



Commonwealth of Massachusetts

ACTUARIAL VALUATION REPORT

As of January 1, 1998

for the

Leominster

Contributory Retirement System

**Public Employee Retirement
Administration Commission**

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LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION I
INTRODUCTION AND CERTIFICATION

This report presents the results of the actuarial valuation of the City of Leominster Contributory Retirement System. The valuation was performed as of January 1, 1998 pursuant to Chapter 32 of the General Laws of the Commonwealth of Massachusetts.

It is our opinion that the actuarial assumptions used in this report are each reasonably related to plan experience and expectations and represent our best estimate of anticipated experience under the system.

This valuation was based on member data as of December 31, 1997 which was supplied by the retirement board. Such tests as we deemed necessary were performed on the data to ensure accuracy. Asset information as of December 31, 1997 was provided in the Annual Statement for the Financial Condition as submitted to this office in accordance with G.L. c. 32, ss. 20(5)(h), 23(1)(c) and 23(2)(e).

In our opinion, this report represents an accurate appraisal of the actuarial status of the City of Leominster Contributory Retirement System performed in accordance with generally accepted actuarial principles and practices relating to pension plans.

Respectfully submitted,
Public Employee Retirement
Administration Commission

JAMES R. LAMENZO
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ROBERT F. STALNAKER
Executive Director

Dated: February 1, 1999

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION II
SUMMARY DISCUSSION

PART A Costs under Current Valuation

The results of the January 1, 1998 actuarial valuation are as follows:

Total Normal Cost	\$2,511,049
Employee Contributions	<u>1,243,540</u>
Net Normal Cost	<u>\$1,267,509</u>
Total Actuarial Liability	\$67,030,182
Assets	<u>41,568,408</u>
Unfunded Actuarial Liability	<u>\$25,461,774</u>

Please see page 6 for more detail of these amounts.

The most recent funding schedule will be effective in FY00. The appropriation for FY99 under the System's approved funding schedule, based upon the results of this valuation, is shown below.

30 Years 2.5% Increasing Funding Schedule for the Fiscal Yr. beginning July 1, 1998

	<u>DOLLAR AMOUNT</u>	<u>PERCENT OF PAYROLL</u>
Normal Cost (adjusted for date of payment)	\$1,368,910	8.7%
Additional Administrative Expenses	120,000	0.8%
Amortization Amounts		
Unfunded Actuarial Liability		
30 year increasing	1,769,185	11.2%
Total Cost	<u>\$3,258,095</u>	<u>20.7%</u>

All amounts assume appropriations will be made January 1.

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION II
SUMMARY DISCUSSION (Continued)

PART B Comparison with Prior Valuation

The last full valuation was performed by PERA as of January 1, 1995. The calculations in both reports were based on similar assumptions, except the 1983 Group Annuity Mortality table was used for this valuation. Below we have shown the comparison between the PERA valuation as of January 1, 1995 and the valuation completed by PERAC as of January 1, 1998.

	<u>PERAC</u> <u>1/1/98</u>	<u>PERA</u> <u>1/1/95</u>	<u>Increase</u> <u>(Decrease)</u>	<u>Increase</u> <u>(Decrease)</u>
Total Normal Cost	\$2,511,049	\$1,741,178	\$769,871	44.2%
Employee Contributions	<u>1,243,540</u>	<u>865,341</u>	<u>378,199</u>	43.7%
Net Normal Cost	<u>\$1,267,509</u>	<u>\$875,837</u>	<u>\$391,672</u>	44.7%
Actuarial Liability				
Actives	\$34,478,169	\$25,437,930	\$9,040,239	35.5%
Retirees and Inactives	<u>32,552,013</u>	<u>23,586,193</u>	<u>8,965,820</u>	38.0%
Total	\$67,030,182	\$49,024,123	\$18,006,059	36.7%
Assets	<u>41,568,408</u>	<u>24,577,639</u>	<u>16,990,769</u>	69.1%
Unfunded Actuarial Liability	<u>\$25,461,774</u>	<u>\$24,446,484</u>	<u>\$1,015,290</u>	4.2%
Funded Ratio	<u>62.0%</u>	<u>50.1%</u>	<u>11.9%</u>	

We have shown below a comparison of the number of members, payroll amounts, average age and average service.

