annual Required Contribution (ARC) (1) + (2)	\$35,440,000	\$47,573,333
<b>D. Annual OPEB Cost</b>		
1. ARC	\$35,440,000	\$47,573,333
2. Interest on Net OPEB Obligation	\$0	\$461,355
3. Adjustment to ARC	\$0	\$1,035,297
4. Annual OPEB Cost (1) + (2) - (3)	\$35,440,000	\$46,999,391
<b>E. Net OPEB Obligation</b>		
1. Net OPEB Obligation - beginning of year	\$0	\$23,067,740
2. Annual OPEB Cost	\$35,440,000	\$46,999,391
3. Expected Contributions during the year	\$12,372,260	\$14,050,149
4. Net OPEB Obligation - end of year estimate (1) + (2) - (3)	\$23,067,740	\$56,016,982

Unfunded discount rate was 3.75% for 2008 and 2.00% for 2009.

ABC Exhibit 1

D2 D1 X assumed interest rate

D3 1-year's amortization of E1

E1 From last year's report

E3 Exhibit 1

## CITY OF NEWTON

City of Newton GASB-45 Required Disclosures		
	7.75% Discount Rate	
	2008	2009
<b>A. Expected Post Retirement Benefit Obligation</b>	\$319,360,000	\$330,045,424
<b>B. Funded Status</b>		
1. Actuarial Accrued Liability (AAL)		
Active Employees	\$152,890,000	\$71,600,658
Retirees	\$280,070,000	\$195,963,217
Total	\$432,960,000	\$267,563,876
2. Actuarial Value of Assets	\$0	\$0
3. Unfunded Actuarial Accrued Liability (1) - (2)	\$432,960,000	\$267,563,876
4. Funded Ratio (2)/(3)	0%	0%
5. Annual Covered Payroll (to be Filled in by the City)	not available	not available
6. Ratio of Unfunded AAL to Covered Payroll (3)/(5)	(3)/(5)	(3)/(5)
<b>C. Annual Required Contribution (ARC)</b>		
1. Normal Cost (Service Cost)	\$4,030,000	\$4,852,219
2. Amortization of Unfunded Accrued Liability	\$20,460,000	\$21,740,270
3. Annual Required Contribution (ARC) (1) + (2)	\$24,490,000	\$26,592,488
<b>D. Annual OPEB Cost</b>		
1. ARC	\$24,490,000	\$26,592,488
2. Interest on Net OPEB Obligation	\$0	\$939,125
3. Adjustment to ARC	\$0	\$984,598
4. Annual OPEB Cost (1) + (2) - (3)	\$24,490,000	\$26,547,015
<b>E. Net OPEB Obligation</b>		
1. Net OPEB Obligation - beginning of year	\$0	\$12,117,740
2. Annual OPEB Cost	\$24,490,000	\$26,547,015
3. Expected Contributions during the year	\$12,372,260	\$14,050,149
4. Net OPEB Obligation - end of year estimate (1) + (2) - (3)	\$12,117,740	\$24,614,606

ABC Exhibit 1

D2 D1 x assumed interest rate

D3 1-year's amortization of E1

E1 From last year's report

E3 Exhibit 1

## CITY OF NEWTON

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 APBO 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 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 %

## CITY OF NEWTON

of payroll basis. We selected the closed basis; i.e. the amortization period declines 1 year every year.

**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. Since the City complied with GASB-45 starting last year, this number is not zero.

**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 ARC

**Expected Contributions During the Year** – This is the amount of OPEB payments the Government made 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.

