

**CITY OF NEWTON
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report

January 1, 2006

TABLE OF CONTENTS

	<u>Page</u>
REPORT SUMMARY	
Highlights	1
Introduction	2
Actuarial Experience	3
ACTUARIAL COSTS AND LIABILITIES	
Normal Costs	4
Present Value of Actuarial Accrued Liabilities	5
Present Value of Future Benefits	6
FUNDED STATUS AND APPROPRIATIONS	
Market Value of Plan Assets	7
Actuarial Value of Assets	8
Unfunded Actuarial Accrued Liabilities	9
Appropriations	10
Appropriation Forecast	11
GAS No. 25 and GAS No. 27	13
PERAC Annual Statement	14
EXHIBITS	
1 Age/Service Distribution with Salary	16
2 Retiree Distribution	17
3 Disabled Retiree Distribution	18
4 Distribution Forecast	19
5 Summary of Plan Provisions	20
6 Actuarial Methods and Assumptions	27
7 Glossary of Terms	31
CERTIFICATION	33
BREAKOUTS	34

Report Summary:**Highlights****January 1, 2005****January 1, 2006**Contributions

Funding Schedule FY 2007	\$10,668,000	\$10,668,000
Funding Schedule FY 2008	11,161,000	11,747,762

Funded Ratios

GAS No. 25	67.6%	66.2%
------------	-------	-------

Participants

Actives	1,759	1,666
Retirees and Beneficiaries	1,134	1,163
Vested	0	0
Inactives	523	561
Disabled	<u>148</u>	<u>154</u>
Total	3,564	3,544

Payroll

Payroll of Active Members	\$69,701,972	\$71,278,135
Average Payroll	39,626	42,784

Normal Cost

Employer	2,277,537	2,532,368
Employee	5,503,604	5,661,058
Administrative Expenses	<u>0</u>	<u>0</u>
Total	7,781,141	8,193,426

Actuarial Accrued Liabilities

Actives	161,860,643	164,017,037
Retirees, Beneficiaries, Disabilities and Inactives	<u>196,249,990</u>	<u>218,715,240</u>
Total	361,080,336	382,732,277

Actuarial Value of Assets

<u>244,265,934</u>	<u>253,420,995</u>
--------------------	--------------------

Unfunded Actuarial Accrued Liabilities

\$116,814,402	\$129,311,282
---------------	---------------

Introduction

This report presents the City of Newton actuarial valuation findings as of January 1, 2006, under the Commonwealth of Massachusetts Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2006.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of Newton Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2006.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the year, the total unfunded actuarial accrued liability increased by 10.7% to \$129,311,282, 9.4% more than expected. The loss is the result of net unfavorable actuarial experience during the preceding year. Gains and losses from all sources are shown in the following table.

	<u>(Gain) / Loss</u>
Assets	\$2,213,035
Salary Loss	2,104,663
Retiree Mortality Loss	5,591,940
Active Decrements (Termination, Disability)	562,301
Active Decrements (Retirement, Death)	(565,546)
Inactive Status changes	563,919
New Entrants	432,088
Other	<u>74,743</u>
Total (Gain) / Loss	\$10,977,143

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
Superannuation	\$5,512,654	\$5,810,056
Termination	963,806	1,073,429
Death	434,735	371,899
Disability	869,946	938,042
Administrative Expenses	<u>0</u>	<u>0</u>
Total Normal Cost	7,781,141	8,193,426
% of Pay	11.2%	11.5%
Employee Contributions	5,503,604	5,661,058
% of Pay	7.9%	7.9%
Employer Normal Cost	\$2,277,537	\$2,532,368
% of Pay	3.3%	3.6%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits earned by the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
Actives		
Superannuations	\$153,485,707	\$155,144,137
Termination	(2,276,583)	(2,429,541)
Death	4,013,198	3,954,343
Disability	6,638,321	7,348,098
Retirees and Inactives		
Retirees and Beneficiaries	158,798,751	174,506,529
Vested	0	0
Terminated (Refund)	2,969,703	2,709,741
Disabled	<u>37,451,239</u>	<u>41,498,970</u>
Total	\$361,080,336	\$382,732,277

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
Actives		
Superannuation	\$201,681,655	\$206,525,289
Termination	6,739,658	6,779,446
Death	7,213,884	7,147,569
Disability	15,010,046	16,743,377
Retirees and Inactives		
Retirees and Beneficiaries	158,798,751	174,506,529
Vested	0	0
Terminated (Refund)	2,969,703	2,709,741
Disabled	<u>37,451,239</u>	<u>41,498,970</u>
Total	\$429,864,936	\$455,910,921