	<u>PERAC</u> <u>1/1/98</u>	<u>PERA</u> <u>1/1/95</u>	<u>%</u> <u>Difference</u>
<u>Actives</u>			
Number	564	443	27.3%
Total Payroll	\$15,740,534	\$11,638,155	35.2%
Average Salary	\$27,909	\$26,271	6.2%
Average Age	44.7	46.9	(4.7%)
Average Service	10.1	12.1	(16.5%)

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION II
SUMMARY DISCUSSION (Continued)

PART B Comparison with Prior Valuation (continued)

	PERAC <u>1/1/98</u>	PERA <u>1/1/95</u>	% <u>Difference</u>
<u>Retirees and Survivors</u>			
Number	338	322	5.0%
Total Benefits*	\$3,313,314	\$2,864,758	15.7%
Average Benefits*	\$9,803	\$8,897	10.2%
Average Age	71.7	70.7	1.4%

*excluding State reimbursed COLA

Since the system has adopted Chapter 17, the 1998 valuation amounts reflect the impact of the COLA legislation. The figures for the prior valuation do not reflect this cost.

The costs based on this valuation are less than expected (before taking into account the change in mortality table and the COLA legislation). The gain is primarily due to average salary increases less than assumed over the three-year period, despite the increase in active members and total payroll.

PART C Considerations for the Future

In the past year, the System accepted the COLA legislation. The funding schedule presented reflects this impact. This schedule amortizes the unfunded actuarial liability over 30 years with payments increasing 2.5% per year.

Chapter 17 of the Acts of 1997 revised the manner in which Cost of Living Adjustments (COLA) are granted to public pension retirees. If a system adopts the COLA provisions and the Retirement Board approves a COLA for a given year, all retirees of the system would receive annual COLA increases up to 3.0% based on the Consumer Price Index used in determining Cost of Living Adjustments under Social Security.

The basis on which the COLA will be applied is \$12,000. The system would pay for any COLA granted after 1997.

SECTION II
SUMMARY DISCUSSION (Continued)

PART D Other Information Available in this Report

The valuation results by type of benefit are on page 6. On page 7 is the development of the required appropriation amounts. The updated current funding schedule based on the City of Leominster Retirement Board's acceptance of section 22D is on page 8.

For purposes of filing financial statements, the Governmental Accounting Standards Board (GASB) issued Statement No. 25 in November, 1994. The requirements of statement 25 are effective for periods beginning after June 15, 1996. The actuarial information required by this statement is on page 9 of this report.

In addition, we have included a summary of asset information on page 10. For purposes of developing the Unfunded Actuarial Liability, we have used the market value of assets. In future years, an actuarial value of assets will be established consisting of a five-year average of market values. This will serve to reflect market values, but will moderate the fluctuations that can occur if an unadjusted market value is used each year.

On pages 11 to 14, demographic information regarding the members of the Leominster Contributory Retirement System is presented. These charts display age, service and salary information for active members and age and benefit information for retirees and survivors.

A description of the funding method used in calculating valuation results is on page 15, and the actuarial assumptions used are on pages 16 and 17.

A brief summary of plan provisions appears on pages 18 to 22, followed by a glossary of actuarial terminology on pages 23 to 24.

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION III
SUMMARY OF VALUATION RESULTS

A. Number of Members on Current Valuation Date	
1. Active Members	564
2. Vested Terminated Members	3
3. Retired Members and Survivors	<u>338</u>
Total	905
B. Total Regular Compensation of Active Members	\$15,740,535
C. Normal Cost	
1. Superannuation	\$1,530,017
2. Termination	104,158
3. Disability	634,287
4. Death	<u>242,587</u>
Total Normal Cost	\$2,511,049
Employee Contribution	<u>1,243,540</u>
Net Employer Normal Cost	<u>\$1,267,509</u>
D. Actuarial Liability	
1. Superannuation	\$27,807,332
2. Termination	267,288
3. Disability	4,316,578
4. Death	<u>2,086,971</u>
Total Actives	\$34,478,169
Vested Terminated Members	404,667
Non-Vested Terminated Members	211,747
Retirees and Survivors	<u>31,935,599</u>
Total Actuarial Liability	\$67,030,182
Assets	<u>41,568,408</u>
Unfunded Actuarial Liability	<u>\$25,461,774</u>
Funded Ratio (Ratio of Assets to Actuarial Liability)	62.0%