# CITY OF NEWTON

---

## 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.
2. **Trend** - Medical Costs are assumed to increase each year according to the following schedule:

Year	Medical Trend
2008	6.79%
2009	6.89%
2010	7.00%
2011	7.10%
2012	7.2%
2013	7.2%
2014	7.1%
2015	7.1%
2020	6.9%
2025	6.8%
2030	6.7%
2040	6.2%
2050	5.9%
2060	5.8%
2070	5.7%
2080+	5.2%

The above trend rates were developed using the baseline projection of the SOA Long-Run Medical Cost Trend Model. The short-term (first 4 years) trend rates were based on the fact that the City's recent rate increase averaged 6.79%. The long-term (after 4 years) trend rates were based on the following assumptions:

Rate of Inflation 3.2%  
Rate of Growth in Real Income / GDP per capita 1.9%  
Income Multiplier for Health Spending 1.4  
Extra Trend due to Technology and other factors 1.2%  
Health Share of GDP Resistance Point 25.0%  
Year for Limiting Cost Growth to GDP Growth 2075

## CITY OF NEWTON

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.

We note that a level 1% increase in assumed trend will increase the City's liability by about 20%.

3. **Amortization Period** - Thirty years (initial), 29 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 future benefits. We used mortality rates based on the Society of Actuaries Group Life 1985-1989 mortality table.
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

## CITY OF NEWTON

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 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) 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	41%

12. **Plan Changes** - The City has informed us there are no significant changes in eligibility, plan provisions or required contributions for health or life insurance benefits that have been announced to employees for future plan years. We assumed the current benefits will remain in effect for all future years.
13. **Expenses** - We did not make an explicit assumption for expenses because our assumed interest discount rates are net of expenses.



# CITY OF NEWTON

## Methodology

We used the Projected Unit Credit actuarial cost method in our analysis. The following is a summary of the steps employed in this methodology.

- 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.**

# CITY OF NEWTON

---

## **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 ending June 30, 2009, future normal costs increasing at 5.0% per year and future amortization payments increasing at the assumed future healthcare trend rates.

# CITY OF NEWTON

## Schedule of Employer Contributions 2.00% Discount Rate

Fiscal Year Ending in	Normal Cost	Amortization Payment	Total City ARC
2009	\$20,839,131	\$26,734,203	\$47,573,333
2010	\$21,881,087	\$28,549,455	\$50,430,542
2011	\$22,975,141	\$30,516,513	\$53,491,654
2012	\$24,123,898	\$32,652,668	\$56,776,567
2013	\$25,330,093	\$34,971,008	\$60,301,101
2014	\$26,596,598	\$37,488,921	\$64,085,519
2015	\$27,926,428	\$40,188,123	\$68,114,551
2016	\$29,322,749	\$43,041,480	\$72,364,229
2017	\$30,788,887	\$46,097,425	\$76,886,311
2018	\$32,328,331	\$49,351,903	\$81,680,234
2019	\$33,944,748	\$52,816,406	\$86,761,154
2020	\$35,641,985	\$56,502,991	\$92,144,977
2021	\$37,424,084	\$60,424,299	\$97,848,383
2022	\$39,295,289	\$64,593,576	\$103,888,864
2023	\$41,260,053	\$69,037,614	\$110,297,667
2024	\$43,323,056	\$73,773,594	\$117,096,650
2025	\$45,489,208	\$78,819,708	\$124,308,916
2026	\$47,763,669	\$84,195,212	\$131,958,881
2027	\$50,151,852	\$89,920,486	\$140,072,339
2028	\$52,659,445	\$96,017,095	\$148,676,540
2029	\$55,292,417	\$102,507,851	\$157,800,268
2030	\$58,057,038	\$109,416,880	\$167,473,918
2031	\$60,959,890	\$116,769,694	\$177,729,584
2032	\$64,007,884	\$124,593,264	\$188,601,148
2033	\$67,208,279	\$132,878,716	\$200,086,995
2034	\$70,568,693	\$141,648,711	\$212,217,404
2035	\$74,097,127	\$150,926,702	\$225,023,829
2036	\$77,801,984	\$160,736,937	\$238,538,921
2037	\$81,692,083	\$171,104,470	\$252,796,553
2038	\$85,776,687	\$182,055,156	\$267,831,843
2039	\$90,065,521	\$193,615,658	\$283,681,180

