

**CITY OF NEW BEDFORD
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report

January 1, 2009

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
GASB Statements No. 25 and 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

Report Summary:

Highlights

January 1, 2007

January 1, 2009

Contributions

Funding Schedule FY 2010	\$24,829,417	\$24,829,417
Funding Schedule FY 2011	25,788,958	30,183,276

Funded Ratios

GAS No. 25	44.9%	38.1%
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Participants

Actives	2,299	2,217
Retirees and Beneficiaries	1,385	1,398
Inactives	342	519
Disabled	<u>336</u>	<u>343</u>
Total	4,362	4,477

Payroll

Payroll of Active Members	\$86,659,224	\$90,036,405
Average Payroll	37,694	40,612

Normal Cost

Employer	4,563,220	4,497,486
Employee	6,973,172	7,358,420
Administrative Expenses	<u>425,000</u>	<u>475,000</u>
Total	11,961,392	12,330,906

Actuarial Accrued Liabilities

Actives	208,649,221	228,833,133
Retirees, Beneficiaries, Disabilities and Inactives	<u>260,412,530</u>	<u>287,299,604</u>
Total	469,061,751	516,132,737

Actuarial Value of Assets

<u>210,446,468</u>	<u>196,465,884</u>
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Unfunded Actuarial Accrued Liabilities

\$258,615,283	\$319,666,853
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Introduction

This report presents the findings of an actuarial valuation as of January 1, 2009, of the New Bedford Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2009.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of New Bedford 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, 2009.

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 preceding two years, the total unfunded actuarial accrued liability increased by 23.6% to \$319,666,853. The main reason for the increase is unfavorable investment return. The investment return did not exceed the 8.25% assumption, generating a loss of \$50,819,505. The liabilities incurred a loss of \$6,205,155, for a total net loss of \$57,024,660. Gains and losses by source are as follows:

Investments	\$50,819,505
Salary Increases	(3,502,150)
New Participants	2,663,898
Active - Retirements	(3,251,542)
Active - Terminations	(52,235)
Active - Mortality	(176,496)
Active - Disabilities	3,186,126
Inactive - Mortality and data adjustments	12,839,442
Other, including service buybacks	(5,501,888)
Total (Gain)/Loss	\$57,024,660

The board approved a change in the salary scale from 5.0% to 4.5%. In addition, the disability rates for Group 4 employees were updated. These changes increased the normal cost by \$275,176. These changes decreased the unfunded accrued liability by \$6,002,948.

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, 2007</u>	<u>January 1, 2009</u>
Superannuation	\$8,158,650	\$7,493,801
Termination	1,054,092	1,047,355
Death	541,363	529,477
Disability	1,782,287	2,785,273
Administrative Expenses	<u>425,000</u>	<u>475,000</u>
Total Normal Cost	11,961,392	12,330,906
% of Pay	13.8%	13.7%
Employee Contributions	6,973,172	7,358,420
% of Pay	8.0%	8.2%
Employer Normal Cost	\$4,988,220	\$4,972,486
% of Pay	5.8%	5.5%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactive. 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, 2007</u>	<u>January 1, 2009</u>
Actives		
Superannuations	\$184,425,552	\$193,314,027
Termination	3,594,962	3,580,152
Death	6,037,133	6,389,350
Disability	14,591,574	25,549,604
Retirees and Inactives		
Retirees and Beneficiaries	173,008,249	191,910,624
Terminated (Refund)	2,886,678	4,970,414
Disabled	<u>84,517,603</u>	<u>90,418,566</u>
Total	<u>\$469,061,751</u>	<u>\$516,132,737</u>

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, 2007</u>	<u>January 1, 2009</u>
Actives		
Superannuation	\$259,910,746	\$254,467,446
Termination	8,066,352	7,939,333
Death	10,650,290	10,499,111
Disability	33,543,701	51,593,335
Retirees and Inactives		
Retirees and Beneficiaries	173,008,249	191,910,624
Terminated (Refund)	2,886,678	4,970,414
Disabled	<u>84,517,603</u>	<u>90,418,566</u>
Total	\$572,583,619	\$611,798,829

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, 2007</u>	<u>January 1, 2009</u>
Cash equivalents	\$4,011,971	\$15,759,157
Short term investments	0	0
Fixed income securities	44,556,957	36,974,906
Equities	106,020,496	71,013,397
International	32,890,951	10,092,460
Real Estate	21,669,256	21,128,786
Venture Capital	0	0
Other	16,364,526	22,987,639
Accounts receivable	418,433	229,089
Accounts payable	(828,363)	(120,542)
Accrued income	<u>609,350</u>	<u>540,459</u>
Total Market Value	\$225,713,577	\$178,605,349
Total Actuarial Value	\$210,446,468	\$196,465,884

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.25%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 10%. The calculation of the actuarial value of assets as of January 1, 2009 is presented in Table V.

