

CITY OF NEWTON

POST-RETIREMENT BENEFITS ANALYSIS
AS OF JUNE 30, 2006

SEPTEMBER 5, 2006

FINANCIAL RISK ANALYSTS



September 5, 2006

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 post-retirement liabilities as of June 30, 2006 for the City. The liability calculation is in accordance with Governmental Accounting Standards Board Statement 45 (GASB-45). As you are aware, formal implementation of GASB-45 does not take place until next year.

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

Mark J. Sobel, FCAS, MAAA
Managing Principal

John D. Stiefel, FSA, MAAA
Associated Consultant

MJS/ess

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 medical and life insurance post-retirement benefits program as of June 30, 2006. The purpose of this valuation is to calculate the City's GASB-45 liability as of June 30, 2006 for these benefits. The City does not formally need to comply with GASB-45 until next fiscal year.

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 2,401 active employees, 470 pre-Medicare retirees, 1,726 Medicare retirees and 180 over age 65 non-Medicare retirees who have elected health insurance.

Health insurance benefits provided to active employees are self insured while health insurance benefits provided to Medicare retirees are fully insured. Life insurance benefits provided by the City are fully insured with Kanawha Insurance Company. For health insurance, active employees and retirees not on Medicare have a choice among the Harvard Plan, Tufts-High Option Plan and Tufts-Low Option Plan. Most retirees on Medicare are in the Tufts Medicare Complement Plan.

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For life insurance, the only option is a flat \$5,000 benefit which does not reduce at retirement. As required by Massachusetts law, retirees receive 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.

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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 as of June 30, 2006. 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 informs us of distribution of this report to parties other than those referenced above.

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REQUIRED DISCLOSURES

Required Information as of June 30, 2006

As displayed on Exhibit 1, the following presents a summary of the results of our analysis.

GASB-45 Required Disclosures (\$ millions)			
	Discount Rate		
	<u>Undiscounted</u>	<u>2.0%</u>	<u>8.0%</u>
a. Expected Post Retirement Benefit Obligation	\$1,614.61	\$952.14	\$325.42
b. Actuarial Accrued Liability	\$822.14	\$560.86	\$248.44
c. Plan Assets	\$0.00	\$0.00	\$0.00
d. Unfunded Actuarial Accrued Liability (b)-(c)	\$822.14	\$560.86	\$248.44
e. Service Cost (Normal Cost)	\$68.65	\$36.09	\$8.49
f. Amortization of Unfunded Accrued Liability	\$14.52	\$12.73	\$11.78
g. Annual Required Contribution (ARC) (e)+(f)	\$83.17	\$48.82	\$20.27
h. Unrecognized Net Transition Obligation	\$807.62	\$548.13	\$236.66
i. Expected Benefit Payments	\$13.25	\$13.25	\$13.25

The following is a description 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 City needs to be aware of this liability but does not need to disclose or recognize it on any of its financial statements.

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Actuarial Accrued Liability (AAL) - Also known as the Transition Obligation or the Accumulated Post-Retirement Benefit Obligation, the AAL is the 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 City's balance sheet if the City chooses immediate recognition. Alternatively, the City can choose to amortize the current APBO. GASB-45 permits amortization over a period of 10 to 30 years.

Unrecognized Net Transition Obligation- If the City chooses to amortize the AAL, the unrecognized net transition obligation is the remaining (unamortized) part of the AAL. During the initial year of implementation of GASB-45, the unamortized net transition obligation should be shown on the City's balance sheet, but it need not be recognized.

Amortization of AAL - the annual amortization of the AAL (transition obligation) if the City chooses amortization instead of immediate recognition. If the City chooses to amortize the AAL, the amortization cost should be booked as a current year expense. For purposes of amortizing the AAL, we used a 30 year period with annual amortization payments increasing by 5% (same as last year). Thirty years is the maximum amortization period allowed under GASB-45.

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. Our calculations assume that future normal costs will increase at the same rate as assumed future healthcare trend rates (i.e. 9.5% for next year, 9.0% for the year after and decreasing to an ultimate rate of 6.0% per year thereafter).

Interest Cost- This represents the accrual of interest on the APBO during the year. Under GASB-45, the interest cost is not explicitly calculated. Instead, it is implicitly reflected by using an interest amortization factor--20.54 for 8.0% interest and 47.12 for 2.0% interest. We note that using an interest discount rate of 8.0% would be appropriate if the plan is funded while using an interest discount rate of 2.0% would be appropriate if the plan is not funded.

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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, the ARC is equal to the sum of the Normal Cost (Service Cost) and Amortization of Actuarial Accrued Liability. GASB-45 recommends, but does not require, that the ARC actually be contributed (funded) each year.