# CITY OF NEWTON

## Schedule of Employer Contributions 7.75% Discount Rate

Fiscal Year Ending in	Normal Cost	Amortization Payment	Total City ARC
2009	\$4,852,219	\$21,740,270	\$26,592,488
2010	\$5,094,830	\$23,216,434	\$28,311,264
2011	\$5,349,571	\$24,816,046	\$30,165,618
2012	\$5,617,050	\$26,553,169	\$32,170,219
2013	\$5,897,902	\$28,438,444	\$34,336,347
2014	\$6,192,798	\$30,486,012	\$36,678,810
2015	\$6,502,437	\$32,681,005	\$39,183,443
2016	\$6,827,559	\$35,001,357	\$41,828,916
2017	\$7,168,937	\$37,486,453	\$44,655,390
2018	\$7,527,384	\$40,132,996	\$47,660,381
2019	\$7,903,753	\$42,950,333	\$50,854,086
2020	\$8,298,941	\$45,948,266	\$54,247,207
2021	\$8,713,888	\$49,137,076	\$57,850,964
2022	\$9,149,583	\$52,527,534	\$61,677,117
2023	\$9,607,062	\$56,141,428	\$65,748,490
2024	\$10,087,415	\$59,992,730	\$70,080,145
2025	\$10,591,785	\$64,096,233	\$74,688,019
2026	\$11,121,375	\$68,467,596	\$79,588,971
2027	\$11,677,443	\$73,123,393	\$84,800,836
2028	\$12,261,316	\$78,081,159	\$90,342,474
2029	\$12,874,381	\$83,359,445	\$96,233,826
2030	\$13,518,101	\$88,977,872	\$102,495,972
2031	\$14,194,006	\$94,957,185	\$109,151,190
2032	\$14,903,706	\$101,319,316	\$116,223,022
2033	\$15,648,891	\$108,057,050	\$123,705,942
2034	\$16,431,336	\$115,188,816	\$131,620,151
2035	\$17,252,902	\$122,733,683	\$139,986,586
2036	\$18,115,548	\$130,711,373	\$148,826,920
2037	\$19,021,325	\$139,142,256	\$158,163,581
2038	\$19,972,391	\$148,047,361	\$168,019,752
2039	\$20,971,011	\$157,448,368	\$178,419,379

**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	\$607,659,294	\$348,656,080	\$956,315,374
B. Actuarial Accrued Liability	\$247,015,973	\$348,656,080	\$595,672,053
C. Plan Assets			\$0
D. Unfunded Actuarial Accrued Liability			\$595,672,053
E. Service Cost (Normal Cost)	\$20,839,131	\$0	\$20,839,131
F. Amortization of Unfunded Accrued Liability	\$11,086,260	\$15,647,943	\$26,734,203
G. Annual Required Contribution (ARC)	\$31,925,390	\$15,647,943	\$47,573,333
H. Unamortized Portion of Actuarial Accrued Liability	\$235,929,714	\$333,008,137	\$568,937,850
I. Expected Benefit (Premium) Payments	n/a	\$14,050,149	\$14,050,149

---

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	\$134,082,207	\$195,963,217	\$330,045,424
B. Actuarial Accrued Liability	\$71,600,658	\$195,963,217	\$267,563,876
C. Plan Assets			\$0
D. Unfunded Actuarial Accrued Liability			\$267,563,876
E. Service Cost (Normal Cost)	\$4,852,219	\$0	\$4,852,219
F. Amortization of Unfunded Accrued Liability	\$5,817,742	\$15,922,527	\$21,740,270
G. Annual Required Contribution (ARC)	\$10,669,961	\$15,922,527	\$26,592,488
H. Unamortized Portion of Actuarial Accrued Liability	\$65,782,916	\$180,040,690	\$245,823,606
I. Expected Benefit (Premium) Payments	n/a	\$14,050,149	\$14,050,149