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION IV
APPROPRIATION DEVELOPMENT FOR THE FISCAL YEAR 1999

Part A. Derivation of Appropriation

Costs under 2.5% Increasing Funding Schedule

1. a. Normal Cost as of January 1, 1998	\$1,267,509
b. For FY99	\$1,368,910
c. Administrative Expense	\$120,000
d. Total Employer Normal Cost	\$1,488,910
2. a. Unfunded Active Actuarial Liability as of January 1, 1998	\$25,461,774
b. FY99 amortization payment (30 year increasing)	\$1,769,185
3. Total FY99 payment	
[Sum of 1(d) and 2(b)]	\$3,258,095

NOTE: Appropriation is assumed to be paid January 1.

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION IV
APPROPRIATION DEVELOPMENT FOR THE FISCAL YEAR 1999 (Continued)

Part B 30 years 2.5% Increasing Amortization Funding Schedule

<i>Fiscal Year</i>	<i>Normal Cost</i>	<i>Amort. Of UAL</i>	<i>Total Cost</i>	<i>BOFY Balance</i>
1999	1,488,910	1,769,185	3,258,095	26,480,245
2000	1,578,244	1,813,415	3,391,659	26,758,712
2001	1,672,939	1,858,750	3,531,689	27,013,457
2002	1,773,315	1,905,219	3,678,535	27,241,433
2003	1,879,714	1,952,850	3,832,564	27,439,320
2004	1,992,497	2,001,671	3,994,168	27,603,501
2005	2,112,047	2,051,713	4,163,760	27,730,044
2006	2,238,770	2,103,006	4,341,775	27,814,666
2007	2,373,096	2,155,581	4,528,677	27,852,713
2008	2,515,482	2,209,470	4,724,952	27,839,127
2009	2,666,411	2,264,707	4,931,118	27,768,408
2010	2,826,395	2,321,325	5,147,720	27,634,585
2011	2,995,979	2,379,358	5,375,337	27,431,174
2012	3,175,738	2,438,842	5,614,579	27,151,136
2013	3,366,282	2,499,813	5,866,095	26,786,832
2014	3,568,259	2,562,308	6,130,567	26,329,973
2015	3,782,354	2,626,366	6,408,720	25,771,570
2016	4,009,296	2,692,025	6,701,320	25,101,876
2017	4,249,853	2,759,326	7,009,179	24,310,320
2018	4,504,845	2,828,309	7,333,153	23,385,447
2019	4,775,135	2,899,016	7,674,152	22,314,841
2020	5,061,643	2,971,492	8,033,135	21,085,052
2021	5,365,342	3,045,779	8,411,121	19,681,504
2022	5,687,262	3,121,924	8,809,186	18,088,414
2023	6,028,498	3,199,972	9,228,470	16,288,687
2024	6,390,208	3,279,971	9,670,179	14,263,812
2025	6,773,621	3,361,970	10,135,591	11,993,747
2026	7,180,038	3,446,019	10,626,057	9,456,797
2027	7,610,840	3,532,170	11,143,010	6,629,481
2028	8,067,490	3,620,474	11,687,965	3,486,383
2029	8,551,540	0	8,551,540	0
2030	9,064,632	0	9,064,632	0

All amounts assume payments will be made January 1 of each fiscal year

SECTION V
GASB STATEMENT NO. 25 - ACTUARIAL INFORMATION

In November of 1994, GASB issued Statements No. 25, 26 and 27, relating to Financial Reporting and Accounting for Pension Plans. We have included in this report the actuarial information required by Statement No. 25. The requirements of Statement 25 are effective for periods beginning after June 15, 1996.