Table V

	<u>January 1, 2009</u>
(1) Market value at January 1, 2008	\$247,013,441
(2) 2008 Contributions	\$34,188,193
(3) 2008 Payments	(\$33,957,898)
(4) Net interest adjustment at 8.25% on (1), (2), and (3) to December 31, 2008	\$20,388,109
(5) Expected market value on January 1, 2009	\$267,631,845
(1) + (2) + (3) + (4)	
(6) Actual market value on January 1, 2009	\$178,605,349
(7) 2008 (Gain) / Loss	\$89,026,496
(8) 80% of 2008 (Gain) / Loss	\$71,221,197
(9) 2007 (Gain) / Loss	(\$3,017,090)
(10) 60% of 2007 (Gain) / Loss	(\$1,810,254)
(11) 2006 (Gain) / Loss	(\$9,502,523)
(12) 40% of 2006 (Gain) / Loss	(\$3,801,009)
(13) 2005 (Gain) / Loss	(\$2,271,995)
(14) 20% of 2005 (Gain) / Loss	(\$454,399)
Actuarial value on January 1, 2009, (6) + (8) + (10) + (12) + (14)	
(15) but not less than 90% nor greater than 110% of (6)	\$196,465,884
(16) Ratio of actuarial value to market value	110.00%
(17) Actuarial Value Return for 2007	12.70%
(18) Actuarial Value Return for 2008	-17.13%
(19) Market Value Return for 2007	9.59%
(20) Market Value Return for 2008	-27.77%

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, 2007</u>	<u>January 1, 2009</u>
Actuarial Accrued Liability	\$469,061,751	\$516,132,737
Actuarial Assets	<u>210,446,468</u>	<u>196,465,884</u>
Unfunded Actuarial Accrued Liability	\$258,615,283	\$319,666,853
Funded Status	44.9%	38.1%

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, 2030, 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, 2030
 \$ 315,059,806 over 21 years with 4.5% increasing payments
- Level amortization of the Early Retirement Incentive by June 30, 2012
 \$ 4,607,047 over 3 years
- Interest adjustment for payments deposited August 1st

The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2007</u>	<u>January 1, 2009</u>
Normal cost	\$4,988,220	\$4,972,486
Amortization payment of the prior accrued liability	17,983,551	20,865,936
Amortization payment of 2002 ERI liability	641,430	1,658,899
Total cost	\$23,613,201	\$27,497,321
% of Pay	27.2%	30.5%
Fiscal 2010 cost	\$24,829,417	\$24,829,417
Fiscal 2011 cost	\$25,788,958	\$30,183,276

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 2030 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

After fiscal year ending 2011, the employer total cost is expected to slowly decrease until the unfunded liabilities are completely paid off in 2030, at which time only the normal cost will remain. The total cost represents 32.1% of payroll, decreasing to 27.9% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 3.3% in 2031.