We note that the number of contractholders has decreased during the past year from 4,902 to 4,797, the premiums for the Medicare Complement Plan have remained unchanged, and the premiums for all other plans have decreased instead of increasing at the anticipated rate of 9.5%. Also, expected benefit payments increased by approximately 4.3% from last year's calculated expected benefits. This is less than the anticipated rate of increase of 9.5%. For these three reasons the ARC has not increased as much from last year as would have been expected.

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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 as of June 30, 2006, future normal costs increasing at 5.0% per year and future amortization payments increasing at the assumed future healthcare trend rates.

Schedule of Employer Contributions (\$millions)			
2.0% Discount Rate			
Fiscal Year Ending	Normal Cost	Amortization Payment	Total City ARC
2007	\$36.09	\$12.73	\$48.82
2008	\$37.89	\$13.94	\$51.83
2009	\$39.79	\$15.19	\$54.98
2010	\$41.78	\$16.49	\$58.26
2011	\$43.87	\$17.80	\$61.67
2012	\$46.06	\$19.14	\$65.20
2013	\$48.36	\$20.48	\$68.84
2014	\$50.78	\$21.81	\$72.59
2015	\$53.32	\$23.12	\$76.44
2016	\$55.99	\$24.51	\$80.49
2017	\$58.79	\$25.98	\$84.76
2018	\$61.73	\$27.54	\$89.26
2019	\$64.81	\$29.19	\$94.00
2020	\$68.05	\$30.94	\$98.99
2021	\$71.46	\$32.79	\$104.25
2022	\$75.03	\$34.76	\$109.79
2023	\$78.78	\$36.85	\$115.63
2024	\$82.72	\$39.06	\$121.78
2025	\$86.85	\$41.40	\$128.26
2026	\$91.20	\$43.89	\$135.08
2027	\$95.76	\$46.52	\$142.28
2028	\$100.55	\$49.31	\$149.86
2029	\$105.57	\$52.27	\$157.84
2030	\$110.85	\$55.41	\$166.26
2031	\$116.39	\$58.73	\$175.12
2032	\$122.21	\$62.25	\$184.47
2033	\$128.32	\$65.99	\$194.31
2034	\$134.74	\$69.95	\$204.69
2035	\$141.48	\$74.15	\$215.62
2036	\$148.55	\$78.59	\$227.15
2037	\$155.98	\$83.31	\$239.29

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Schedule of Employer Contributions (\$millions) 8.0% Discount Rate			
Fiscal Year Ending	Normal Cost	Amortization Payment	Total City ARC
2007	\$8.49	\$11.78	\$20.27
2008	\$8.91	\$12.90	\$21.81
2009	\$9.36	\$14.06	\$23.42
2010	\$9.83	\$15.26	\$25.08
2011	\$10.32	\$16.48	\$26.80
2012	\$10.84	\$17.71	\$28.55
2013	\$11.38	\$18.95	\$30.33
2014	\$11.95	\$20.18	\$32.13
2015	\$12.54	\$21.39	\$33.94
2016	\$13.17	\$22.68	\$35.85
2017	\$13.83	\$24.04	\$37.87
2018	\$14.52	\$25.48	\$40.00
2019	\$15.25	\$27.01	\$42.26
2020	\$16.01	\$28.63	\$44.64
2021	\$16.81	\$30.35	\$47.16
2022	\$17.65	\$32.17	\$49.82
2023	\$18.53	\$34.10	\$52.63
2024	\$19.46	\$36.14	\$55.60
2025	\$20.43	\$38.31	\$58.75
2026	\$21.45	\$40.61	\$62.07
2027	\$22.53	\$43.05	\$65.57
2028	\$23.65	\$45.63	\$69.28
2029	\$24.84	\$48.37	\$73.20
2030	\$26.08	\$51.27	\$77.35
2031	\$27.38	\$54.35	\$81.73
2032	\$28.75	\$57.61	\$86.36
2033	\$30.19	\$61.07	\$91.25
2034	\$31.70	\$64.73	\$96.43
2035	\$33.28	\$68.61	\$101.89
2036	\$34.95	\$72.73	\$107.68
2037	\$36.69	\$77.09	\$113.79

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ANALYSIS

Assumptions (unchanged from last year)

1. **Interest discount rate**-2.0% per year, net of expenses, for an unfunded plan. 8.0% 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 assets expected to be available to pay the benefits when due. At the request of the City, we have also included a calculation using a 0.0% interest rate (undiscounted).
2. **Trend**-Trend is used to project the assumed annual increases in medical costs for future years. We used a trend rate of 9.5% for the current year followed by 9%, 8.5%, 8.0%, 7.5%, 7.0%, 6.5% for the next six years and an ultimate trend rate after 7 years of 6.0% per annum.
3. **Amortization Period**-Thirty years. This 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 used a 5% growth rate.
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.