SCHEDULE OF FUNDING PROGRESS

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 Cov. Payroll ((b-a)/c)
1/1/98	\$41,568,408	\$67,030,182	\$25,461,774	62.0%	\$15,740,534	161.8%
1/1/95	\$24,577,639	\$49,024,123	\$24,446,484	50.1%	\$11,638,155	210.1%
1/1/92	\$19,797,387	\$42,516,781	\$22,719,394	46.6%	\$10,699,612	212.3%

*excludes State reimbursed COLA

NOTES TO SCHEDULES

Additional information as of the latest actuarial valuation follows:

Valuation Date	January 1, 1998
Actuarial Cost Method	Individual entry age normal
Amortization method	2.5% increasing
Remaining amortization period	30 years
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return	8.0%
Projected salary increases	6.0%

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SECTION VI
LEOMINSTER ASSETS 12/31/97

A. Breakdown of Assets by Investment Type

Type

Cash and Cash Equivalents	\$5,029,225.11
Fixed Income Securities (Book Value)	20,710,489.91
Equities (Market Value)	15,052,006.99
Interest Due and Accrued	<u>361,415.43</u>
TOTAL	\$41,153,137.44

B. Breakdown of Assets by Fund

Annuity Savings Fund	\$11,564,670.59
Annuity Reserve Fund	4,153,312.53
Military Service Fund	10,635.17
Pension Fund	6,011,214.16
Expense Fund	222,581.66
Pension Reserve Fund	<u>19,190,723.33</u>
TOTAL	\$41,153,137.44

C. <u>Market Value of Assets</u>	\$41,568,408.42
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LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION VII
INFORMATION ON SYSTEM MEMBERSHIP

A critical element of an actuarial valuation is accurate and up-to-date membership information. PERAC conducted an extensive review of actual member information submitted as of 12/31/97 by Leominster.

Part A Active Members

	<u>Actives</u>	<u>Vested Terms.</u>
Number of Members	564	3
Average Age	44.7	47.5
Average Service	10.1	22.4
Average Salary	\$27,909	\$35,890
Average Annuity Savings Fund Balance	\$11,238,174	\$114,749

Age by Service Distribution of Active Members

Years of Service

<i>Present Age</i>	<i>0 - 4</i>	<i>5 - 9</i>	<i>10 - 14</i>	<i>15 - 19</i>	<i>20 - 24</i>	<i>25 - 29</i>	<i>30 +</i>	Total
0-24	15							15
25-29	29	4						33
30-34	35	10	22					67
35-39	36	6	16	9				67
40-44	42	13	12	17	10			94
45-49	32	15	16	10	17	9		99
50-54	15	13	17	11	10	13	4	83
55-59	7	8	16	5	5	2	5	48
60-64	1	4	10	3	4	12	7	41
65 +	1	2	4	4	1	2	3	17
Total	213	75	113	59	47	38	19	564

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION VII
INFORMATION ON SYSTEM MEMBERSHIP (Continued)

Part A Active Members (continued)

Salary by Age Distribution of Active Members

<i>Present Age</i>	<i>Number of Participants</i>	<i>Total Salary</i>	<i>Average Salary</i>
0 - 24	15	\$330,378	\$22,025
25 - 29	33	\$830,838	\$25,177
30 - 34	67	\$2,042,399	\$30,484
35 - 39	67	\$1,870,207	\$27,914
40 - 44	94	\$2,578,121	\$27,427
	1*	\$47,007	\$47,007
45 - 49	99	\$3,011,789	\$30,422
	1*	\$46,901	\$46,901
50 - 54	83	\$2,426,057	\$29,230
55 - 59	48	\$1,104,982	\$23,020
	1*	\$13,763	\$13,763
60 - 64	41	\$1,130,511	\$27,573
65 +	17	\$415,253	\$24,427
Total	564	\$15,740,535	\$27,909
	3*	\$107,671	\$35,890

* Vested Terminated Members

Actual Employee Contributions made during 1997: \$1,092,956

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION VII
INFORMATION ON SYSTEM MEMBERSHIP (Continued)

Part B Retirees and Survivors

	<i>Superannuation</i>	<i>Accidental Disability</i>	<i>Ordinary Disability</i>	<i>Survivors</i>	Total
Number of Members	254	42	3	39	338
Average Age	73.1	63.5	55.0	72.3	71.7
Avg. Annual Benefit	\$9,899	\$19,710	\$11,431	\$7,158	\$10,516

Benefit by Payment and Retirement Type

	<i>Superannuation</i>	<i>Accidental Disability</i>	<i>Ordinary Disability</i>	<i>Survivors</i>	Total
Total Annuity	\$383,964	\$47,499	\$3,353	\$25,702	\$460,518
Pension from Leominster	1,884,056	695,813	28,309	217,252	2,825,430
Pension from Other Systems	26,149	0	0	1,216	27,365
COLA	220,230	84,499	2,632	34,973	342,334
Total	\$2,514,399	\$827,811	\$34,294	\$279,143	\$3,655,647