Appropriation Forecast

<u>Fiscal Year Ending</u>	<u>Payroll*</u>	<u>Employee Contribution</u>	<u>Employer Normal Cost with Interest</u>	<u>Amortization Payments with Interest</u>	<u>Employer Total Cost with Interest</u>	<u>Employer Total Cost % of Payroll</u>	<u>Funded Ratio %**</u>
2010	\$90,036,405	\$7,358,420	\$5,207,826	\$19,621,591	\$24,829,417	27.6	37.3
2011	\$94,088,043	\$7,811,199	\$5,314,771	\$24,868,505	\$30,183,276	32.1	39.2
2012	\$98,322,005	\$8,289,827	\$5,420,795	\$25,909,404	\$31,330,199	31.9	41.3
2013	\$102,746,495	\$8,795,713	\$5,525,599	\$25,259,731	\$30,785,330	30.0	43.6
2014	\$107,370,088	\$9,330,343	\$5,628,858	\$26,396,419	\$32,025,277	29.8	45.6
2015	\$112,201,742	\$9,895,278	\$5,730,222	\$27,584,258	\$33,314,480	29.7	47.7
2016	\$117,250,820	\$10,492,163	\$5,829,309	\$28,825,550	\$34,654,859	29.6	50.0
2017	\$122,527,107	\$11,122,730	\$5,925,710	\$30,122,700	\$36,048,410	29.4	52.4
2018	\$128,040,827	\$11,788,802	\$6,018,984	\$31,478,221	\$37,497,205	29.3	54.9
2019	\$133,802,664	\$12,492,296	\$6,108,652	\$32,894,741	\$39,003,393	29.1	57.5
2020	\$139,823,784	\$13,235,232	\$6,194,202	\$34,375,004	\$40,569,206	29.0	60.3
2021	\$146,115,854	\$14,019,736	\$6,275,082	\$35,921,880	\$42,196,962	28.9	63.2
2022	\$152,691,068	\$14,848,044	\$6,350,697	\$37,538,364	\$43,889,061	28.7	66.2
2023	\$159,562,166	\$15,722,510	\$6,420,411	\$39,227,591	\$45,648,002	28.6	69.4
2024	\$166,742,463	\$16,645,610	\$6,483,539	\$40,992,832	\$47,476,371	28.5	72.7
2025	\$174,245,874	\$17,619,951	\$6,539,347	\$42,837,510	\$49,376,857	28.3	76.2
2026	\$182,086,938	\$18,648,275	\$6,587,048	\$44,765,198	\$51,352,246	28.2	79.8
2027	\$190,280,850	\$19,733,468	\$6,625,801	\$46,779,631	\$53,405,432	28.1	83.6
2028	\$198,843,489	\$20,878,566	\$6,654,702	\$48,884,715	\$55,539,417	27.9	87.5
2029	\$207,791,446	\$21,818,102	\$6,954,164	\$51,084,527	\$58,038,691	27.9	91.5
2030	\$217,142,061	\$22,799,916	\$7,267,101	\$53,383,331	\$60,650,432	27.9	95.7
2031	\$226,913,453	\$23,825,913	\$7,594,121	\$0	\$7,594,121	3.3	100.0
2032	\$237,124,559	\$24,898,079	\$7,935,856	\$0	\$7,935,856	3.3	100.0
2033	\$247,795,164	\$26,018,492	\$8,292,970	\$0	\$8,292,970	3.3	100.0
2034	\$258,945,946	\$27,189,324	\$8,666,153	\$0	\$8,666,153	3.3	100.0
2035	\$270,598,514	\$28,412,844	\$9,056,130	\$0	\$9,056,130	3.3	100.0
2036	\$282,775,447	\$29,691,422	\$9,463,656	\$0	\$9,463,656	3.3	100.0
2037	\$295,500,342	\$31,027,536	\$9,889,521	\$0	\$9,889,521	3.3	100.0
2038	\$308,797,858	\$32,423,775	\$10,334,549	\$0	\$10,334,549	3.3	100.0
2039	\$322,693,761	\$33,882,845	\$10,799,604	\$0	\$10,799,604	3.3	100.0
2040	\$337,214,980	\$35,407,573	\$11,285,586	\$0	\$11,285,586	3.3	100.0
2041	\$352,389,655	\$37,000,914	\$11,793,437	\$0	\$11,793,437	3.3	100.0

* Calendar basis

** 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, 2007</u>	<u>January 1, 2009</u>
(1) Actuarial Accrued Liability	\$469,061,751	\$516,132,737
(2) Actuarial Value of Assets	<u>210,446,468</u>	<u>196,465,884</u>
(3) Unfunded Actuarial Accrued Liability	258,615,283	319,666,853
(4) Funded Ratio (2)/(1)	44.9%	38.1%
(5) Covered Payroll	\$86,659,224	\$90,036,405
(6) UAAL as a percentage of payroll: (3)/(5)	298.4%	355.0%
(7) Annual Required Contribution (ARC)	\$22,466,545	\$24,829,417
(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, 2009.