<u>Years of Service</u>	<u>General Employees</u>	<u>Uniformed Employees</u>
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%
10	5.4%	0.0%
15	3.3%	0.0%
20	2.0%	0.0%
25	1.0%	0.0%
30+	0.0%	0.0%

7. **Mortality**-Mortality assumptions are used to project the expected number of employees who will be receiving future benefits. For deaths after retirement we used mortality rates based on the RP-2000 Healthy Annuitant Table set forward two years for disability retirement. For deaths before retirement we used representative mortality rates ranging from 0.04% at age 25 to 0.95% at age 65 for all male employees and 0.02% at age 25 to 0.73% at age 65 for all female employees.

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8. **Disability**-Disability assumptions are used to project the number of people who will retire early due to disability. Representative disability rates range from 0.02% at age 25 to 0.30% at age 62 for general employees and 0.20% at age 25 to 0.75% at age 62) for uniformed employees.
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 values of assumed annual rates of retirement are as follows. These values are consistent with the requirements for retirement stated above.

<u>Age</u>	<u>General Employees</u>		<u>Uniformed Employees</u>
	<u>Male</u>	<u>Female</u>	
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%
62	30.0%	15.0%	25.0%
65	40.0%	15.0%	100.0%
69	30.0%	20.0%	n/a
70	100.0%	100.0%	n/a

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	97%
Life Insurance	42%

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.

Methodology

The following is a summary of the methodology 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

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recent 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 active, pre-Medicare retirees and Medicare retirees. Separate calculations were required for general and uniformed employees.

3. Calculate the AAL from the EPBO and the active employee age and service information from the census.

4. Calculate the Normal Cost, Amortization of AAL, ARC (Annual Required Contribution) and Unrecognized Net Transition Obligation.

CITY OF NEWTON
GASB 45 DETERMINATION

REQUIRED DISCLOSURES-SUMMARY (\$ millions)
 Undiscounted

	2006		
	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Number of Members Generating a Liability (Medical)	2,421	2,376	4,797
B. Total Expected Post Retirement Benefit Obligation	\$1,167.03	\$447.58	\$1,614.61
C. Accumulated Post Retirement Benefit Obligation	\$374.56	\$447.58	\$822.14
D. Service Cost (Normal Cost)	\$68.65	\$0.00	\$68.65
E. Amortization of Transition Obligation	\$7.79	\$6.73	\$14.52
F. Annual Required Contribution	\$76.44	\$6.73	\$83.17
G. Unrecognized Net Transition Obligation	\$366.77	\$440.85	\$807.62

A-G. From Exhibit 2.

CITY OF NEWTON
GASB 45 DETERMINATION

REQUIRED DISCLOSURES-SUMMARY (\$ millions)
 2.0% interest

	2006		<u>Total</u> (3)
	<u>Active</u> (1)	<u>Retired</u> (2)	
A. Number of Members Generating a Liability (Medical)	2,421	2,376	4,797
B. Total Expected Post Retirement Benefit Obligation	\$614.72	\$337.42	\$952.14
C. Accumulated Post Retirement Benefit Obligation	\$223.44	\$337.42	\$560.86
D. Service Cost (Normal Cost)	\$36.09	\$0.00	\$36.09
E. Amortization of Transition Obligation	\$5.57	\$7.16	\$12.73
F. Annual Required Contribution	\$41.66	\$7.16	\$48.82
G. Unrecognized Net Transition Obligation	\$217.87	\$330.26	\$548.13

A-G. From Exhibit 2.

CITY OF NEWTON
GASB 45 DETERMINATION

REQUIRED DISCLOSURES-SUMMARY

(\$ millions)

8% Interest

	Active (1)	<u>2006</u> Retired (2)	Total (3)
A. Number of Members Generating a Liability (Medical)	2,421	2,376	4,797
B. Total Expected Post Retirement Benefit Obligation	\$145.43	\$179.99	\$325.42
C. Accumulated Post Retirement Benefit Obligation	\$68.45	\$179.99	\$248.44
D. Service Cost (Normal Cost)	\$8.49	\$0.00	\$8.49
E. Amortization of Transition Obligation	\$3.02	\$8.76	\$11.78
F. Annual Required Contribution	\$11.51	\$8.76	\$20.27
G. Unrecognized Net Transition Obligation	\$65.43	\$171.23	\$236.66

A-G. From Exhibit 2.

