Concord Retirement System

Actuarial Valuation
January 1, 2008

STONE
CONSULTING, INC.

July 2008

S T O N E
CONSULTING, INC.

July 14, 2008

Concord Retirement Board
22 Monument Square
P.O. Box 535
Concord, MA 01742

Dear Concord Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2008 actuarial valuation of the Concord Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Concord Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability.

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The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is two years, one year less than the prior January 1, 2006 actuarial valuation with a level amortization. The amortization increase cannot exceed 4.50% annually. The maximum length of the amortization is until Fiscal 2028. These limits are contained in Chapter 32 of the Massachusetts General Laws.

The contribution amount for Fiscal Year 2010 is $3,011,632 which is the same as the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Concord Retirement Board conducted their previous actuarial valuation effective January 1, 2006. This satisfies these guidelines. We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

Respectfully submitted,

STONE CONSULTING, INC.

Actuaries for the Plan

Lawrence B. Stone

Member, American Academy of Actuaries

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INTRODUCTION

This report presents the results of the actuarial valuation of the Concord Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2008 for the purpose of determining the contribution requirements for Fiscal Year 2010 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2007
- The benefit provisions of M.G.L. Chapter 32;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2008);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., terminations, retirement, death, etc.)

JANUARY 1, 2008 VALUATION SUMMARY

	January 1, 2008	January 1, 2006	Change
Contribution Fiscal 2010	$3,011,632	$3,011,632	$0
Funding Schedule Length	2 years	3 years	-1 years
Amortization Increase	level	level	+0.00%
Funding Ratio	96%	90%	6%
Interest Rate Assumption	7.75%	7.75%	0.00%
Salary Increase Rate Assumption	4.75%	4.75%	0.00%

- The Fiscal Year 2010 contribution is the same as the planned 2010 contribution. The System experienced a $4.5 million market value asset gain since January 1, 2006. Stone Consulting, with agreement from the Retirement Board, values assets using a four year asset smoothing method. In this approach, asset gains and losses are recognized over a four-year period. The purpose of this approach is to avoid wide swings in asset value from one year to the next.

Previously, actuarial valuations had used the market value of assets.

The System experienced a 9.2% return on the actuarial value of assets (10.6% on a market value basis) versus our assumption of a 7.75% return. The System's asset portfolio, effective December 31, 2007 was 65% equities and 35% fixed income and short-term investments. The interest rate assumption was maintained at 7.75% to reflect anticipated market performance.

- We have kept the salary increase rate at 4.75%, consistent with the 2006 actuarial valuation. Total compensation changed by 12.5% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by 10.1%.

- The funding level of the Concord Retirement System is 96% compared to 90% for the January 1, 2006 actuarial valuation. Chapter 68 requires a minimum funding ratio of 65% along with additional criteria in order to avoid being labeled an "under performing system". If you are considered an "under performing system" the system assets are required to be transferred to PRIT. The system is likely to remain over the 65% funding ratio level unless the market has a sustained downturn or there are significant changes to benefit provisions. The funding level is estimated to be in the top quartile of Massachusetts' Contributory Retirement Systems.

The schedule length is two (2) years. The FY 2010 contribution was maintained at the anticipated schedule with the FY 2011 contribution dropping to $2,327,566 which will eliminate the unfunded liability, other than the small ERI base. The maximum period permitted under Chapter 32 of the Massachusetts General Laws is 19 years (2028). The maximum amortization permitted under Chapter 32 is 4.5%.

- All non-economic assumptions are consistent with the January 1, 2006 actuarial valuation with the exception of a new disability mortality assumption which assumes that people live 3 years longer. This change increased the accrued liability by $498,000.