---

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 (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)	2,165	288	2,453	448	177	1,875	4,953
B. Expected Post Retirement Benefit Obligation							
Medical/Rx/Vision	\$470,742,214	\$136,630,155	\$607,372,369	\$158,280,615	\$71,842,527	\$116,086,248	\$953,581,759
Dental	\$0	\$0	\$0	\$0	Incl in PMR	Incl in PMR	\$0
Life	\$286,925	Incl in Gen	\$286,925	\$2,446,690	Incl in PMR	Incl in PMR	\$2,733,615
Total	\$471,029,139	\$136,630,155	\$607,659,294	\$160,727,305	\$71,842,527	\$116,086,248	\$956,315,374
C. Actuarial Accrued Liability	\$195,185,694	\$51,830,279	\$247,015,973	\$160,727,305	\$71,842,527	\$116,086,248	\$595,672,053
D. Service Cost (Normal Cost)	\$16,499,296	\$4,339,834	\$20,839,131	\$0	\$0	\$0	\$20,839,131
E. Amortization Factor	\$22	\$22	\$22	\$22	\$22	\$22	\$22
F. Amortization of Actuarial Accrued Liability	\$8,760,078	\$2,326,181	\$11,086,260	\$7,213,560	\$3,224,346	\$5,210,037	\$26,734,203
G. Annual Required Contribution	\$25,259,375	\$6,666,015	\$31,925,390	\$7,213,560	\$3,224,346	\$5,210,037	\$47,573,333
H. Unamortized Portion of Actuarial Accrued Liability	\$186,425,616	\$49,504,098	\$235,929,714	\$153,513,745	\$68,618,181	\$110,876,211	\$568,937,850

- A. Exhibit 12  
B. Exhibits 4 and 5. Dental EPBO = \$0 because there is only 1 retiree dental plan and retirees pay the full cost.  
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 30-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)	2,165	288	2,453	448	177	1,875	4,953
B. Expected Post Retirement Benefit Obligation							
Medical/Rx/Vision	\$109,258,113	\$24,770,486	\$134,028,599	\$79,648,520	\$42,187,304	\$72,396,411	\$328,260,833
Dental	\$0	\$0	\$0	\$0	Incl in PMR	Incl in PMR	\$0
Life	\$53,608	Incl in Gen	\$53,608	\$1,730,983	Incl in PMR	Incl in PMR	\$1,784,591
Total	\$109,311,721	\$24,770,486	\$134,082,207	\$81,379,503	\$42,187,304	\$72,396,411	\$330,045,424
C. Actuarial Accrued Liability	\$58,905,399	\$12,695,259	\$71,600,658	\$81,379,503	\$42,187,304	\$72,396,411	\$267,563,876
D. Service Cost (Normal Cost)	\$4,066,214	\$786,005	\$4,852,219	\$0	\$0	\$0	\$4,852,219
E. Amortization Factor	\$12	\$12	\$12	\$12	\$12	\$12	\$12
F. Amortization of Actuarial Accrued Liability	\$4,786,219	\$1,031,523	\$5,817,742	\$6,612,299	\$3,427,830	\$5,882,399	\$21,740,270
G. Annual Required Contribution	\$8,852,432	\$1,817,529	\$10,669,961	\$6,612,299	\$3,427,830	\$5,882,399	\$26,592,488
H. Unamortized Portion of Actuarial Accrued Liability	\$54,119,180	\$11,663,736	\$65,782,916	\$74,767,204	\$38,759,474	\$66,514,012	\$245,823,606

- A. Exhibit 12  
B. Exhibits 4 and 5. Dental EPBO = \$0 because there is only 1 retiree dental plan and retirees pay the full cost.  
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 30-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>Uniformed Employees</u> (2)
A. Average Projected Service at Retirement = Attribution Period	30.3	31.8
B. Weighted Average Service to Date	12.6	12.1
C. Weighted Average Percent of Retirement Benefits Accrued to Date	41.4%	37.9%
D. Percent of OPEB Accrued in Fiscal Year 2008	3.5%	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**