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
Cash equivalents	\$2,421,150	\$17,845,069
Short term investments	1,818	545
Fixed income securities	69,494,246	56,376,557
Equities	127,011,977	125,451,602
International	25,770,102	29,170,303
Real Estate	14,116,873	16,494,220
Venture Capital	0	0
Other	0	0
Accounts receivable	781,743	938,281
Accounts payable	(138,191)	(353,412)
Accrued income	<u>0</u>	<u>0</u>
Total Market Value	\$239,459,719	\$245,923,166
Total Actuarial Value	\$244,265,934	\$253,420,995

Actuarial Value of Assets

For actuarial purposes, the assets are valued using a method which reflects the market value of assets though gradual recognition of any unrealized appreciation or depreciation in assets beyond the 8% return. The following table shows the development of valuation assets:

(1) Assets for valuation purposes, January 1, 2005	\$244,265,934
(2) Cash flow during year without regard to investment income and expenses	
(a) Benefit payouts and refunds	(\$24,965,836)
(b) City contributions	\$10,292,844
(c) Member contributions	\$6,201,408
(d) Net transfers and reimbursements	<u>\$887,991</u>
(e) Net cash flow	(\$7,583,593)
(3) Expected investment income and expenses	\$19,237,931
(4) Preliminary Asset Value (1 + 2 + 3)	\$255,920,272
(5) Market value, January 1, 2006	\$245,923,166
(6) Preliminary asset value	<u>\$255,920,272</u>
(7) Unrecognized appreciation (5 - 6)	(\$9,997,105)
(8) Adjustment (7 x 25%)	(\$2,499,276)
(9) Adjusted asset value (4 + 8)	\$253,420,995
(10) Assets for valuation purposes, January 1, 2006 (adjusted asset value limited to 120% of market value of assets)	\$253,420,995
(11) Ratio of actuarial value to market value	103.0%
(12) The investment rate of return for year ending, January 1, 2006 (based on the adjusted asset value)	6.96%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
Actuarial Accrued Liability	\$361,080,336	\$382,732,277
Actuarial Assets	<u>244,265,934</u>	<u>253,420,995</u>
Unfunded Actuarial Accrued Liability	\$116,814,402	\$129,311,282
Funded Status	67.6%	66.2%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2028
 \$ 129,311,282 over 22 years with 4.5% increasing payments
- Interest adjustment for payments deposited semiannually.

The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
Normal cost	\$2,277,537	\$2,532,368
Amortization payment of the unfunded liability	7,827,695	8,128,259
Total cost	\$10,105,232	\$10,660,627
% of Pay	14.5%	15.0%
Fiscal 2007 cost	\$10,668,000	\$10,668,000
Fiscal 2008 cost	\$11,161,000	\$11,747,762

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be spread over the fiscal year.

The employer total cost is expected to increase during the next 20 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total FY07 cost increase represents 15.0% of payroll, increasing to 15.8% for FYE 2008, decreasing to 13.2% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 1.1% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