The normal cost for employees on that date was:	\$7,358,420	8.2% of pay
The normal cost for the employer was:	4,497,486	5.0% of pay
The actuarial liability for active members was:		\$228,833,133
The actuarial liability for retired and inactive members was:		287,299,604
Total actuarial accrued liability:		516,132,737
System assets as of that date:		196,465,884
Unfunded actuarial accrued liability:		\$319,666,853
The ratio of system's assets to total actuarial liability was		38.1%

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

Investment Return:	8.25%
Rate of Salary Increase:	4.5%

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
01/01/09	\$196,465,884	\$516,132,737	\$319,666,853	38.1%	\$90,036,405	355.0%
01/01/07	210,446,468	469,061,751	258,615,283	44.9%	86,659,224	298.4%
01/01/06	192,032,773	416,761,645	224,728,872	46.1%	81,884,807	274.4%
01/01/04	175,663,857	380,950,456	205,286,599	46.1%	75,414,151	272.2%
01/01/02	157,129,409	305,813,631	148,684,222	51.4%	75,089,435	198.0%
01/01/00	133,140,386	248,033,340	114,892,954	53.7%	63,312,483	181.5%
01/01/99	84,143,582	189,485,031	105,341,449	44.4%	45,453,241	231.8%
01/01/97	67,895,696	177,053,757	109,158,061	38.3%	41,886,567	260.6%

EXHIBITS

Age/Service Distribution with Salary as of January 1, 2009

Attained Age	Average Salary	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
20-24		21	0	0	0	0	0	0	0	0	21
		24,330	0	0	0	0	0	0	0	0	24,330
25-29		106	11	0	0	0	0	0	0	0	117
		31,409	46,564	0	0	0	0	0	0	0	32,834
30-34		93	48	12	0	0	0	0	0	0	153
		32,380	48,219	43,939	0	0	0	0	0	0	38,256
35-39		65	68	51	20	0	0	0	0	0	204
		36,300	45,092	53,823	59,564	0	0	0	0	0	45,892
40-44		80	51	92	54	40	0	1	0	0	318
		29,393	40,739	53,384	56,935	55,564	0	64,910	0	0	46,234
45-49		100	69	65	59	56	15	0	0	0	364
		28,588	33,125	39,726	53,961	52,287	58,277	0	0	0	40,419
50-54		66	52	59	44	72	37	20	0	0	350
		29,327	34,957	39,171	39,383	43,410	67,731	57,183	0	0	41,636
55-59		42	51	62	33	44	30	42	21	0	325
		29,478	34,346	34,266	36,374	39,121	56,409	61,470	43,392	0	40,680
60-64		24	46	43	31	40	20	22	15	3	244
		29,952	30,909	32,234	35,920	37,224	39,740	54,724	67,459	35,836	37,899
65-69		6	18	17	14	12	7	2	4	1	81
		21,207	30,626	36,944	34,280	35,673	41,519	30,590	41,469	27,051	34,065
70+		0	3	12	5	5	0	7	4	4	40
		0	38,868	19,455	29,693	20,292	0	37,356	29,771	68,281	31,342
Total Employees		603	417	413	260	269	109	94	44	8	2,217
Average Salary		30,582	38,166	42,249	46,633	44,669	56,495	56,563	50,184	50,960	40,612

Retiree Distribution as of January 1, 2009

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	1	1	2	41,865	2,035	43,900
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	1	0	1	15,040	0	15,040
35-39	0	0	0	0	0	0
40-44	1	0	1	23,544	0	23,544
45-49	3	2	5	49,411	12,642	62,053
50-54	4	5	9	127,646	64,272	191,918
55-59	38	29	67	1,335,856	408,143	1,743,999
60-64	97	91	188	2,998,402	1,143,984	4,142,387
65-69	98	116	214	2,589,555	1,587,397	4,176,951
70-74	84	130	214	1,856,533	1,603,938	3,460,471
75-79	73	142	215	1,357,740	1,703,378	3,061,118
80-84	79	145	224	1,449,745	1,393,394	2,843,139
85-89	65	104	169	959,761	896,220	1,855,981
90-94	27	46	73	372,420	399,555	771,975
95-99	5	11	16	62,077	75,237	137,314
Total	576	822	1,398	13,239,595	9,290,195	22,529,790
Average (Age/Payment)	73.3	75.8	74.8	22,985	11,302	16,116
Frequency Percent	41.2	58.8	100	58.8	41.2	100