ACTIVE EMPLOYEE ACCRUED BENEFITS  
 7.75% Interest

	Active Employees	
	<u>General</u> (1)	<u>Uniformed Employees</u> (2)
A. Average Projected Service at Retirement = Attribution Period	30.3	31.8
B. Weighted Average Service to Date	16.3	16.3
C. Weighted Average Percent of Retirement Benefits Accrued to Date	53.9%	51.3%
D. Percent of OPEB Accrued in Fiscal Year 2008	3.7%	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 - LIFE INSURANCE  
 2.00% Interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)=(1)+(2)
A. Number of Contracts	970	1,060	2,030
B. Assumed Retirement Age	63	74	
C. Average Benefit per Insured at Retirement	5,000	5,000	
D. Net Single Premium per \$1,000	671.43	786.34	
E. Discount Factor for Actives to Assumed Retirement Age	0.37	1.00	
F. Percent Electing Life Insurance at Retirement	41.0%	100.0%	
G. Percent of Actual Cost Paid by City	58.7%	58.7%	58.7%
H. Expenses	0.0%	0.0%	0.0%
I. Present Value of Future Subsidy = EPBO	\$286,925	\$2,446,690	\$2,733,615
J. EPBO Per Contract	\$296	\$2,308	\$1,347

A Exhibit 12

B Exhibit 6

C Exhibit 9

D For actives, this is the net single premium at the assumed retirement age.

For retirees, this is the net single premium at the current average age.

E Based on avg current age of actives, expected retirement age, 2.00% interest and assumed mortality and turnover.

F For actives, Exhibit 12

G Exhibit 6

H Expenses are 0% because the assumed interest rate is net of expenses.

I  $A \times (C/1000) \times D \times E \times F \times G \times (1+H)$

J 1/A

**CITY OF NEWTON**  
**GASB 45 DETERMINATION**

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - LIFE INSURANCE  
 7.75% Interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)=(1)+(2)
A. Number of Contracts	970	1,060	2,030
B. Assumed Retirement Age	63	74	
C. Average Benefit per Insured at Retirement	5,000	5,000	
D. Net Single Premium per \$1,000	265.64	445.89	
E. Discount Factor for Actives to Assumed Retirement Age	0.14	1.00	
F. Percent Electing Life Insurance at Retirement	41.0%	100.0%	
G. Percent of Actual Cost Paid by City	73.2%	73.2%	73.2%
H. Expenses	0.0%	0.0%	0.0%
I. Present Value of Future Subsidy = EPBO	\$53,608	\$1,730,983	\$1,784,591
J. EPBO Per Contract	\$55	\$1,633	\$879

A Exhibit 12

B Exhibit 6

C Exhibit 9

D For actives, this is the net single premium at the assumed retirement age.

For retirees, this is the net single premium at the current average age.

E Based on avg current age of actives, expected retirement age, 7.75% interest and assumed mortality and turnover.

F For actives, Exhibit 12

G Exhibit 6

H Expenses are 0% because the assumed interest rate is net of expenses.

I  $A \times (C/1000) \times D \times E \times F \times G \times (1+H)$

J 1/A

**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	2,165	288	448	177	1,875	4,953
B. Annual Subsidy per Contract	n/a	n/a	\$16,853	\$21,785	\$4,321	
C. PV of Future Subsidies for All Employees	\$466,081,400	\$135,277,381	\$156,713,480	\$71,131,215	\$114,936,879	\$944,140,355
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. Expected Post-Retirement Benefit Obligation	\$470,742,214	\$136,630,155	\$158,280,615	\$71,842,527	\$116,086,248	\$953,581,759
H. EPBO per Contract	\$217,433	\$474,410	\$353,305	\$405,890	\$61,913	\$192,526