**CITY OF NEWTON
GASB 45 DETERMINATION**

Exhibit 2.1

REQUIRED DISCLOSURES-DETAIL (\$ millions)
Undiscounted

	Active Employees			Retirees			Total
	General (1)	Uniformed (2)	Total (3)=(1)+(2)	Pre- Medicare (4)	Retirees >65 Not on MC (5)	Medicare (6)	Total (7)=(3)+(4)+(5)+(6)
A. Number of Members Generating a Liability (Medical)	2,123	298	2,421	470	180	1,726	4,797
B. Expected Post Retirement Benefit Obligation							
Medical	\$776.81	\$389.08	\$1,165.89	\$225.85	\$60.54	\$158.36	\$1,610.64
Life	\$1.14	Incl in Gen	\$1.14	\$2.83	Incl in PMR	Incl in PMR	\$3.97
Total	\$777.95	\$389.08	\$1,167.03	\$228.68	\$60.54	\$158.36	\$1,614.61
C. Accumulated Post Retirement Benefit Obligation	\$256.93	\$117.63	\$374.56	\$228.68	\$60.54	\$158.36	\$822.14
D. Service Cost (Normal Cost)	\$43.71	\$24.94	\$68.65	\$0.00	\$0.00	\$0.00	\$68.65
E. Amortization Factor	66.44	66.44	66.44	66.44	66.44	66.44	66.44
F. Amortization of transition obligation	\$3.87	\$3.92	\$7.79	\$3.44	\$0.91	\$2.38	\$14.52
G. Annual Required Contribution	\$47.58	\$28.86	\$76.44	\$3.44	\$0.91	\$2.38	\$83.17
H. Unrecognized Net Transition Obligation	\$253.06	\$113.71	\$366.77	\$225.24	\$59.63	\$155.98	\$807.62

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- A. Exhibit 12
 - B. Exhibits 4 and 5
 - C. For retired lives APBO = EPBO. For active lives APBO = EPBO x C from Exhibit 3
 - D. For retired lives Service Cost = 0. For active lives Service Cost = EPBO/D from Exhibit 3
 - E. Amortization factor = present value at 0% interest of a 30-year annuity due increasing at 5% per year
 - F. C/E
 - G. D + F
 - H. C - F

**CITY OF NEWTON
GASB 45 DETERMINATION**

Exhibit 2.2

REQUIRED DISCLOSURES-DETAIL (\$ millions)
2.0% interest

	Active Employees			Retirees			Total
	<u>General</u>	<u>Uniformed</u>	<u>Total</u>	<u>Pre-Medicare</u>	<u>Retirees >65 Not on MC</u>	<u>Medicare</u>	<u>Total</u>
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)	(7)=(3)+(4)+(5)+(6)
A. Number of Members Generating a Liability (Medical)	2,123	298	2,421	470	180	1,726	4,797
B. Expected Post Retirement Benefit Obligation							
Medical	\$417.94	\$195.93	\$613.87	\$160.44	\$47.14	\$127.24	\$948.69
Life	\$0.85	Incl in Gen	\$0.85	\$2.60	Incl in PMR	Incl in PMR	\$3.46
Total	\$418.79	\$195.93	\$614.72	\$163.04	\$47.14	\$127.24	\$952.14
C. Accumulated Post Retirement Benefit Obligation	\$154.74	\$68.70	\$223.44	\$163.04	\$47.14	\$127.24	\$560.86
D. Service Cost (Normal Cost)	\$23.53	\$12.56	\$36.09	\$0.00	\$0.00	\$0.00	\$36.09
E. Amortization Factor	47.12	47.12	47.12	47.12	47.12	47.12	47.12
F. Amortization of transition obligation	\$3.28	\$2.29	\$5.57	\$3.46	\$1.00	\$2.70	\$12.73
G. Annual Required Contribution	\$26.81	\$14.85	\$41.66	\$3.46	\$1.00	\$2.70	\$48.82
H. Unrecognized Net Transition Obligation	\$151.46	\$66.41	\$217.87	\$159.58	\$46.14	\$124.54	\$548.13

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- A. Exhibit 12
 - B. Exhibits 4 and 5
 - C. For retired lives APBO = EPBO. For active lives APBO = EPBO x C from Exhibit 3
 - D. For retired lives Service Cost = 0. For active lives Service Cost = EPBO/D from Exhibit 3
 - E. Amortization factor = present value at 8% interest of a 30-year annuity due increasing at 5% per year
 - F. C/E
 - G. D + F
 - H. C - F