JANUARY 1, 2008 ACTUARIAL VALUATION RESULTS

	January 1, 2008	January 1, 2006	Percentage Change
Funding			
• Contribution for Fiscal 2010	$3,011,632		
• Contribution for Fiscal 2010 based on current schedule		$3,011,632	0%
Members *			
• ***Actives***			
a. Number	461	451	2.2%
b. Annual Compensation	$21,294,788	$18,925,435	12.5%
c. Average Annual Compensation	$46,193	$41,963	10.1%
d. Average Attained Age	48.2	47.8	0.8%
e. Average Past Service	11.3	11.1	1.8%
• ***Retired, Disabled and Beneficiaries***			
a. Number	253	246	2.8%
b. Total Benefits*	$4,412,277	$3,848,191	14.7%
c. Average Benefits*	$17,440	$15,643	11.5%
c. Average Age	73.0	72.9	0.1%
• ***Inactives***			
a. Number	110	93	18.3%
Normal Cost			
a. Total Normal Cost as of January 1, 2008	$2,818,850	$2,545,766	10.7%
b. Less Expected Members' Contributions	1,837,047	1,613,687	13.8%
c. Normal Cost to be funded by the Municipality	$981,803	$932,079	5.3%
d. Adjustment to July 1, 2009	70,778	67,193	5.3%
e. Administrative Expense Assumption	162,000	186,000	-12.9%
f. Normal Cost Adjusted to July 1, 2009	$1,214,581	$1,185,272	2.5%

*Excluding State reimbursed COLA

SUMMARY OF JANUARY 1, 2008 VALUATION
(Continued)

	January 1, 2008	January 1, 2006	Percentage Change
Actuarial Accrued Liability as of January 1, 2008			
a. Active Members	$52,435,213	$46,855,331	11.9%
b. Inactive Members	1,446,649	1,526,799	-5.2%
c. Retired Members and Beneficiaries	40,799,416	35,607,093	14.6%
d. Total	$94,681,278	$83,989,223	12.7%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2008	$94,681,278	$83,989,223	12.7%
b. Less Actuarial Value of Assets as of January 1, 2008	90,963,278	75,974,208	19.7%
c. Unfunded Actuarial Accrued Liability as of January 1, 2008	$3,718,000	$8,015,015	-53.6%
d. Adjustment to July 1, 2009	$ (899,281)	$(576,970)	
e. Unfunded Actuarial Accrued Liability as of July 1, 2009	$2,818,719	$7,438,108	

DEMOGRAPHIC INFORMATION

Members	January 1, 2008	Percentage Change
• ***Actives***		
a. Number	461	2.2%
b. Annual Compensation	$21,294,788	12.5%
c. Average Annual Compensation	$46,193	10.1%
d. Average Attained Age	48.2	0.8%
e. Average Past Service	11.3	1.8%
• ***Retired, Disabled and Beneficiaries***		
a. Number	253	2.8%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	$4,412,277	14.7%
• ***Inactives***		
a. Number	110	18.3%

- The data was supplied by the Concord Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the Concord Retirement Board, we were able to develop a database sufficient for valuation purposes.

- Payroll changed by 12.5% over the course of the past year. Average annual compensation changed by 10.1% over the same time period.

- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.

