

**CITY OF NEW BEDFORD
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report

January 1, 2010

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Report Summary:

Highlights

January 1, 2009

January 1, 2010

Contributions

Funding Schedule FY 2011	\$25,788,958	\$24,829,417
Funding Schedule FY 2012	26,785,947	25,080,002

Funded Ratios

GAS No. 25	38.1%	41.6%
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Participants

Actives	2,217	2,085
Retirees and Beneficiaries	1,398	1,420
Inactives	519	482
Disabled	<u>343</u>	<u>341</u>
Total	4,477	4,328

Payroll

Payroll of Active Members	\$90,036,405	\$82,625,990
Average Payroll	40,612	39,629

Normal Cost

Employer	4,497,486	3,185,577
Employee	7,358,420	6,834,239
Administrative Expenses and Section 3(8)(c)	<u>475,000</u>	<u>1,300,000</u>
Total	12,330,906	11,319,816

Actuarial Accrued Liabilities

Actives	228,833,133	225,515,664
Retirees, Beneficiaries, Disabilities and Inactives	<u>282,329,190</u>	<u>320,099,134</u>
Total	516,132,737	545,614,798

Actuarial Value of Assets

<u>196,465,884</u>	<u>226,978,870</u>
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Unfunded Actuarial Accrued Liabilities

\$319,666,853	\$318,635,928
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Introduction

This report presents the findings of an actuarial valuation as of January 1, 2010, 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, 2010.
- 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, 2010.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- 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 year, the total unfunded actuarial accrued liability decreased by 0.3% to \$318,635,928. The investment return exceeded the 8.25% assumption, generating a gain of \$17,480,956. The liabilities incurred a gain of \$5,336,597, for a total net gain of \$22,817,553. Gains and losses by source are as follows:

Investments	(\$17,480,956)
Salary Increases	(10,654,694)
New Participants	1,757,612
Active - Retirements	(38,427)
Active - Terminations	143,698
Active - Mortality	(113,989)
Active - Disabilities	1,429,614
Inactive - Mortality and data adjustments	(662,774)
Other, including service buybacks	2,802,363
Total (Gain)/Loss	(\$22,817,553)

The board approved a change in the salary scale from 4.5% to 3.0%. In addition, the discount rate was changed from 8.25% to 7.75% and a load was included for Section 3(8)(c) transfer amounts. The inclusion of a load for the net expected transfers under Section 3(8)(c) added \$775,000 to the total Normal Cost. These three changes decreased the Normal Cost by \$1,040,289. These changes increased the unfunded accrued liability by \$15,552,595.

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, 2009</u>	<u>January 1, 2010</u>
Superannuation	\$7,493,801	\$6,087,529
Termination	1,047,355	836,535
Death	529,477	466,134
Disability	2,785,273	2,629,618
Administrative Expenses and Section 3(8)(c)	<u>475,000</u>	<u>1,300,000</u>
Total Normal Cost	12,330,906	11,319,816
% of Pay	13.7%	13.7%
Employee Contributions	7,358,420	6,834,239
% of Pay	8.2%	8.3%
Employer Normal Cost	\$4,972,486	\$4,485,577
% of Pay	5.5%	5.4%

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, 2009</u>	<u>January 1, 2010</u>
Actives		
Superannuations	\$193,314,027	\$186,493,331
Termination	3,580,152	3,555,699
Death	6,389,350	6,522,102
Disability	25,549,604	28,944,532
Retirees and Inactives		
Retirees and Beneficiaries	191,910,624	213,591,367
Terminated (Refund)	4,970,414	4,117,922
Disabled	<u>90,418,566</u>	<u>102,389,845</u>
Total	<u>\$516,132,737</u>	<u>\$545,614,798</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, 2009</u>	<u>January 1, 2010</u>
Actives		
Superannuation	\$254,467,446	\$232,990,477
Termination	7,939,333	6,890,357
Death	10,499,111	9,924,926
Disability	51,593,335	52,532,112
Retirees and Inactives		
Retirees and Beneficiaries	191,910,624	213,591,367
Terminated (Refund)	4,970,414	4,117,922
Disabled	<u>90,418,566</u>	<u>102,389,845</u>
Total	\$611,798,829	\$622,437,006