**CITY OF NEWTON
GASB 45 DETERMINATION**

Exhibit 2.3

REQUIRED DISCLOSURES-DETAIL

(\$ millions)

8% Interest

	<u>Active Employees</u>			<u>Retirees</u>			Total (7)=(3)+(4)+(5)
	General (1)	Uniformed (2)	Total (3)=(1)+(2)	<u>Pre- Medicare</u> (4)	<u>Retirees >65 Not on MC</u> (5)	Medicare (6)	
A. Number of Members Generating a Liability (Medical)	2,123	298	2,421	470	180	1,726	4,797
B. Expected Post Retirement Benefit Obligation							
Medical	\$104.86	\$40.43	\$145.29	\$76.24	\$26.10	\$75.85	\$323.48
Life	\$0.14	Incl in Gen	\$0.14	\$1.80	Incl in PMR	Incl in PMR	\$1.94
Total	\$105.00	\$40.43	\$145.43	\$78.04	\$26.10	\$75.85	\$325.42
C. Accumulated Post Retirement Benefit Obligation	\$48.02	\$20.43	\$68.45	\$78.04	\$26.10	\$75.85	\$248.44
D. Service Cost (Normal Cost)	\$5.90	\$2.59	\$8.49	\$0.00	\$0.00	\$0.00	\$8.49
E. Amortization Factor	\$20.54	\$20.54	\$20.54	\$20.54	\$20.54	\$20.54	\$20.54
F. Amortization of transition obligation	\$2.34	\$0.68	\$3.02	\$3.80	\$1.27	\$3.69	\$11.78
G. Annual Required Contribution	\$8.24	\$3.27	\$11.51	\$3.80	\$1.27	\$3.69	\$20.27
H. Unrecognized Net Transition Obligation	\$45.68	\$19.75	\$65.43	\$74.24	\$24.83	\$72.16	\$236.66

A. Exhibit 12

B. Exhibits 4 and 5

C. For retired lives APBO = EPBO. For active lives APBO = EPBO x C from Exhibit 3

D. For retired lives Service Cost = 0. For active lives Service Cost = EPBO/D from Exhibit 3

E. Amortization factor = present value at 8% interest of a 30-year annuity due increasing at 5% per year

F. C/E

G. D + F

H. C - F

CITY OF NEWTON
GASB 45 DETERMINATION

ACTIVE EMPLOYEE ACCRUED BENEFITS
 Undiscounted

	Active Employees	
	<u>General</u> (1)	<u>Uniformed Employees</u> (2)
A. Projected Service at Retirement = Attribution Period	30	30
B. Weighted Average Service to Date	9.9	9.1
C. Weighted Average Percent of Retirement Benefits Accrued to Date	33.0%	30.2%
D. Average Remaining Working Lifetime	17.8	15.6

-
- A. Based on the provisions of the retirement plan.
 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
 2.0% interest

	Active Employees	
	<u>General</u>	<u>Uniformed</u>
	(1)	Employees (2)
A. Projected Service at Retirement = Attribution Period	30	30
B. Weighted Average Service to Date	11.1	10.5
C. Weighted Average Percent of Retirement Benefits Accrued to Date	36.9%	35.1%
D. Average Remaining Working Lifetime	17.8	15.6

-
- A. Based on the provisions of the retirement plan.
 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
 8% Interest

	Active Employees	
	<u>General</u> (1)	<u>Uniformed Employees</u> (2)
A. Projected Service at Retirement = Attribution Period	30	30
B. Weighted Average Service to Date	13.7	15.2
C. Weighted Average Percent of Retirement Benefits Accrued to Date	45.7%	50.5%
D. Average Remaining Working Lifetime	17.8	15.6

-
- A. Based on the provisions of the retirement plan.
 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
 Undiscounted

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)=(1) +(2)
A. Number of Contracts	958	1,132	2,090
B. Annual Subsidy per Contract	n/a	\$56.76	
C. Present Value of Future Subsidies (\$millions)	\$2.68	\$2.83	\$5.51
D. Percent Electing Life Insurance at Retirement	42%	100%	
E. Expenses	0%	0%	0%
F. Expected Post-Retirement Benefit Obligation	\$1.14	\$2.83	\$3.97
G. EPBO Per Contract	\$1,187.52	\$2,499.89	\$1,898.34

-
- A Exhibit 12
 B Exhibit 6
 C Calculated from B and the age and sex of each contractholder.
 D Exhibit 12
 E From City of Newton
 F $C \times D \times (1 + E)$
 G F/A