HISTORY OF ACTIVE PARTICIPANTS

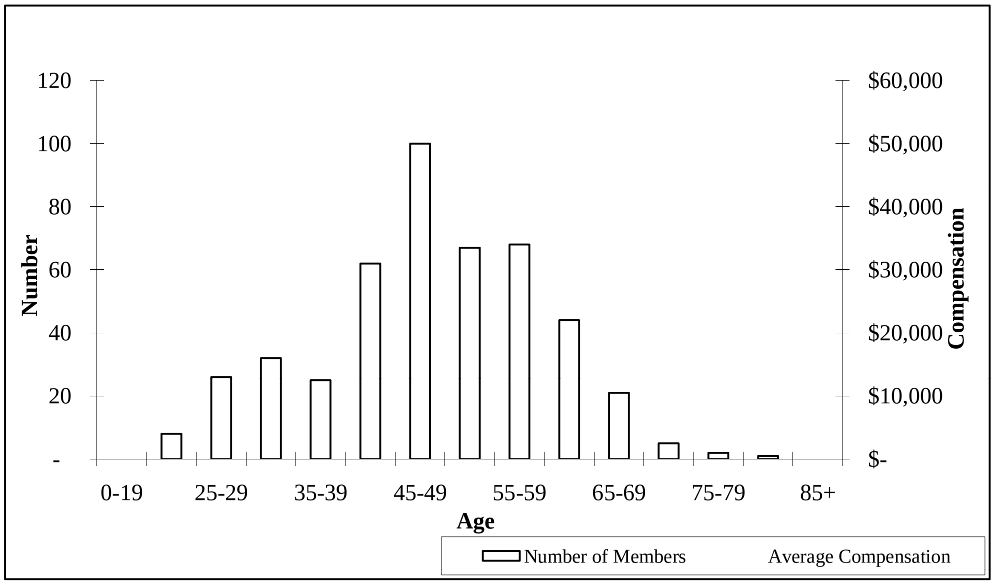
Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2008	461	48.2	11.3	$46,193
2006	451	47.8	11.1	$41,963
2004	438	47.1	10.5	$41,086
2002	444	46.2	10.0	$37,784
2000	434	45.6	9.7	$34,119

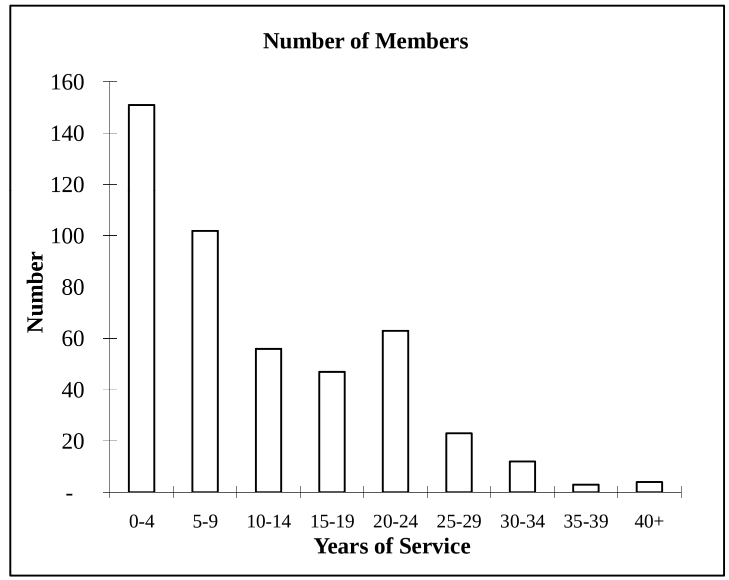
- Employee age has increased by 2.6 years and service has increased by 1.6 years over the course of the past eight years. Average annual compensation has grown by 35.4% (3.9% annually) over the same time period. Our impression is that the changes in age and service are greater than in most other systems.

The charts on the following pages summarize demographic information regarding active and retiree members.

CONCORD CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2008
Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	$ -	$ -
20-24	8	-	-	-	-	-	-	-	-	8	250,605	31,326
25-29	25	1	-	-	-	-	-	-	-	26	942,679	36,257
30-34	11	19	1	1	-	-	-	-	-	32	1,411,333	44,104
35-39	7	8	5	3	2	-	-	-	-	25	1,090,547	43,622
40-44	23	15	6	8	10	-	-	-	-	62	3,138,428	50,620
45-49	31	20	12	13	16	7	1	-	-	100	4,756,998	47,570
50-54	17	14	6	6	12	8	3	-	1	67	3,257,182	48,615
55-59	16	12	14	8	6	5	6	1	-	68	3,341,405	49,138
60-64	10	7	5	6	12	1	2	-	1	44	1,944,170	44,186
65-69	3	5	4	2	4	2	-	1	-	21	948,959	45,189
70-74	-	1	3	-	-	-	-	-	1	5	134,127	26,825
75-79	-	-	-	-	1	-	-	-	1	2	62,255	31,128
80-84	-	-	-	-	-	-	-	1	-	1	16,100	16,100
85+	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	**151**	**102**	**56**	**47**	**63**	**23**	**12**	**3**	**4**	**461**	**$ 21,294,788**	**$ 46,193**