- 
- A. Exhibit 12.  
 B. Exhibit 7  
 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% as actives.  
 Also, survivors can resume coverage any time even if they decline it initially.  
 G.  $C \times D \times (1 + E) \times F$   
 H. G/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	2,165	288	448	177	1,875	4,953
B. Annual Subsidy per Contract	n/a	n/a	\$16,853	\$21,785	\$4,321	
C. PV of Future Subsidies for All Employees	\$108,176,350	\$24,525,233	\$78,859,921	\$41,769,608	\$71,679,615	\$325,010,726
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. Expected Post-Retirement Benefit Obligation	\$109,258,113	\$24,770,486	\$79,648,520	\$42,187,304	\$72,396,411	\$328,260,833
H. EPBO per Contract	\$50,466	\$86,009	\$177,787	\$238,346	\$38,611	\$66,275

- 
- A. Exhibit 12.  
 B. Exhibit 7  
 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% as actives.  
 Also, survivors can resume coverage any time even if they decline it initially.  
 G.  $C \times D \times (1 + E) \times F$   
 H. G/A

**CITY OF NEWTON**  
**GASB 45 DETERMINATION**

CURRENT ANNUAL SUBSIDY - LIFE INSURANCE  
 2.00% interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Current Average Age of Group	46	74	61
B. Net Single Premium per \$1,000 of Life Insurance	n/a	786.34	650.10
C. % of Total Cost Represented by Full Premium Retirees Pay		82.7%	
D. % of Full Premium Retirees Pay		49.9%	
E. % of Total Cost Retirees Actually Pay Including Implicit Subsidy		41.3%	
F. % of Actual Cost Paid by City		58.7%	

- 
- A. Exhibit 12  
 B. Calculated based on average age  
 C. B(2)/B(3)  
 D. Exhibit 8  
 E. C X D  
 F. 1 - E

**CITY OF NEWTON**  
**GASB 45 DETERMINATION**

CURRENT ANNUAL SUBSIDY - LIFE INSURANCE  
 7.75% interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Current Average Age of Group	46	74	61
B. Net Single Premium per \$1,000 of Life Insurance	n/a	445.89	238.84
C. % of Total Cost Represented by Full Premium Retirees Pay		53.6%	
D. % of Full Premium Retirees Pay		49.9%	
E. % of Total Cost Retirees Actually Pay Including Implicit Subsidy		26.8%	
F. % of Actual Cost Paid by City		73.2%	

- 
- A. Exhibit 12  
 B. Calculated based on average age  
 C.  $B(2)/B(3)$   
 D. Exhibit 8  
 E.  $C \times D$   
 F.  $1 - E$



**CITY OF NEWTON**  
**GASB 45 DETERMINATION**

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - MEDICAL/Rx

	<u>Actives</u> (1)	Pre-Med. <u>Retirees</u> (2)	Med. <u>Retirees</u> (3)	Retirees 65 and Over <u>Not on M.C.</u> (4)
A. Blended Annual Premium per Contract	n/a	\$12,587	\$5,401	\$9,726
B. Actual Annual Cost per Contract	n/a	\$19,370	\$5,401	\$23,730
C. Annual Member Contributions per Contract	n/a	\$2,517	\$1,080	\$1,945
D. Current Annual Subsidy per Contract	n/a	\$16,853	\$4,321	\$21,785

- 
- A. Exhibit 8  
B. 153.89% of A for pre-M/C retirees < 65, 244.00% of A for retirees >65 not on M/C and 100.0% of A for M/C retirees.  
C. Exhibit 8  
D. B - C