Appropriation Forecast

Fiscal Year	Employee Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2007	\$71,278,135	\$5,661,058	\$2,682,343	\$7,985,657	\$10,668,000	15.0	66.2
2008	\$74,485,651	\$6,006,529	\$2,706,952	\$9,040,810	\$11,747,762	15.8	66.9
2009	\$77,837,505	\$6,371,628	\$2,728,344	\$9,447,646	\$12,175,990	15.6	67.5
2010	\$81,340,193	\$6,757,424	\$2,746,180	\$9,872,790	\$12,618,970	15.5	68.3
2011	\$85,000,502	\$7,165,038	\$2,760,097	\$10,317,066	\$13,077,163	15.4	69.1
2012	\$88,825,524	\$7,595,654	\$2,769,705	\$10,781,334	\$13,551,039	15.3	70.0
2013	\$92,822,673	\$8,050,516	\$2,774,588	\$11,266,494	\$14,041,082	15.1	71.0
2014	\$96,999,693	\$8,530,934	\$2,774,303	\$11,773,486	\$14,547,789	15.0	72.0
2015	\$101,364,679	\$9,038,288	\$2,768,373	\$12,303,293	\$15,071,666	14.9	73.1
2016	\$105,926,090	\$9,574,029	\$2,756,291	\$12,856,941	\$15,613,232	14.7	74.3
2017	\$110,692,764	\$10,139,683	\$2,737,516	\$13,435,503	\$16,173,019	14.6	75.6
2018	\$115,673,938	\$10,736,860	\$2,711,470	\$14,040,101	\$16,751,571	14.5	77.0
2019	\$120,879,266	\$11,367,249	\$2,677,536	\$14,671,905	\$17,349,441	14.4	78.5
2020	\$126,318,833	\$12,032,631	\$2,635,058	\$15,332,141	\$17,967,199	14.2	80.2
2021	\$132,003,180	\$12,734,878	\$2,583,334	\$16,022,087	\$18,605,421	14.1	81.9
2022	\$137,943,323	\$13,475,962	\$2,521,619	\$16,743,081	\$19,264,700	14.0	83.8
2023	\$144,150,773	\$14,257,956	\$2,449,119	\$17,496,520	\$19,945,639	13.8	85.8
2024	\$150,637,558	\$15,083,040	\$2,364,987	\$18,283,863	\$20,648,850	13.7	87.9
2025	\$157,416,248	\$15,953,509	\$2,268,325	\$19,106,637	\$21,374,962	13.6	90.1
2026	\$164,499,979	\$16,871,777	\$2,158,173	\$19,966,436	\$22,124,609	13.4	92.5
2027	\$171,902,478	\$17,840,384	\$2,033,514	\$20,864,926	\$22,898,440	13.3	94.9
2028	\$179,638,089	\$18,861,999	\$1,893,266	\$21,803,847	\$23,697,113	13.2	97.4
2029	\$187,721,803	\$19,710,789	\$1,978,463	\$0	\$1,978,463	1.1	100.0
2030	\$196,169,285	\$20,597,775	\$2,067,494	\$0	\$2,067,494	1.1	100.0
2031	\$204,996,902	\$21,524,675	\$2,160,531	\$0	\$2,160,531	1.1	100.0
2032	\$214,221,763	\$22,493,285	\$2,257,755	\$0	\$2,257,755	1.1	100.0
2033	\$223,861,742	\$23,505,483	\$2,359,354	\$0	\$2,359,354	1.1	100.0
2034	\$233,935,521	\$24,563,230	\$2,465,525	\$0	\$2,465,525	1.1	100.0
2035	\$244,462,619	\$25,668,575	\$2,576,473	\$0	\$2,576,473	1.1	100.0
2036	\$255,463,437	\$26,823,661	\$2,692,415	\$0	\$2,692,415	1.1	100.0
2037	\$266,959,292	\$28,030,726	\$2,813,573	\$0	\$2,813,573	1.1	100.0
2038	\$278,972,460	\$29,292,108	\$2,940,184	\$0	\$2,940,184	1.1	100.0

* Calendar basis

** As of beginning of Fiscal Year

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to \$0. The required disclosure information is shown in Table VIII.

Table VIII

	<u>January 1, 2005</u>	<u>January 1, 2006</u>
(1) Actuarial Accrued Liability	\$361,080,336	\$382,732,277
(2) Actuarial Value of Assets	<u>244,265,934</u>	<u>253,420,995</u>
(3) Unfunded Actuarial Accrued Liability	116,814,402	129,311,282
(4) Funded Ratio (2)/(1)	67.6%	66.2%
(5) Covered Payroll	\$69,701,972	\$71,278,135
(6) UAAL as a percentage of payroll: (3)/(5)	167.6%	181.4%
(7) Annual Required Contribution (ARC)	\$10,273,356	\$10,668,000
(8) Net Pension Obligation	\$0	\$0

**PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS**

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2006.

The normal cost for employees on that date was:	\$5,661,058	7.9% of pay
The normal cost for the employer was:	2,532,368	3.6% of pay
The actuarial liability for active members was:		\$164,017,037
The actuarial liability for retired members was:		218,715,240
Total actuarial accrued liability:		382,732,277
System assets as of that date:		253,420,995
Unfunded actuarial accrued liability:		\$129,311,282