Disabled Retiree Distribution as of January 1, 2009

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	1	0	1	51,927	0	51,927
35-39	6	0	6	235,273	0	235,273
40-44	6	1	7	217,113	4,121	221,234
45-49	12	2	14	393,250	101,122	494,372
50-54	31	3	34	951,821	48,566	1,000,388
55-59	41	7	48	1,397,905	117,989	1,515,895
60-64	55	7	62	1,800,353	149,998	1,950,351
65-69	42	4	46	1,262,690	56,487	1,319,177
70-74	39	1	40	1,058,474	20,861	1,079,334
75-79	21	3	24	561,296	44,869	606,166
80-84	27	3	30	575,761	26,066	601,828
85-89	18	3	21	343,056	16,704	359,760
90-94	8	1	9	116,765	6,218	122,983
95-99	0	1	1	0	5,459	5,459
Total	307	36	343	8,965,685	598,462	9,564,147
Average (Age/Payment)	66.3	65.5	66.2	29,204	16,624	27,884
Frequency Percent	89.5	10.5	100	93.7	6.3	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
2009	\$33,727,454	\$7,358,420	\$24,829,417	\$19,546,595	\$18,006,977
2010	34,988,061	7,811,199	30,183,276	17,086,991	20,093,406
2011	36,202,312	8,289,827	31,330,199	18,750,073	22,167,787
2012	37,681,726	8,795,713	30,785,330	20,517,946	22,417,263
2013	39,200,589	9,330,343	32,025,277	22,366,008	24,521,039
2014	40,681,761	9,895,278	33,314,480	24,392,152	26,920,149
2015	42,229,700	10,492,163	34,654,859	26,616,671	29,533,993
2016	43,832,938	11,122,730	36,048,410	29,057,898	32,396,099
2017	45,585,067	11,788,802	37,497,205	31,732,692	35,433,632
2018	47,337,448	12,492,296	39,003,393	34,661,709	38,819,950
2019	49,024,594	13,235,232	40,569,206	37,876,549	42,656,394
2020	50,879,449	14,019,736	42,196,962	41,405,119	46,742,368
2021	52,709,815	14,848,044	43,889,061	45,275,973	51,303,264
2022	54,671,385	15,722,510	45,648,002	49,522,204	56,221,331
2023	56,565,858	16,645,610	47,476,371	54,181,514	61,737,637
2024	58,577,963	17,619,951	49,376,857	59,296,016	67,714,861
2025	60,645,341	18,648,275	51,352,246	64,906,498	74,261,677
2026	62,682,799	19,733,468	53,405,432	71,063,644	81,519,745
2027	64,584,005	20,878,566	55,539,417	77,830,696	89,664,674
2028	66,416,923	21,818,102	58,038,691	85,265,632	98,705,502
2029	68,189,915	22,799,916	60,650,432	93,453,887	108,714,320
2030	69,883,940	23,825,913	7,594,121	100,568,211	62,104,305
2031	71,343,984	24,898,079	7,935,856	105,674,398	67,164,349
2032	72,582,291	26,018,492	8,292,970	111,208,877	72,938,048
2033	73,635,565	27,189,324	8,666,153	117,229,125	79,449,037
2034	74,233,177	28,412,844	9,056,130	123,806,997	87,042,794
2035	74,534,921	29,691,422	9,463,656	131,025,455	95,645,612
2036	74,444,462	31,027,536	9,889,521	138,971,735	105,444,330
2037	74,022,013	32,423,775	10,334,549	147,742,168	116,478,479
2038	76,506,460	33,882,845	10,799,604	157,307,822	125,483,811

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2009, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees of 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

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, 2009.

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 8.25% per annum.

5. Salary Scale

It is assumed that salaries including longevity will increase at a rate of 4.5% per year.

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). The actuarial value of assets is determined using a five-year smoothing of asset returns greater than or less than the assumed rate of return.

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 with projection scale AA for 10 years 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	0.0020
30	0.0003	0.0060
40	0.0010	0.0060
50	0.0019	0.0250

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

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2009 is \$475,000 and is anticipated to increase at 4.5% per year.

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 New Bedford Retirement System contributing as of January 1, 2009, 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 are 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. 08-4086

October 2009