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, 2009</u>	<u>January 1, 2010</u>
Cash equivalents	\$15,759,157	\$6,700,599
Short term investments	0	0
Fixed income securities	36,974,906	38,814,771
Equities	71,013,397	105,674,905
International	10,092,460	16,625,192
Real Estate	21,128,786	13,214,742
Venture Capital	0	0
Other	22,987,639	22,066,524
Accounts receivable	229,089	3,610,045
Accounts payable	(120,542)	(827,764)
Accrued income	<u>540,459</u>	<u>465,412</u>
Total Market Value	\$178,605,349	\$206,344,428
Total Actuarial Value	\$196,465,884	\$226,978,870

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, 2010 is presented in Table V.

Table V

	<u>January 1, 2010</u>
(1) Market value at January 1, 2009	\$178,605,349
(2) 2009 Contributions	\$34,007,065
(3) 2009 Payments	(\$37,057,634)
(4) Net interest adjustment at 8.25% on (1), (2), and (3) to December 31, 2009	\$14,609,105
(5) Expected market value on January 1, 2010	\$190,163,886
(1) + (2) + (3) + (4)	
(6) Actual market value on January 1, 2010	\$206,344,428
(7) 2009 (Gain) / Loss	(\$16,180,542)
(8) 80% of 2009 (Gain) / Loss	(\$12,944,434)
(9) 2008 (Gain) / Loss	\$89,026,496
(10) 60% of 2008 (Gain) / Loss	\$53,415,897
(11) 2007 (Gain) / Loss	(\$3,017,090)
(12) 40% of 2007 (Gain) / Loss	(\$1,206,836)
(13) 2006 (Gain) / Loss	(\$9,502,523)
(14) 20% of 2006 (Gain) / Loss	(\$1,900,505)
(15) Actuarial value on January 1, 2010, (6) + (8) + (10) + (12) + (14) but not less than 90% nor greater than 110% of (6)	\$226,978,870
(16) Ratio of actuarial value to market value	110.00%
(17) Actuarial Value Return for 2008	-17.13%
(18) Actuarial Value Return for 2009	17.22%
(19) Market Value Return for 2008	-27.77%
(20) Market Value Return for 2009	17.39%

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, 2009</u>	<u>January 1, 2010</u>
Actuarial Accrued Liability	\$516,132,737	\$545,614,798
Actuarial Assets	<u>196,465,884</u>	<u>226,978,870</u>
Unfunded Actuarial Accrued Liability	\$319,666,853	\$318,635,928
Funded Status	38.1%	41.6%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2040, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2036
 \$ 314,343,147 over 26 years with 4.0% increasing payments
- Level amortization of the Early Retirement Incentive by June 30, 2019
 \$ 4,292,781 over 9 years
- Interest adjustment for payments deposited August 1st.

The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2009</u>	<u>January 1, 2010</u>
Normal cost	\$4,972,486	\$4,485,577
Amortization payment of the accrued liability	20,865,936	18,176,507
Amortization payment of 2002 ERI liability	<u>641,430</u>	<u>631,146</u>
Total cost	\$26,479,852	\$23,293,230
% of Pay	29.4%	28.2%
Fiscal 2011 cost	\$25,788,958	\$24,829,417
Fiscal 2012 cost	\$26,785,947	\$25,080,002

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 made at the beginning of the year.

The employer total cost is expected to slowly increase until the Early Retirement Incentive amortization payments end in 2019. After incurring a small decrease in 2020, the employer total cost is expected to slowly increase until the unfunded liabilities are completely paid off in 2036, at which time only the normal cost will remain. The total cost represents 29.5% of payroll, increasing to 32.5% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 3.3% in 2037.