The ratio of system's assets to total actuarial liability was 66.2%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.0%
Rate of Salary Increase:	4.75%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/06	\$253,420,995	\$382,732,277	\$129,311,282	66.2%	\$71,278,135	181.4%
01/01/05	244,266,000	361,080,000	116,814,000	67.6%	69,702,000	168.0%
01/01/04	233,888,000	350,688,000	116,800,000	66.7%	68,327,000	171.0%
01/01/03	227,126,000	338,172,000	111,046,000	67.2%	64,636,000	172.0%
01/01/02	228,239,000	306,123,000	77,884,000	74.6%	61,438,000	127.0%
01/01/01	219,102,000	268,660,000	49,558,000	81.6%	60,769,000	82.0%
01/01/00	201,766,000	256,096,000	54,330,000	78.8%	54,975,000	99.0%
01/01/99	176,284,000	239,946,000	63,662,000	73.5%	50,845,000	125.0%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

Age/Service Distribution with Salary as of January 1, 2006

Attained Age	Average Salary	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
	<5									
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	61	0	0	0	0	0	0	0	0	61
	23,227	0	0	0	0	0	0	0	0	23,227
25-29	215	10	0	0	0	0	0	0	0	225
	30,676	47,602	0	0	0	0	0	0	0	31,429
30-34	87	36	3	0	0	0	0	0	0	126
	41,012	48,316	65,107	0	0	0	0	0	0	43,673
35-39	62	40	18	5	0	0	0	0	0	125
	39,855	51,426	52,397	46,356	0	0	0	0	0	45,624
40-44	47	50	21	44	10	1	0	0	0	173
	33,524	43,433	54,052	54,736	57,588	60,186	0	0	0	45,820
45-49	59	45	20	38	46	7	0	0	0	215
	27,491	38,210	48,162	51,978	57,771	50,999	0	0	0	43,229
50-54	62	38	22	37	33	43	14	2	0	251
	31,368	41,437	49,198	50,177	55,250	65,249	55,023	39,329	0	47,555
55-59	35	51	34	28	18	29	46	21	0	262
	31,937	38,016	42,352	47,429	59,317	60,409	59,441	49,538	0	47,400
60-64	20	22	17	22	18	16	15	12	3	145
	32,389	32,355	34,140	43,832	39,835	49,036	76,271	47,250	68,621	43,606
65-69	4	9	10	8	9	6	5	3	1	55
	33,209	41,017	43,039	47,339	50,303	42,271	60,805	76,498	55,035	47,382
70+	1	3	3	4	3	4	2	2	6	28
	33,343	22,886	50,997	29,047	37,136	43,298	40,001	37,099	44,874	38,544
Total Employees	653	304	148	186	137	106	82	40	10	1,666
Average Salary	32,351	42,193	46,776	49,780	54,055	58,360	61,374	49,741	53,014	42,784

Retiree Distribution as of January 1, 2006

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	1	1	0	6933	6933
35-39	0	1	1	0	4210	4210
40-44	0	0	0	0	0	0
45-49	3	3	6	61,609	17,201	78,810
50-54	2	6	8	38,549	81,751	120,300
55-59	53	27	80	1,871,449	453,581	2,325,030
60-64	79	47	126	2,556,918	728,145	3,285,063
65-69	76	76	152	2,418,998	1,035,107	3,454,105
70-74	77	83	160	2,106,303	1,094,636	3,200,939
75-79	101	113	214	2,138,543	1,374,474	3,513,017
80-84	67	155	222	1,234,265	1,806,651	3,040,916
85-89	24	83	107	329,263	709,974	1,039,238
90-94	6	55	61	80,152	434,268	514,420
95-99	0	25	25	0	157,592	157,592
Total	488	675	1163	12,836,050	7,904,522	20,740,572
Average (Age/Payment)	71.7	77.8	75.2	26,303	11,710	17,834
Frequency Percent	42	58	100	61.9	38.1	100