CONCORD CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2008
Retired Members

Disabled Member

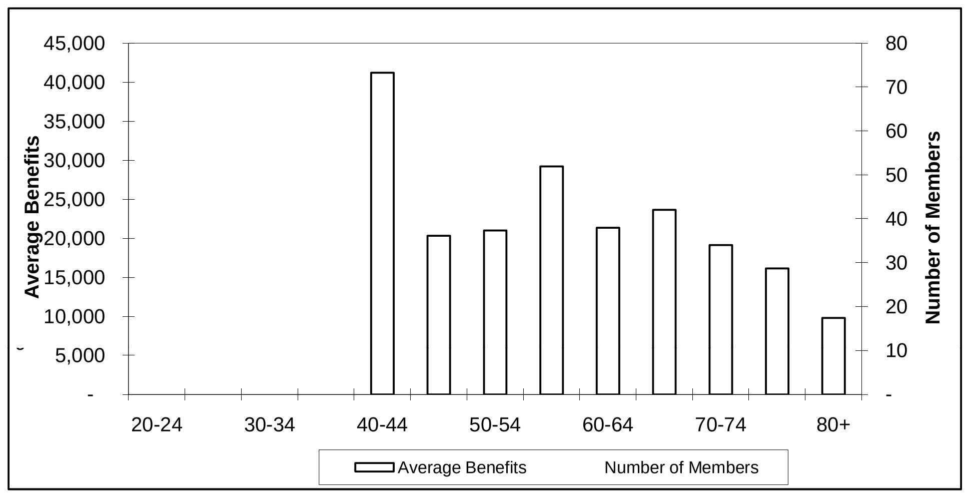
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	41,232	41,232
45-49	2	25,035	50,071
50-54	7	21,320	149,241
55-59	3	39,220	117,661
60-64	1	14,552	14,552
65-69	4	29,758	119,032
70-74	2	28,671	57,342
75-79	5	21,892	109,461
80+	2	20,809	41,618
TOTAL	**27**	**$ 25,934**	**$ 700,210**

Retired Members and Beneficiaries

Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	-	-	-
45-49	2	15,624	31,249
50-54	1	18,887	18,887
55-59	9	25,876	232,886
60-64	25	21,623	540,581
65-69	30	22,843	685,304
70-74	48	18,744	899,704
75-79	42	15,459	649,292
80+	69	9,481	654,163
TOTAL	**226**	**$ 16,425**	**$ 3,712,067**

Total

Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	41,232	41,232
45-49	4	20,330	81,320
50-54	8	21,016	168,128
55-59	12	29,212	350,548
60-64	26	21,351	555,134
65-69	34	23,657	804,336
70-74	50	19,141	957,046
75-79	47	16,144	758,753
80+	71	9,800	695,781
TOTAL	**253**	**$ 17,440**	**$ 4,412,277**



Benefits shown are net of State reimbursed COLA.

VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

		January 1, 2008	% of Payroll*
Gross Normal Cost (GNC)	$	2,818,850	13.2%
Employees Contribution		1,837,047	8.6%
Net Normal Cost (NNC)	$	981,803	4.6%
Adjusted to Beginning of Fiscal Year 2010	$	70,778	
Administrative Expense	$	162,000	0.8%
Adjusted Net Normal Cost With Admin. Expense	$	1,214,581	

*Payroll paid in 2007 for employees as of January 1, 2008 is $21,294,788. Payroll for new hires in 2007 was annualized.

- The gross normal cost (GNC) is the "price" of benefits accruing in the current year if the assumptions underlying the normal cost were realized.

- An individual normal cost represents that part of the cost of a member's future benefits that 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 GNC to determine employer normal cost, or net normal cost (NNC).

- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.

ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

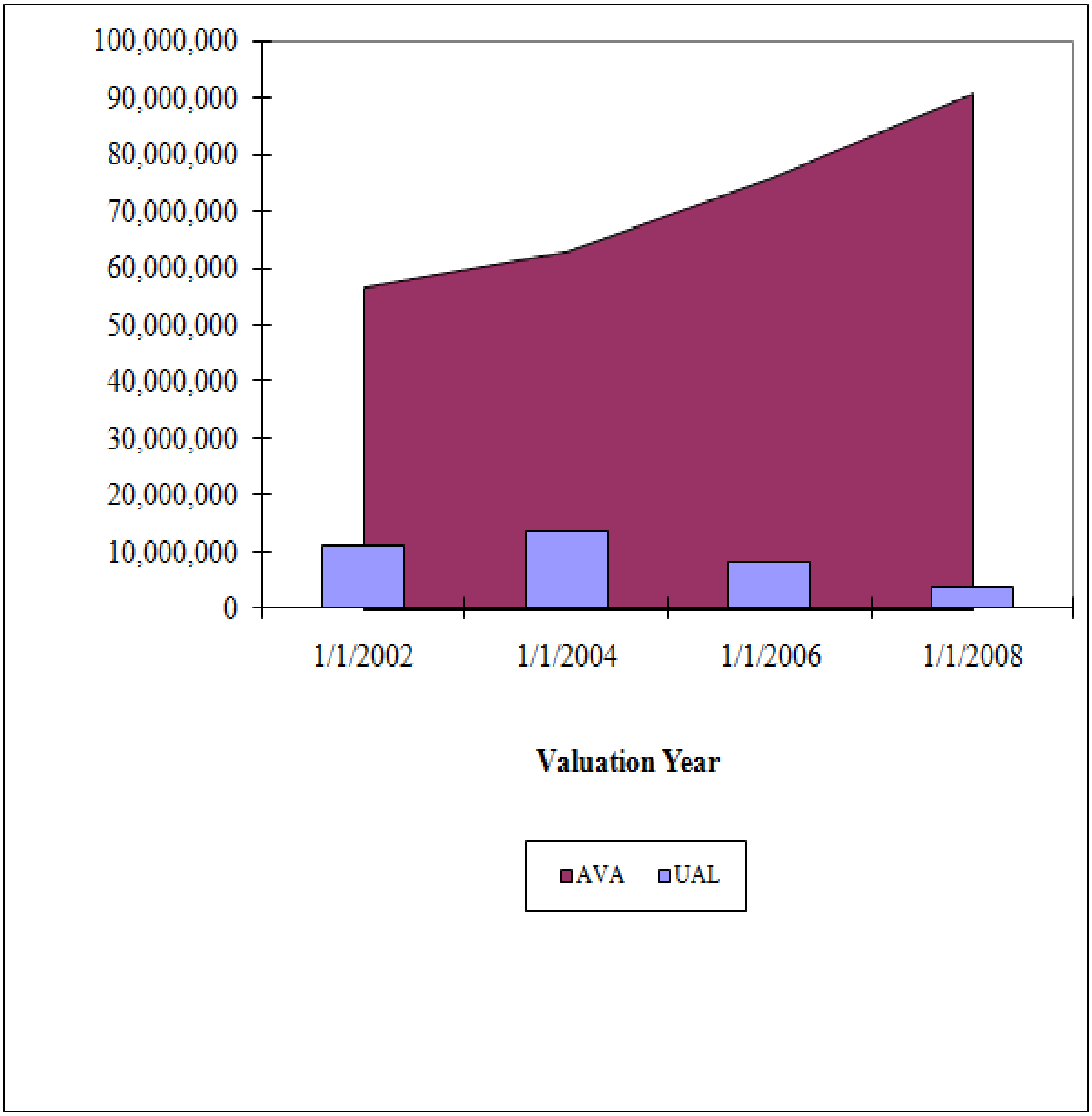
				January 1, 2008	Percentage Change
Active Actuarial Accrued Liability			$	52,435,213	11.9%
Superannuation	$	44,636,967			
Death	$	1,424,588			
Disability	$	4,942,667			
Termination	$	1,430,991			
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability				42,246,065	13.8%
Retirees and Beneficiaries	$	33,196,789			
Disabled	$	7,602,627			
Inactive	$	1,446,649			
Total Actuarial Accrued Liability (AAL)			$	94,681,278	12.7%
Actuarial Value of Assets (AVA)			$	90,963,278	19.7%
Unfunded Actuarial Accrued Liability			$	3,718,000	-53.6%
Funded Ratio (AVA / AAL)					
2008 (7.75% interest rate):		96%			
2006 (7.75% interest rate):		90%			