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 %**
2011	\$82,625,990	\$6,834,239	\$4,685,203	\$20,144,214	\$24,829,417	30.1	41.7
2012	\$85,104,770	\$7,150,839	\$4,709,221	\$20,370,781	\$25,080,002	29.5	42.6
2013	\$87,657,913	\$7,480,284	\$4,730,463	\$21,159,243	\$25,889,706	29.5	43.5
2014	\$90,287,650	\$7,823,060	\$4,748,742	\$21,979,243	\$26,727,985	29.6	44.6
2015	\$92,996,280	\$8,179,670	\$4,763,860	\$22,832,044	\$27,595,904	29.7	45.6
2016	\$95,786,168	\$8,550,636	\$4,775,611	\$23,718,956	\$28,494,567	29.7	46.8
2017	\$98,659,753	\$8,936,498	\$4,783,780	\$24,641,345	\$29,425,125	29.8	48.0
2018	\$101,619,546	\$9,337,817	\$4,788,141	\$25,600,629	\$30,388,770	29.9	49.3
2019	\$104,668,132	\$9,755,172	\$4,788,458	\$26,598,285	\$31,386,743	30.0	50.7
2020	\$107,808,176	\$10,189,164	\$4,784,485	\$26,976,613	\$31,761,098	29.5	52.2
2021	\$111,042,421	\$10,640,415	\$4,775,963	\$28,055,677	\$32,831,640	29.6	53.8
2022	\$114,373,694	\$11,109,572	\$4,762,625	\$29,177,904	\$33,940,529	29.7	55.4
2023	\$117,804,905	\$11,597,302	\$4,744,188	\$30,345,020	\$35,089,208	29.8	57.2
2024	\$121,339,052	\$12,104,297	\$4,720,358	\$31,558,821	\$36,279,179	29.9	59.1
2025	\$124,979,223	\$12,631,274	\$4,690,829	\$32,821,174	\$37,512,003	30.0	61.1
2026	\$128,728,600	\$13,178,976	\$4,655,279	\$34,134,021	\$38,789,300	30.1	63.3
2027	\$132,590,458	\$13,748,172	\$4,613,375	\$35,499,382	\$40,112,757	30.3	65.7
2028	\$136,568,172	\$14,339,658	\$4,564,767	\$36,919,357	\$41,484,124	30.4	68.3
2029	\$140,665,217	\$14,769,848	\$4,701,710	\$38,396,131	\$43,097,841	30.6	71.0
2030	\$144,885,174	\$15,212,943	\$4,842,762	\$39,931,977	\$44,774,739	30.9	74.0
2031	\$149,231,729	\$15,669,332	\$4,988,044	\$41,529,256	\$46,517,300	31.2	77.1
2032	\$153,708,681	\$16,139,411	\$5,137,686	\$43,190,426	\$48,328,112	31.4	80.5
2033	\$158,319,941	\$16,623,594	\$5,291,816	\$44,918,043	\$50,209,859	31.7	84.0
2034	\$163,069,539	\$17,122,302	\$5,450,571	\$46,714,765	\$52,165,336	32.0	87.8
2035	\$167,961,626	\$17,635,971	\$5,614,088	\$48,583,355	\$54,197,443	32.3	91.7
2036	\$173,000,474	\$18,165,050	\$5,782,511	\$50,526,689	\$56,309,200	32.5	95.8
2037	\$178,190,489	\$18,710,001	\$5,955,986	\$0	\$5,955,986	3.3	100.0
2038	\$183,536,203	\$19,271,301	\$6,134,665	\$0	\$6,134,665	3.3	100.0
2039	\$189,042,289	\$19,849,440	\$6,318,705	\$0	\$6,318,705	3.3	100.0
2040	\$194,713,558	\$20,444,924	\$6,508,267	\$0	\$6,508,267	3.3	100.0
2041	\$200,554,965	\$21,058,271	\$6,703,515	\$0	\$6,703,515	3.3	100.0
2042	\$206,571,614	\$21,690,019	\$6,904,620	\$0	\$6,904,620	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, 2009</u>	<u>January 1, 2010</u>
(1) Actuarial Accrued Liability	\$516,132,737	\$545,614,798
(2) Actuarial Value of Assets	<u>196,465,884</u>	<u>226,978,870</u>
(3) Unfunded Actuarial Accrued Liability	319,666,853	318,635,928
(4) Funded Ratio (2)/(1)	38.1%	41.6%
(5) Covered Payroll	\$90,036,405	\$82,625,990
(6) UAAL as a percentage of payroll: (3)/(5)	355.0%	385.6%
(7) Annual Required Contribution (ARC)	\$24,829,417	\$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, 2010.