CITY OF NEWTON
GASB 45 DETERMINATION

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - LIFE INSURANCE
 2.0% interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)=(1) +(2)
A. Number of Contracts	958	1,132	2,090
B. Annual Subsidy per Contract	n/a	\$81.60	
C. Present Value of Future Subsidies (\$millions)	\$2.01	\$2.60	\$4.62
D. Percent Electing Life Insurance at Retirement	42%	100%	
E. Expenses	0%	0%	0%
F. Expected Post-Retirement Benefit Obligation	\$0.85	\$2.60	\$3.46
G. EPBO Per Contract	\$890.43	\$2,300.33	\$1,654.07

-
- A Exhibit 12
 B Exhibit 6
 C Calculated from B and the age and sex of each contractholder.
 D Exhibit 12
 E From City of Newton
 F $C \times D \times (1 + E)$
 G F/A

CITY OF NEWTON
GASB 45 DETERMINATION

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - LIFE INSURANCE
 8% Interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)=(1) +(2)
A. Number of Contracts	958	1,132	2,090
B. Annual Subsidy per Contract	n/a	\$173.04	
C. Present Value of Future Subsidies (\$millions)	\$0.34	\$1.80	\$2.14
D. Percent Electing Life Insurance at Retirement	42%	100%	
E. Expenses	0%	0%	0%
F. Expected Post-Retirement Benefit Obligation	\$0.14	\$1.80	\$1.94
G. EPBO Per Contract	\$150.42	\$1,587.81	\$928.95

-
- A Exhibit 12
 B Exhibit 6
 C Calculated from B and the age and sex of each contractholder.
 D Exhibit 12
 E From City of Newton
 F $C \times D \times (1 + E)$
 G F/A

CITY OF NEWTON
GASB 45 DETERMINATION

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - MEDICAL
 Undiscounted

	Active Employees		Retirees			Total (6)
	(1)	(2)	(3)	(4)	(5)	
	<u>General</u>	<u>Uniformed</u>	<u>Pre-Medicare</u>	<u>Retirees >65 Not on MC</u>	<u>Medicare</u>	
A. Number of Contracts	2,123	298	470	180	1,726	4,797
B. Annual Subsidy per Contract	n/a	n/a	\$14,706.99	\$12,193.73	\$4,355.38	
C. PV of Future Subsidies (\$millions) for all employees	\$801.84	\$401.62	\$225.85	\$60.54	\$158.36	\$1,648.20
D. Percent Electing Medical at Retirement	97%	97%	100%	100%	100%	
E. Expenses	0%	0%	0%	0%	0%	0%
F. Expected Post-Retirement Benefit Obligation (\$millions)	\$776.81	\$389.08	\$225.85	\$60.54	\$158.36	\$1,610.64
G. Expected Post-Retirement Benefit Obligation per Contract	\$365,902	\$1,305,638	\$480,532	\$336,333	\$91,750	\$335,760

-
- A. Exhibit 12.
 B. Exhibit 7
 C. Calculated from B and the age and sex of each contractholder.
 D. Exhibit 12
 E. Provided by the City of Newton
 F. $C \times D \times (1 + E)$
 G. F/A

CITY OF NEWTON
GASB 45 DETERMINATION

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - MEDICAL
 2.0% interest

	Active Employees		Retirees			Total (6)
	(1)	(2)	(3)	(4)	(5)	
	<u>General</u>	<u>Uniformed</u>	<u>Pre-Medicare</u>	<u>Retirees >65 Not on MC</u>	<u>Medicare</u>	
A. Number of Contracts	2,123	298	470	180	1,726	4,797
B. Annual Subsidy per Contract	n/a	n/a	\$14,706.99	\$12,193.73	\$4,355.38	
C. PV of Future Subsidies (\$millions) for all employees	\$431.40	\$202.24	\$160.44	\$47.14	\$127.24	\$968.46
D. Percent Electing Medical at Retirement	97%	97%	100%	100%	100%	
E. Expenses	0%	0%	0%	0%	0%	0%
F. Expected Post-Retirement Benefit Obligation (\$millions)	\$417.94	\$195.93	\$160.44	\$47.14	\$127.24	\$948.69
G. Expected Post-Retirement Benefit Obligation per Contract	\$196,863	\$657,483	\$341,362	\$261,889	\$73,720	\$197,767

-
- A. Exhibit 12.
 B. Exhibit 7
 C. Calculated from B and the age and sex of each contractholder.
 D. Exhibit 12
 E. Provided by the City of Newton
 F. $C \times D \times (1 + E)$
 G. F/A