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION VII
INFORMATION ON SYSTEM MEMBERSHIP (Continued)

Part B Retirees and Survivors (continued)Benefit by Age Distribution

<i>Present Age</i>	<i>Number of Members</i>	<i>Total Benefits</i>	<i>Average Benefits</i>
less than 40	1	\$35,695	\$35,695
40 - 44	1	\$23,204	\$23,204
45 - 49	6	\$111,201	\$18,534
50 - 54	13	\$218,322	\$16,794
55 - 59	4	\$28,980	\$7,245
60 - 64	33	\$416,333	\$12,616
65 - 69	69	\$862,237	\$12,496
70 - 74	84	\$935,236	\$11,134
75 - 79	73	\$689,749	\$9,449
80 - 84	28	\$179,649	\$6,416
85 - 89	19	\$115,550	\$6,082
90 +	7	\$39,491	\$5,642
Totals	338	\$3,655,647	\$10,816

SECTION VIII
VALUATION COST METHODS

Part A Actuarial Cost Method

The Actuarial Cost Method which was used to determine pension liabilities and costs for benefits payable for the City of Leominster Contributory Retirement System for the year beginning January 1, 1998, is known as the Entry Age Normal Cost Method. Under this method the Normal Cost for each active participant on the valuation date is determined as the level percent of salary, which, if paid annually from the date the participant first became a member of the retirement system, would fully fund by retirement, death, disability or termination, the projected benefits which the participant is expected to receive. The Actuarial Liability for each participant is determined as the present value as of the valuation date of all projected benefits which the participant is expected to receive, minus the present value of future annual Normal Cost payments expected to be made to the fund. Since only active members have a Normal Cost, the Actuarial Liability for inactives, retirees and survivors is simply equal to the present value of all projected benefits. The sum of Normal Cost and Actuarial Liability for each participant is equal to the Normal Cost and Actuarial Liability for the Plan. The Unfunded Actuarial Liability is the Actuarial Liability minus current assets.

The Normal Cost for a participant will remain a level percent of salary for each year of participation except for changes in provisions of the Plan or the actuarial assumptions employed in projection of benefits and present value determinations. The Normal Cost for the entire system will also change due to addition of new participants or the retirement, death or termination of participants. The Actuarial Liability for a participant will increase each year to reflect the additional accrual of Normal Cost. It will also change if the Plan provisions or actuarial assumptions are changed.

Differences each year between the actual experience of the Plan and the experience projected by the actuarial assumptions are reflected by adjustments to the Unfunded Actuarial Liability. An experience difference which increases the Unfunded Actuarial Liability is called an Actuarial Loss and one which decreases the Unfunded Actuarial Liability is called an Actuarial Gain.

Part B Asset Valuation Method

Assets are at market value.

LEOMINSTER ACTUARIAL VALUATION REPORT, 1/1/1998

SECTION IX
ACTUARIAL ASSUMPTIONS (Continued)

Rate of Disability

Based on an analysis of past experience. Sample annual rates are shown below:

<u>Age</u>	<u>Groups 1&2</u>	<u>Group 4</u>
20	0.0006	0.0012
30	0.0011	0.0022
40	0.0024	0.0048
50	0.0061	0.0122

It is also assumed that 55% of disabilities will be job-related for Group 1 and 2 members and 90% will be job-related for Group 4 members.

Rate of Retirement (Superannuation)

Based on an analysis of past experience. Annual rates are shown below:

<u>Age</u>	<u>Groups 1&2</u>	<u>Group 4</u>
50	0.0000	0.1000
51	0.0000	0.0200
52	0.0000	0.0200
53	0.0000	0.0200
54	0.0000	0.0200
55	0.1000	0.2500
56	0.0500	0.1000
57	0.0500	0.1000
58	0.0500	0.1000
59	0.0500	0.1000
60	0.0500	0.2500
61	0.0500	0.0500
62	0.2500	0.0500
63	0.1000	0.0500
64	0.1000	0.0500
65	0.1000	1.0000
66	0.1000	1.0000
67 and after	1.0000	1.0000

Administrative Expenses

An amount of \$120,000 has been included in the Normal Cost for FY99. This amount is assumed to increase by the salary increase assumption each year.