- Actuarial Accrued Liability (AAL) is the "price" of benefits attributable to benefits earned in past years, or in other words, represents today's value of all benefits earned by active and inactive members.

- The total AAL is $94,681,278. This along with an actuarial value of assets of $90,963,278 produces a funded status of 96%. This compares to a funded status of 90% for the 2006 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past four actuarial valuations.

HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)



DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2010	$	1,214,581
Amortization	$	1,797,051
Total Appropriation required for Fiscal 2010	$	3,011,632

- The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made at the beginning of the Fiscal Year (July 1).

- The contribution amount for Fiscal 2010 is $3,011,632. The funding schedule is presented on page 14. The schedule's length is two (2) years (for the fresh start base) which is one year less than the January 1, 2006 valuation schedule's length. The maximum funding schedule length allowed by Chapter 32 of the Massachusetts General Laws is nineteen years to 2028.

- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage increase remained the same as the prior valuation. The maximum amortization increase allowed under Chapter 32 is 4.50%.

FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution
2010	1,214,581	2,818,719	1,797,051	3,011,632
2011	1,272,274	1,100,847	1,055,292	2,327,566
2012	1,332,707	49,086	11,336	1,344,043
2013	1,396,010	40,675	11,336	1,407,346
2014	1,462,321	31,613	11,336	1,473,657
2015	1,531,781	21,849	11,336	1,543,117
2016	1,604,540	11,336	11,336	1,615,876
2017	1,680,756	-	-	1,680,756
2018	1,760,592	-	-	1,760,592

Amortization of Unfunded Liability as of July 1, 2009

Year	Type	Original Amort Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2005	ERI - CHA(2003)	11,336	0.0%	12	11,336	7
2010	Fresh Start	1,428,668	0.0%	2	1,428,668	2

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.

Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

Original Amortization Amount is the annual amortization amount when the base was established.

Percentage Increasing is the percentage that the Original Amortization Amount increases per year.

Original # of Years is the number of years over which the base is being amortized.

Current Amortization Amount is the amortization payment amount for this year.

Years Remaining is the number of years left to amortize the base.

ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

Assumption	January 1, 2008 Valuation
Interest Rate	7.75% (same as prior valuation)
Salary Increase	4.75% (same as prior valuation)
COLA	3% of $12,000
COLA Frequency	Granted every year
Mortality	RP-2000 table. For members retired under an Accidental Disability (job-related), 50% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table, ages set forward 2 years.
Overall Disability	<u>Groups 1 and 2</u> 50% ordinary disability 50% accidental disability <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 - 65 <u>Group 4</u> Ages 50 – 65
Administrative Expense	$162,000 budget estimated for FY 2010 provided by Concord Retirement Board.

ASSETS

a.	Cash	$	2,233,412.41
b.	Fixed Income		25,235,070.97
c.	Pooled Domestic Equity Funds		26,454,603.79
d.	Pooled International Equity Funds		5,709,658.19
e.	Pooled Alternative Investments		741,664.25
f.	PRIT Fund		32,582,725.99
j.	Sub-Total:	$	92,957,135.60
k.	Interest Due and Accrued	$	336,034.56
l.	Accounts Receivable		.00
m.	Accounts Payable		.00
n.	Sub-Total:	$	336,034.56
o.	Market Value of Assets [(j) + (n)]	$	93,293,170.16

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2007 (adjusted for interest due and accrued, payables and receivables) is $93,293,170.16.