CITY OF NEWTON
GASB 45 DETERMINATION

EXPECTED POST-RETIREMENT BENEFIT OBLIGATION - MEDICAL
 8% Interest

	Active Employees		Retirees			Total (6)
	(1)	(2)	(3)	(4)	(5)	
	<u>General</u>	<u>Uniformed</u>	<u>Pre Medicare</u>	<u>Retirees >65 Not on MC</u>	<u>Medicare</u>	
A. Number of Contracts	2,123	298	470	180	1,726	4,797
B. Annual Subsidy per Contract	n/a	n/a	\$14,706.99	\$12,193.73	\$4,355.38	
C. PV of Future Subsidies (\$millions) for Everyone	\$108.24	\$41.74	\$76.24	\$26.10	\$75.85	\$328.17
D. % of Group Who Will Elect the Medical at Retirement	97%	97%	100%	100%	100%	
E. Expenses	0%	0%	0%	0%	0%	0%
F. Expected Post-Retirement Benefit Obligation (\$millions)	\$104.86	\$40.43	\$76.24	\$26.10	\$75.85	\$323.48
G. Expected Post-Retirement Benefit Obligation per Contract	\$49,392	\$135,671	\$162,213	\$145,000	\$43,946	\$67,434

-
- A. Exhibit 12.
 B. Exhibit 7
 C. Calculated from B and the age and sex of each contractholder.
 D. Exhibit 12
 E. Provided by the City of Newton
 F. $C \times D \times (1 + E)$
 G. F/A

CITY OF NEWTON
GASB 45 DETERMINATION

CURRENT ANNUAL SUBSIDY - LIFE INSURANCE
 Undiscounted

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Number of Participants	958	1,132	2,090
B. Current Average Age of Group	46	73	61
C. Net Single Premium per \$1,000 of Life Insurance	n/a	\$1,000	\$1,000
D. Retiree Cost as a % of Total Cost			100%
E. Blended Annual Premium per Contract			\$113.52
F. Total Annual Cost per Contract			\$113.52
G. Annual Member Contributions per Contract			\$56.76
H. Current Annual Life Insurance Subsidy per Contract			\$56.76

-
- A. Exhibit 12
 B. Exhibit 12. Average age for total is the weighted average of the actives and retirees.
 C. Based on assumed mortality and interest rate.
 D. C(3)/C(2)
 E. Exhibit 8
 F. E/D
 G. Exhibit 8
 H. F - G

CITY OF NEWTON
GASB 45 DETERMINATION

CURRENT ANNUAL SUBSIDY - LIFE INSURANCE

2.0% interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Number of Participants	958	1,132	2,090
B. Current Average Age of Group	46	73	61
C. Net Single Premium per \$1,000 of Life Insurance	n/a	\$780.09	\$640.05
D. Retiree Cost as a % of Total Cost			82%
E. Blended Annual Premium per Contract			\$113.52
F. Total Annual Cost per Contract			\$138.36
G. Annual Member Contributions per Contract			\$56.76
H. Current Annual Life Insurance Subsidy per Contract			\$81.60

A. Exhibit 12

B. Exhibit 12. Average age for total is the weighted average of the actives and retirees.

C. Based on assumed mortality and interest rate.

D. C(3)/C(2)

E. Exhibit 8

F. E/D

G. Exhibit 8

H. F - G

CITY OF NEWTON
GASB 45 DETERMINATION

CURRENT ANNUAL SUBSIDY - LIFE INSURANCE

8% Interest

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Number of Participants	958	1,132	2,090
B. Current Average Age of Group	46	73	61
C. Net Single Premium per \$1,000 of Life Insurance	n/a	\$422	\$208
D. Retiree Cost as a % of Total Cost			49%
E. Blended Annual Premium per Contract			\$113.52
F. Total Annual Cost per Contract			\$229.80
G. Annual Member Contributions per Contract			\$56.76
H. Current Annual Life Insurance Subsidy per Contract			\$173.04

A. Exhibit 12

B. Exhibit 12. Average age for total is the weighted average of the actives and retirees.

C. Based on assumed mortality and interest rate.

D. C(3)/C(2)

E. Exhibit 8

F. E/D

G. Exhibit 8

H. F - G

GASB 45 DETERMINATION

CURRENT ANNUAL SUBSIDY - MEDICAL

	<u>Actives</u> (1)	<u>Pre-Med. Retirees</u> (2)	<u>Med. Retirees</u> (3)	<u>Retirees >65 Not on MC</u> (4)
A. Blended Annual Premium per Contract	\$11,221	\$11,221	\$5,444	\$11,221
B. Actual Annual Cost per Contract	n/a	\$16,951	\$5,444	\$14,438
C. Annual Member Contributions per Contract	n/a	\$2,244	\$1,089	\$2,244
D. Current Annual Medical Subsidy per Contract	n/a	\$14,707	\$4,355	\$12,194

A. Exhibit 8

B. 151.07% of A for pre-M/C retirees, 100.0% of A for M/C retirees and 128.7% of A for retirees >65 not on M/C.
These %s are based on age-sex factors applied to the actual demographics of each group.