SECTION X
SUMMARY OF PLAN PROVISIONS

ADMINISTRATION : There are 106 contributory Retirement Systems for public employees in Massachusetts. Each system is governed by a retirement board and all boards, although operating independently, are governed by one retirement law, Chapter 32 of the Massachusetts General Laws. This law in general provides uniform benefits, uniform contribution requirements and a uniform accounting and funds structure for all systems.

PARTICIPATION : Participation is mandatory for all full-time employees. Eligibility with respect to part-time, provisional, temporary, seasonal or intermittent employment is governed by regulations promulgated by the retirement board, and approved by PERAC. Membership is optional for certain elected officials.

There are 3 classes of membership in the retirement System:

Group 1 - General employees, including clerical, administrative, technical and all other employees not otherwise classified.

Group 2 - Certain specified hazardous duty positions.

Group 4 - Police officers, firefighters, and other specified hazardous positions.

MEMBER CONTRIBUTIONS : Member contributions vary depending on the most recent date of membership:

Prior to 1975 - 5% of regular compensation

1975 - 1983 -7% of regular compensation

1984 to 6/30/96 - 8% of regular compensation

7/1/96 to present - 9% of regular compensation

1979 to present - an additional 2% of regular compensation in excess of \$30,000.

RATE OF INTEREST : Regular Interest on regular deductions made after January 1, 1984 is a rate established by PERAC in consultation with the Commissioner of Banks. The rate is obtained from the average rates paid on individual savings accounts by a representative sample of at least 10 financial institutions.

RETIREMENT AGE : The mandatory retirement age for some Group 2 and Group 4 employees is age 65. Most Group 2 and Group 4 members may remain in service after reaching age 65. Group 4 members who are employed in certain public safety positions are required to retire at age 65. There is no mandatory retirement age for employees in Group 1.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

SUPERANNUATION RETIREMENT : A member is eligible for a superannuation retirement allowance (service retirement), upon meeting the following conditions:

completion of 20 years of service, or

attainment of age 55 if hired prior to 1978, or if classified in Group 4, or

hired after 1978, with 10 years of service and age 55.

AMOUNT OF BENEFIT : A member's annual allowance is determined by multiplying average salary by a benefit rate related to the member's age and job classification at retirement, and the resulting product by his creditable service. The amount determined by the benefit formula cannot exceed 80% of the employees' highest three year average salary. For veterans as defined in G.L. c. 32, s. 1, there is an additional benefit of \$15 per year for each year of creditable service, up to a maximum of 20 years.

Salary is defined as gross regular compensation.

Average Salary is the average annual rate of regular compensation received during the 3 consecutive years that produce the highest average, or, if greater, during the last three years (whether or not consecutive) preceding retirement.

The Benefit Rate varies with the member's retirement age, but the highest rate of 2.5% applies to Group 1 employees who retire at or after age 65, Group 2 employees who retire at or after age 60, and to Group 4 employees who retire at or after age 55. A .1% reduction is applied for each year of age under the maximum age for the member's group. For Group 2 employees who terminate from service under age 55, the benefit rate for a Group 1 employee shall be used.

DEFERRED VESTED BENEFIT : A participant who has completed 10 or more years of creditable service is eligible for a deferred vested retirement benefit. Elected officials and others who were hired prior to 1978 may be vested after 6 years in accordance with G.L. c. 32, s. 10.

The participant's accrued benefit is payable commencing at age 55, or the completion of 20 years, or may be deferred until later at the participant's option.

WITHDRAWAL OF CONTRIBUTIONS : If a member is under age 55, member contributions may be withdrawn upon termination of employment. Employees who first become members on or after January 1, 1984, may receive only limited interest on their contributions if they voluntarily terminate their service. Those who leave service with less than 5 years receive no interest; those who leave service with greater than 5 but less than 10 years receive 50% of interest.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

DISABILITY RETIREMENT : The Massachusetts Retirement Plan provides 2 types of disability retirement benefits:

Ordinary Disability:

Eligibility: Non-veterans who become totally and permanently disabled by reason of a non-job related condition before attaining age 55 with at least 10 years of creditable service (or 15 years creditable service in systems in which the local option contained in G.L. c. 32, s.6(1) has not been adopted).