Disabled Retiree Distribution as of January 1, 2006

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	0	1	28,749	0	28,749
40-44	4	2	6	119,476	76,377	195,853
45-49	6	2	8	227,264	11,728	238,991
50-54	6	3	9	140,306	101,403	241,709
55-59	30	1	31	1,070,926	28,905	1,099,831
60-64	25	0	25	758,037	0	758,037
65-69	21	2	23	649,594	22,274	671,868
70-74	21	2	23	500,085	46,159	546,244
75-79	18	0	18	389,709	0	389,709
80-84	5	0	5	82,577	0	82,577
85-89	4	0	4	74,676	0	74,676
90-94	1	0	1	18,624	0	18,624
95-99	0	0	0	0	0	0
Total	142	12	154	4,060,021	286,845	4,346,866
Average (Age/Payment)	65.4	56.1	64.7	28,592	23,904	28,226
Frequency Percent	92.2	7.8	100	93.4	6.6	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2006	\$26,348,411	\$5,661,058	\$10,668,000	\$19,914,398	\$9,895,046
2007	\$27,327,824	6,006,529	11,747,762	\$20,753,218	11,179,684
2008	\$28,284,505	6,371,628	12,175,990	\$21,644,132	11,907,245
2009	\$29,375,684	6,757,424	12,618,970	\$22,589,760	12,590,470
2010	\$30,502,137	7,165,038	13,077,163	\$23,590,540	13,330,603
2011	\$31,655,332	7,595,654	13,551,039	\$24,651,455	14,142,815
2012	\$32,817,328	8,050,516	14,041,082	\$25,779,077	15,053,346
2013	\$33,919,780	8,530,934	14,547,789	\$26,984,060	16,143,002
2014	\$34,980,636	9,038,288	15,071,666	\$28,280,139	17,409,457
2015	\$36,014,999	9,574,029	15,613,232	\$29,680,985	18,853,247
2016	\$37,023,479	10,139,683	16,173,019	\$31,200,884	20,490,107
2017	\$38,023,391	10,736,860	16,751,571	\$32,854,731	22,319,771
2018	\$38,984,301	11,367,249	17,349,441	\$34,659,281	24,391,670
2019	\$39,883,192	12,032,631	17,967,199	\$36,634,957	26,751,596
2020	\$40,702,129	12,734,878	18,605,421	\$38,805,657	29,443,828
2021	\$41,415,291	13,475,962	19,264,700	\$41,199,135	32,524,506
2022	\$42,070,009	14,257,956	19,945,639	\$43,844,776	35,978,362
2023	\$42,572,665	15,083,040	20,648,850	\$46,776,280	39,935,505
2024	\$43,055,004	15,953,509	21,374,962	\$50,028,924	44,302,391
2025	\$43,461,242	16,871,777	22,124,609	\$53,637,868	49,173,011
2026	\$43,809,353	17,840,384	22,898,440	\$57,642,907	54,572,378
2027	\$44,222,404	18,861,999	23,697,113	\$62,081,724	60,418,432
2028	\$44,455,444	19,710,789	1,978,463	\$66,541,574	43,775,382
2029	\$44,685,162	20,597,775	2,067,494	\$70,107,298	48,087,405
2030	\$44,824,841	21,524,675	2,160,531	\$74,024,787	52,885,152
2031	\$44,840,978	22,493,285	2,257,755	\$78,334,363	58,244,425
2032	\$44,839,375	23,505,483	2,359,354	\$83,076,948	64,102,410
2033	\$44,732,701	24,563,230	2,465,525	\$88,296,028	70,592,082
2034	\$44,590,197	25,668,575	2,576,473	\$94,039,589	77,694,440
2035	\$46,086,806	26,823,661	2,692,415	\$100,291,113	83,720,383

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2006, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees for the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

- (i) Group 1: Most general employees in State and local government
- (ii) Group 2: Certain specified hazardous duty positions
- (iii) Group 3: State police officers and inspectors
- (iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. **Salary**

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. **Member Contributions**

Member contributions vary depending upon date hired as follows:

<u>Date of Hire</u>	<u>Member Contribution Rate</u>
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of \$30,000

5. **Average Salary**

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. **Creditable Service**

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. **Service Retirement**

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

- (i) completion of 20 years of service
- (ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member
- (iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For Group 3 (State Police), the benefit is 60% of the participant's final year's rate of regular salary, plus an additional 3% for each year of service in excess of 20 years, up to a maximum of 15%. In addition, for veterans (all groups) there is an additional benefit of \$15 per year for each year of service, up to a maximum of 20 years of service.

8. Deferred Vested Retirement**a. Eligibility:**

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability**a. Eligibility:**

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus \$450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability**a. Eligibility:**

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits**a. Occupational Death:**

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of \$250 per month to the surviving spouse, plus \$120 for the first child, plus \$90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of \$250 per month plus \$120 for the first child and \$90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is \$12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

- (i) Option A – Life annuity
- (ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member
- (iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2006.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8% per annum.

5. Salary Scale

It is assumed that salaries including longevity will increase at of 3% per year from 2006 to 2008, 4% per year from 2009 to 2012. Starting in 2013 the annual increases will be 4.75% and 5.25% for groups 1 and 4, respectively.