C. Exhibit 8

D. B - C

CITY OF NEWTON
GASB 45 DETERMINATION

MEMBER CONTRIBUTIONS

	<u>Medical</u> (1)	<u>Life Insurance</u> (2)
<u>Actives and Retirees Not on Medicare</u>		
Blended Monthly Premium per Contract	\$935.06	\$9.46
Blended Annual Premium per Contract	\$11,221	\$114
Percent Paid By Members	20.0%	50.0%
Current Annual Amount Members Pay	\$2,244.13	\$56.76
<u>Medicare Retirees</u>		
Blended Monthly Premium per Contract	\$365.19	\$9.46
Medicare Part B Monthly Premium	\$88.50	n/a
Total Blended Monthly Premium per Contract	\$453.69	\$9.46
Blended Annual Premium	\$5,444.23	\$113.52
% Contractholders Pay	20.0%	50.0%
Current Annual Amount Members Pay	\$1,088.85	\$56.76

Medical monthly costs calculated from census and premium rates. Life monthly cost from Exhibit 9.
 % members pay from Exhibit 10

**CITY OF NEWTON
GASB 45 DETERMINATION**

Exhibit 9

LIFE INSURANCE IN FORCE

	<u>Active</u> (1)	<u>Retired</u> (2)	<u>Total</u> (3)
A. Number of Insureds	958	1,132	2,090
B. Average Benefit per Insured	\$5,000	\$5,000	\$5,000
C. Current Amount of Insurance in Force (\$000)	\$4,790	\$5,660	\$10,450
D. Average Monthly Premium per \$1,000	\$1.89	\$1.89	\$1.89
E. Average Monthly Premium per Insured	\$9.46	\$9.46	\$9.46
F. Average Annual Premium per Insured	\$113.52	\$113.52	\$113.52

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

**CITY OF NEWTON
GASB 45 DETERMINATION**

FUNDING INFORMATION

<u>Actives</u>		
Medical		All plans designed for actives are self-insured. Employees pay 20% of blended cost of actives and retirees not eligible for Medicare. Premium rate schedule depends on plan elected. Pooling protection (\$250,000 pooling point) is included in the specified premium rates.
Drugs		Included with Medical
Life Insurance		Fully insured - current insurer is Kanawha Insurance Company. Members pay 50% of blended cost of actives and retirees. Current monthly premium rate is \$9.46 per month for \$5,000 of coverage.
<u>Retirees Under 65</u>		
Medical		Same as for Actives
Drugs		Same as for Actives
Life Insurance		Same as for Actives
<u>Retirees Over 65</u>		
Medical		Plans designed for these participants are fully insured.
Drugs		Same as for Actives
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 High Option or Tufts Low Option Rates depend on choice of coverage
Drugs		Included if Medical Elected (Drug Copays per Medical Plan Elected Apply)
Life Insurance		All life insurance benefits are a flat \$5,000 with no reduction at retirement.
<u>Retirees Under 65</u>		
Medical		Same Choices as for Actives
Drugs		Same Choices as for Actives
Life Insurance		Flat \$5,000
<u>Retirees Over 65</u>		
Medical		180 hired before 1986 are not eligible for Medicare. They are in the plans for Actives. The rest are eligible for Medicare. Most of those elected the Medicare Complement Plan.
Drugs		Same Choices as for Actives Plan Not Eliminated When Medicare Part D Took Effect
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	2,123	298	78	2,499
Average Age	44	41		
Average Service Years	11	14		
<u>Retirees Under 65 - Medical</u>				
Number of Contracts				470
Average Age				60
<u>Retirees Over 65 - Medical</u>				
On Medicare				1,726
Not on Medicare				180
<u>Actives - Life Insurance</u>				
Number of Contracts	958	Included in	2,686	3,644
Average Age	46	General		46
<u>Retirees - Life Insurance</u>				
Number of Contracts	1,132	Included in	1,537	2,669
Average Age	73	General		73
Percent of Actives Electing Medical	96.9%	96.9%		96.9%
Percent of Retirees Electing Life Insurance	42.4%	42.4%		42.4%

Data provided by the City of Newton

Percent of Actives Electing Medical = $100\% - (3)/(4)$ under Actives - Medical

Percentage of Retirees Electing Life Insurance = $(1)/(4)$ under Retirees - Life Insurance