- The asset allocation is approximately 3% cash, receivables, payables and short-term investments, 32% fixed income, and 65% equities.

- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 7.75% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.

CALCULATION OF VALUATION ASSETS
as of January 1, 2008
4-Year Phase-In of Asset Gains and Losses

1.	Market value of assets including receivable/payable as of 01/01/2008				$73,761,570

2. Phase-in of asset gains and losses

	Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)
a.	2007	$358,564	75%	$268,923
b.	2006	$4,121,937	50%	$2,060,969
c.	2005	N/A	25%	N/A
d.	Total			$2,329,892

3.	Valuation assets without corridor as of 01/01/2008 (1. - 2.d.)	$90,963,278
4.	Corridor Check	
	a. 90% of Market Value	$83,963,853
	b. 110% of Market Value	$102,622,487
5.	Valuation assets with corridor as of 01/01/2008 3. within Corridor	$90,963,278
6.	Calculation of return on valuation assets	
	a. Valuation assets as of 01/01/2006	$75,974,208
	b. ER contribs + EE contribs - Ben Pymts - Expenses	267,699
	c. Actual return on valuation assets 5. - (6.a. + 6.b.)	$14,721,371
	d. Weighted value of valuation assets	$76,067,888
	e. Return on valuation assets 6.c. / 6.d.	19.4%
	f. Annualized return on assets	9.2%

DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

Schedules of Funding Progress

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets A	Actuarial Accrued Liability B	Unfunded AAL (UAAL) B-A	Funded Ratio A/B	Covered Payroll C	UAAL as a % of Covered Payroll (B-A)/C
1/1/2008	$90,963	$94,681	$3,718	96%	$21,295	17%
1/1/2006	$75,974	$83,989	$8,015	90%	$18,925	42%
1/1/2004	$63,067	$76,564	$13,497	82%	$17,996	75%
1/1/2002	$56,748	$67,763	$11,015	84%	$16,776	66%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2008
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	2 years
Asset valuation method	Market value adjusted by accounts payable and receivables adjusted to phase in over 4 years investment gains or losses above or below the expected rate of investment return. The actuarial value of assets must be no less than 90% of the adjusted market value nor more than 110% of the adjusted market value. Market value of assets is $93,293,170.16
Actuarial assumptions:	
Investment Rate of Return	7.75% per year
Projected Salary Increases	4.75% per year

PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2008

The normal cost for employees on that date was:	$1,837,047	8.6% of payroll
The normal cost for the employer was:	$981,803	4.6% of payroll
The actuarial liability for active members was:	$52,435,213	
The actuarial liability for retired members was (includes inactives):	$42,246,065	
Total actuarial accrued liability:	$94,681,278	
System assets as of that date:	$90,963,278	
Unfunded actuarial accrued liability:	$3,718,000	
The ratio of system's assets to total actuarial liability was:	96%	
As of that date the total covered employee payroll was:	$21,294,788	

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

Investment Return: 7.75% per annum
Rate of Salary Increase: 4.75% per annum

SCHEDULE OF FUNDING PROGRESS (Dollars in $000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2008	$90,963	$94,681	$3,718	96%	$21,295	17%
1/1/2006	$75,974	$83,989	$8,015	90%	$18,925	42%
1/1/2004	$63,067	$76,564	$13,497	82%	$17,996	75%
1/1/2002	$56,748	$67,763	$11,015	84%	$16,776	66%

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

1.	Actuarial Cost Method	The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age. The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.
2.	Asset Valuation Method	Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a four-year rolling period starting with the 2005 calendar year investment return. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.
3.	Fiscal Year Adjustment	The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2010. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

Actuarial Assumptions

1.	Investment Return	7.75% per year net of investment expenses. (Same as the prior valuation)
2.	Salary Increases	4.75% per year. (Same as the prior valuation)

ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero.