The normal cost for employees on that date was:	\$6,834,239	8.3% of pay
The normal cost for the employer was:	3,185,577	3.9% of pay
The actuarial liability for active members was:		\$225,515,664
The actuarial liability for retired and inactive members was:		320,099,134
Total actuarial accrued liability:		545,614,798
System assets as of that date:		226,978,870
Unfunded actuarial accrued liability:		\$318,635,928
The ratio of system's assets to total actuarial liability was		41.6%

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

Investment Return:		7.75%
Rate of Salary Increase:		3.0%

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
01/01/10	\$226,978,870	\$545,614,798	\$318,635,928	41.6%	\$82,625,990	385.6%
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, 2010

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	1 11,571	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 11,571
20-24	18 20,943	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	18 20,943
25-29	87 24,355	13 53,740	0 0	0 0	0 0	0 0	0 0	0 0	0 0	100 28,175
30-34	72 26,116	66 44,155	8 46,909	0 0	0 0	0 0	0 0	0 0	0 0	146 35,410
35-39	60 33,432	57 46,779	56 50,391	14 44,564	0 0	0 0	0 0	0 0	0 0	187 43,412
40-44	65 28,731	36 43,690	75 49,539	77 60,644	38 55,013	0 0	0 0	0 0	0 0	291 47,821
45-49	71 23,187	65 33,740	62 38,177	58 52,876	60 58,176	19 54,233	0 0	0 0	0 0	335 41,176
50-54	67 25,901	45 31,001	71 35,135	41 42,317	56 43,312	35 60,664	11 64,240	1 55,847	1 43,789	328 38,765
55-59	35 29,441	41 32,317	62 36,140	47 38,027	52 41,299	26 48,765	48 60,295	18 50,798	0 0	329 41,360
60-64	31 22,863	41 29,037	36 40,030	32 32,406	39 34,846	19 35,969	19 52,328	13 50,744	3 35,151	233 35,104
65-69	9 24,518	15 26,231	17 37,882	23 36,541	11 33,332	7 39,926	2 35,490	2 23,467	0 0	86 33,286
70+	0 0	4 43,229	4 16,997	7 27,068	6 31,342	2 39,534	3 41,422	2 39,303	3 52,541	31 34,129
Total Employees	516	383	391	299	262	108	83	36	7	2,085
Average Salary	26,362	37,917	41,350	46,654	46,060	50,588	57,714	48,762	43,838	39,629

Retiree Distribution as of January 1, 2010

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	1	1	0	2,097	2,097
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	1	0	1	15,400	0	15,400
35-39	0	0	0	0	0	0
40-44	1	0	1	23,904	0	23,904
45-49	3	2	5	50,314	13,022	63,336
50-54	4	4	8	100,453	33,298	133,750
55-59	40	30	70	1,309,941	533,874	1,843,815
60-64	103	83	186	3,586,758	1,165,545	4,752,304
65-69	109	134	243	2,922,253	1,811,600	4,733,853
70-74	83	134	217	1,932,143	1,716,004	3,648,147
75-79	66	124	190	1,289,606	1,507,459	2,797,066
80-84	81	143	224	1,467,632	1,447,189	2,914,821
85-89	65	120	185	1,029,024	1,091,886	2,120,910
90-94	30	43	73	433,770	370,547	804,317
95-99	5	11	16	79,894	90,265	170,160
Total	591	829	1,420	14,241,092	9,782,788	24,023,880
Average (Age/Payment)	73.2	75.9	74.8	24,097	11,786	16,906
Frequency Percent	41.6	58.4	100.0	59.3	40.7	100.0