**CITY OF NEWTON**  
**GASB 45 DETERMINATION**

MEMBER CONTRIBUTIONS

	<u>Medical/Rx</u> (1)	<u>Life</u> <u>Insurance</u> (2)
<u>Pre-Medicare Retirees - &lt; 65</u>		
Blended Monthly Premium per Contract	\$1,048.93	\$9.45
Blended Annual Premium per Contract	\$12,587	\$113.40
Percent Paid By Members	20.0%	49.9%
Current Annual Amount Members Pay	\$2,517	\$56.64
<u>Pre-Medicare Retirees - &gt; 65</u>		
Blended Monthly Premium per Contract	\$810.47	\$9.45
Blended Annual Premium per Contract	\$9,726	\$113.40
Percent Paid By Members	20.0%	49.9%
Current Annual Amount Members Pay	\$1,945	\$56.64
<u>Medicare Retirees</u>		
Blended Monthly Premium per Contract	\$353.70	\$9.45
Total Medicare Part B Monthly Premium	\$96.40	n/a
Blended Stop Loss Premium per Contract	n/a	n/a
Total Blended Monthly Premium per Contract	\$450.10	\$9.45
Blended Annual Premium	\$5,401	\$113.40
% Contractholders Pay	20.0%	49.9%
Current Annual Amount Members Pay	\$1,080	\$56.64

---

Medical monthly costs calculated from census and premium rates. Life monthly cost from Exhibit 9.

Percent paid by members from Exhibit 10

City reimburses 80% of Medicare Part B premium as well as 80% of regular health insurance premium.

**CITY OF NEWTON  
GASB 45 DETERMINATION**

LIFE INSURANCE IN FORCE

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Number of Insureds	970	1,060	2,030
B. Average Benefit per Insured		\$5,000	
C. Current Amount of Insurance in Force (\$000)		\$5,300	
D. City Share of Life Insurance Monthly Premium		49.95%	
E. Total Monthly Rate/\$1000		\$1.89	
F. Total Annual Premium - City Responsibility		\$60,038	

- 
- A. Exhibit 12
  - B. Exhibit 11.
  - C.  $A \times B / 1000$
  - D. Exhibit 10
  - E. Exhibit 10
  - F.  $C \times D \times E \times 12$

**CITY OF NEWTON  
GASB 45 DETERMINATION**

FUNDING INFORMATION

<u>Actives</u>	
Medical	Employees pay 20% of blended cost of actives and retirees not on Medicare. Harvard Pilgrim, Tufts EPO and Tufts POS are self-insured. Pooling protection is included in the specified premium rates.
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	Retirees and their spouses pay 20% of blended cost of actives and retirees not on Medicare.
Drugs	Same as for Actives
Dental	For the only plan available, retirees have to pay 100% of the cost of the coverage.
Life Insurance	Same as for Actives
<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, First Seniority Freedom, and Medicare HMO Blue are fully insured. 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.
Drugs	Same as for Actives
Dental	For the only plan available, retirees have to pay 100% of the cost of the coverage.
Life Insurance	Same as for Actives

---

Data provided by the City of Newton

**CITY OF NEWTON  
GASB 45 DETERMINATION**

BENEFIT INFORMATION

<u>Actives</u>	
Medical	Choice of Harvard Pilgrim, Tufts EPO and Tufts POS 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 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.
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, First Seniority Freedom and HMO Blue. The City reimburses 80% of the Medicare Part B premium for retirees and their spouses. 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.
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	2,165	288	85	2,538
Average Age	45	43		44
Average Service Years	11	16		
<u>Pre-Medicare Retirees - Medical/Under 65</u>				
Number of Contracts	448	Incl in Gen	Incl Above	448
Average Age	60			
<u>Pre-Medicare Retirees - Medical/65 and Over</u>				
Number of Contracts	177	Incl in Gen	Incl Above	177
Average Age	73			
<u>Medicare Retirees - Medical</u>				
Number of Contracts	1,875	Incl in Gen	Incl Above	1,875
Average Age	77			
<u>Life Insurance</u>				
		<u>Average Age</u>		
Number of Contracts - Actives	970	46	1,483	2,453
Number of Contracts - Retirees	1,060	74	1,440	2,500
Number Electing Life Insurance - Total	2,030	61	2,923	4,953
Percent of New Retirees Electing Medical				100%
Percent Under-65 Retirees Keeping Medical at Age 65				100%
Percent of Retirees Electing Life Insurance				41%

Data provided by the City of Newton

The City has noted that the declination rate for retiree medical insurance is negligible.