	Rate of Withdrawal	
Age	***Group 1 and 2***	***Group 4***
20	30.01%	2.10%
25	22.58%	1.90%
30	13.88%	1.65%
35	8.05%	1.25%
40	5.77%	0.56%
45	4.54%	0.04%
50	3.66%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

	Rate of Disability	
Age	***Group 1 and 2***	***Group 4***
20	0.03%	0.10%
25	0.04%	0.12%
30	0.06%	0.18%
35	0.08%	0.26%
40	0.12%	0.38%
45	0.18%	0.58%
50	0.31%	0.98%
55	0.50%	1.60%
60	0.61%	1.97%

Disability is assumed to be 50% ordinary and 50% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.

ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

Age	**Rates of Retirement** *Group 1 and 2*	*Group 4*
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	100%	100%

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct).

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) set-forward by 2 years. Prior valuation used a 5-year set forward. Death is assumed to be due to the same cause as the disability 50% of the time.

8. Regular Interest Rate Credited to Annuity Savings Account

2% per year.

ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)

9.	Family Composition	Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older).
10.	Cost-of-Living Increases	A 3% COLA on the first $12,000 of a member's retirement allowance is assumed to be granted every year.
11.	Administrative Expenses	Estimated budgeted amount of $162,000 for the Fiscal Year 2010 excluding investment management fees and custodial fee is added to the Normal Cost.
12.	Step Increases	Step increases are assumed to be part of the salary increase assumption.
13.	Credited Service	Service between date of hire and date of membership is assumed to be purchased by all members.
14.	Contribution Timing	Contributions are assumed to be made at the beginning of the fiscal year (July 1).
15.	Valuation Date	January 1, 2008.

SUMMARY OF PRINCIPAL PROVISIONS

1. Participant

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations (e.g., electricians)

Group 4: police and firefighters

2. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over $30,000.

3. Pay

a. Pay

Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.

b. Average Pay

The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.

4. Credited Service

Period during which an employee contributes to the retirement system plus certain periods of military service and "purchased" service.

SUMMARY OF PRINCIPAL PROVISIONS
(Continued)

5. Service Retirement

a. Eligibility

Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.

b. Retirement Allowance

Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional $15 per year for each year of credited service up to 20 years.

6. Deferred Vested Retirement

a. Eligibility

Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).

SUMMARY OF PRINCIPAL PROVISIONS
(Continued)

6. Deferred Vested Retirement *(continued)*

b. Retirement Allowance	Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option. Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.

7. Ordinary Disability Retirement

a. Eligibility	Non-job related disability after completion of 10 years of credited service.
b. Retirement Allowance	Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

8. Accidental Disability Retirement

a. Eligibility	Disabled as a result of an accident in the performance of duties. No age or service requirement.
b. Retirement Allowance	72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).

SUMMARY OF PRINCIPAL PROVISIONS
(Continued)

9. Non-Occupational Death

a. Eligibility	Dies while in active service, but not due to occupational injury. 2 years of service.
b. Retirement Allowance	Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - $250, first child - $120, each additional child - $90.

10. Occupational Death

a. Eligibility	Dies as a result of an occupational injury.
b. Benefit Amount	Same as 8b.

11. Cost-of-Living Increases — An increase of up to 3% applied to the first $12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. Optional Forms of Payment

a. Option A	Allowance payable monthly for the life of the member.
b. Option B	Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
c. Option C	Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.

GLOSSARY OF TERMS

1.	Present Value of Benefits	Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2.	Actuarial Cost Method	The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3.	Actuarial Assumptions	Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4.	Actuarial Accrued Liability	The portion of the Present Value of Benefits that is attributable to past service.
5.	Normal Cost	The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6.	Actuarial Assets	Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a four-year rolling period starting with the 2004 calendar year investment return. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.
7.	Unfunded Actuarial Accrued Liability	That portion of the Actuarial Accrued Liability not covered by System Assets.
8.	PERAC	Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.

9.	PRIT	Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10.	GASB	Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).

Acknowledgement of Qualification

Acknowledgement of Qualification for January 1, 2008 actuarial valuation of the Concord Retirement System:

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone
Member, American Academy of Actuaries