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and \$12,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). Actuarial assets equal preliminary asset value plus 25% of the difference between market value and preliminary asset value. Preliminary asset value is the previous years' actuarial asset amount increased by net cash flow and expected investment income. The result must be within 20% of market value.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

<u>Service</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
0	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

<u>Attained Age</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
20	0.0001	0.0001
30	0.0003	0.0003
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

No provision is made for anticipated administrative expenses.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Newton Contributory Retirement System contributing as of January 1, 2006, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost is reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 05-4086

June 2006

BREAKOUTS

Breakouts

Code	Department	Participants	Payroll	Normal Contribution	Amortization of Unfunded Liability	FYE 2008 Appropriation
001	M.I.S.	10	\$ 662,199	\$ 23,107	\$ 71,477	\$ 94,584
002	Personnel	7	465,422	16,241	65,173	81,414
003	Human Services	9	451,658	15,760	46,570	62,330
005	Jackson Homestead	4	214,032	7,469	10,631	18,100
006	Executive	6	521,217	18,188	55,050	73,238
007	Comptroller	6	408,847	14,267	75,763	90,030
008	Retirement	2	149,612	5,221	25,614	30,835
009	Assessing	15	947,773	33,072	125,605	158,677
010	Purchasing	6	291,755	10,181	13,498	23,679
011	Treasury	10	514,347	17,948	41,506	59,454
012	Law	11	824,870	28,784	110,609	139,393
013	City Clerk	4	165,557	5,777	24,161	29,938
014	Clerk of the Board	6	354,742	12,379	71,386	83,765
015	Board of Aldermen	19	185,250	6,464	20,189	26,653
016	Building (Group 1)	19	1,025,446	35,783	214,102	249,885
016	Building (Group 2 & 4)	3	136,004	6,190	15,050	21,240
017	Elections	6	324,790	11,333	35,173	46,506
018	Planning	14	802,549	28,005	75,322	103,327
018F	Community Development	15	873,224	30,471	115,217	145,688
018P	Community Preservation	1	38,127	1,330	458	1,788
019	Fire (Group 1)	1	54,176	1,890	3,135	5,025
019	Fire (Group 2 & 4)	178	10,563,086	480,737	1,628,984	2,109,721

Breakouts

Code	Department	Participants	Payroll	Normal Contribution	Amortization of Unfunded Liability	FYE 2008 Appropriation
019A	Fire - Civilian Personnel	4	\$ 197,654	\$ 6,897	\$ 44,730	\$ 51,627
020	Police (Group 1)	1	46,216	1,613	523	2,136
020	Police (Group 2 & 4)	149	9,878,263	449,571	1,674,815	2,124,386
020A	Police - Civilian Personnel (Group 1)	27	1,324,123	46,205	137,719	183,924
020A	Police - Civilian Personnel (Group 2 & 4)	1	42,880	1,952	969	2,921
021	Police School Traffic Supervisors	20	498,520	17,396	112,915	130,311
023	Inspectional Services (Group 1)	9	557,774	19,463	54,803	74,266
023	Inspectional Services (Group 2 & 4)	2	122,536	5,577	28,880	34,457
025	Health	37	1,648,865	57,537	165,922	223,459
026	Veterans	3	184,257	6,430	27,106	33,536
027	Library	65	2,822,454	98,489	404,999	503,488
028	School Custodian	84	3,842,775	134,093	542,669	676,762
029	School Cafeteria	80	1,151,808	40,192	98,848	139,040
030	School Teacher Aides	448	10,968,483	382,248	433,788	816,036
031	School Clerical	122	6,034,810	210,583	709,630	920,213
031A	School Committee	4	19,500	680	1,721	2,401
032	Recreation	37	1,845,102	64,384	396,685	461,069
032A	Recreation - Judy Anderson	1	46,017	1,606	7,114	8,720
033	Engineering	14	922,752	32,199	112,201	144,400
034	Public Works	126	5,611,371	195,807	735,403	931,210
034A	Storm Water Management	4	158,948	5,547	34,045	39,592
035	Water/Sewer	13	614,432	21,440	67,512	88,952
035S	Sewer Personnel	22	884,660	30,870	137,944	168,814
035W	Water Personnel	21	849,344	29,638	147,926	177,564
036	Newton Housing Authority	20	1,029,908	35,938	117,270	153,208
	TOTAL	1,666	\$ 71,278,135	\$ 2,706,952	\$ 9,040,810	\$ 11,747,762