Disabled Retiree Distribution as of January 1, 2010

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	1	0	1	33,945	0	33,945
30-34	0	0	0	0	0	0
35-39	4	0	4	175,064	0	175,064
40-44	6	1	7	196,906	4,245	201,151
45-49	11	2	13	387,876	101,842	489,718
50-54	35	3	38	1,081,740	49,346	1,131,086
55-59	36	5	41	1,319,821	98,248	1,418,069
60-64	60	10	70	2,078,301	202,165	2,280,466
65-69	45	5	50	1,374,462	74,872	1,449,333
70-74	40	1	41	1,157,057	21,221	1,178,278
75-79	24	3	27	607,441	45,824	653,264
80-84	19	3	22	417,058	26,848	443,906
85-89	20	3	23	423,463	17,205	440,668
90-94	3	1	4	39,063	6,404	45,468
95-99	0	0	0	0	0	0
Total	304	37	341	9,292,196	648,220	9,940,417
Average (Age/Payment)	65.8	66.7	65.9	30,566	17,519	29,151
Frequency Percent	89.1	10.9	100.0	93.5	6.5	100.0

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
2010	\$35,542,983	\$6,834,239	\$24,829,417	\$15,675,927	\$11,796,601
2011	36,679,819	7,150,839	25,080,002	17,052,691	12,603,713
2012	38,011,431	7,480,284	25,889,706	17,986,670	13,345,229
2013	39,297,314	7,823,060	26,727,985	18,980,491	14,234,223
2014	40,599,622	8,179,670	27,595,904	20,043,256	15,219,208
2015	41,933,307	8,550,636	28,494,567	21,181,871	16,293,768
2016	43,293,514	8,936,498	29,425,125	22,403,499	17,471,608
2017	44,735,774	9,337,817	30,388,770	23,714,070	18,704,884
2018	46,176,709	9,755,172	31,386,743	25,121,093	20,086,300
2019	47,523,405	10,189,164	31,761,098	26,618,798	21,045,655
2020	48,958,646	10,640,415	32,831,640	28,209,220	22,722,629
2021	50,346,400	11,109,572	33,940,529	29,932,366	24,636,067
2022	51,758,812	11,597,302	35,089,208	31,803,869	26,731,567
2023	53,036,526	12,104,297	36,279,179	33,843,947	29,190,897
2024	54,337,170	12,631,274	37,512,003	36,074,856	31,880,963
2025	55,582,101	13,178,976	38,789,300	38,517,525	34,903,700
2026	56,725,085	13,748,172	40,112,757	41,199,549	38,335,392
2027	57,713,332	14,339,658	41,484,124	44,154,690	42,265,140
2028	58,576,339	14,769,848	43,097,841	47,412,281	46,703,631
2029	59,308,086	15,212,943	44,774,739	51,019,758	51,699,354
2030	59,904,810	15,669,332	46,517,300	55,020,499	57,302,321
2031	60,303,076	16,139,411	48,328,112	59,464,021	63,628,468
2032	60,474,039	16,623,594	50,209,859	64,407,521	70,766,935
2033	60,462,265	17,122,302	52,165,336	69,912,310	78,737,683
2034	60,138,863	17,635,971	54,197,443	76,047,848	87,742,399
2035	59,592,478	18,165,050	56,309,200	82,890,952	97,772,725
2036	58,803,201	18,710,001	5,955,986	88,861,932	54,724,718
2037	57,815,036	19,271,301	6,134,665	93,099,195	60,690,125
2038	56,641,502	19,849,440	6,318,705	97,804,581	67,331,224
2039	57,911,215	20,444,924	6,508,267	102,930,461	71,972,436

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2010, and does not take into account any subsequent changes.

1. Administration

Each of the 106 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	9.0% of Salary
plus	
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, 2010.

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 7.75% per annum. The assumption was decreased from 8.25% for the previous actuarial valuation.

5. Salary Scale

It is assumed that salaries including longevity will increase at a rate of 3.0% per year. The assumption was 4.5% for the previous actuarial valuation.

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 and Section 3(8)(c)

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2010 is \$525,000. For 2010, a load for the anticipated net effect of Chapter 32 Section 3(8)(c) transfer payments between systems was included. The estimate of \$775,000 was determined based on recent experience. Both costs are 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, 2010, 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

August 2010