Veterans with ten years of creditable service who become totally and permanently disabled by reason of a non-job related condition prior to reaching "maximum age".

Retirement Allowance: Equal to the accrued superannuation retirement benefit as if the member was age 55. If the member is 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 member is over age 55, he or she will receive not less than the superannuation allowance to which he or she is entitled.

Accidental Disability:

Eligibility: Applies to members who become permanently and totally incapacitated for further duty as a result of a personal injury sustained or hazard undergone while in the performance of duties. There are no minimum age or service requirements. The member must file his or her application prior to attaining statutory "maximum age."

Retirement Allowance: 72% of salary plus an annuity based on accumulated member contributions, with interest. This amount is not to exceed 100% of pay. For those who became members in service after January 1, 1988 or who have not been members in service continually since that date, the amount is limited to 75% of pay. There is an additional pension of \$501.36 per year (or \$312.00 per year in systems in which the local option contained in G.L. c. 32, s.7(2)(b)(iii) has not been adopted), per child who is under 18 at the time of the member's retirement, with no age limitation if the child is mentally or physically incapacitated from earning. The additional pension may continue up to age 21 for any child who is a full time student at an accredited educational institution. Those who became members in service after January 1, 1988 or who have not been members in service continually since that date.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

ACCIDENTAL DEATH

Eligibility: Applies to members who die as a result of a work-related injury or if the member was retired for accidental disability and the death was the natural and proximate result of the injury or hazard undergone on account of which such member was retired.

Allowance: An immediate payment to a named beneficiary equal to the accumulated deductions at the time of death, plus a pension equal to 72% of current salary and payable to the surviving spouse, dependent children or the dependent parent, plus a supplement of \$312 per year, per child, payable to the spouse or legal guardian until all dependent children reach age 18 or 21 if a full time student, unless mentally or physically incapacitated.

The surviving spouse of a member of a police or fire department or any corrections officer who, under specific and limited circumstances detailed in the statute, suffers an accident and is killed or sustains injuries resulting in his death, may receive a pension equal to the maximum salary for the position held by the member upon his death. In addition, an eligible family member may receive a one time payment of \$100,000.00 from the State Retirement Board.

DEATH AFTER ACCIDENTAL DISABILITY RETIREMENT

Effective November 7, 1996, Accidental Disability retirees were allowed to select Option C at retirement and provide a benefit for an eligible survivor. For Accidental Disability retirees prior to November 7, 1996, who could not select Option C, if the member's death is from a cause unrelated to the condition for which the member received accidental disability benefits, a surviving spouse will receive an annual allowance of \$6,000 until remarriage or death.

DEATH IN ACTIVE SERVICE :

Eligibility: At least 2 years of service

Allowance: An immediate allowance equal to that which would have been payable had the member retired and elected Option C on the day before his or her death. For death occurring prior to the member's superannuation retirement age, the age 55 benefit rate is used. The minimum annual allowance payable to the surviving spouse of a member in service who dies with at least two years of creditable service is \$3,000, provided that the member and the spouse were married for at least one year and living together on the member's date of death.

The surviving spouse of such a member in service receives an additional allowance equal to the sum of \$1,440 per year for the first child and \$1,080 per year for each additional child until all dependent children reach age 18 or 22 if a full time student, unless mentally or physically incapacitated.

SECTION X
SUMMARY OF PLAN PROVISIONS (Continued)

COST OF LIVING

If a system has accepted Chapter 17 of the Acts of 1997, and the Retirement Board votes to pay a cost of living increase for that year, the percentage is determined based on the increase in the Consumer Price Index used for indexing Social Security benefits, but cannot exceed 3.0%. The first \$12,000 of a retiree's total allowance is subject to a cost-of-living adjustment related to a change of at least 3% in the Consumer Price Index. This benefit is subject to an annual vote of the Massachusetts General Court. The total Cost-of-Living adjustment for periods from 1981 through 1996 is paid for by the Commonwealth of Massachusetts.

METHODS OF PAYMENT

A member may elect to receive his or her retirement allowance in one of 3 optional forms of payment.

Option A: Total annual allowance, payable in monthly installments, commencing at retirement and terminating at the member's death.

Option B: A reduced annual allowance, payable in monthly installments, commencing at retirement and terminating at the death of the member, provided, however, that if the total amount of the annuity portion received by the member is less than the amount of his or her accumulated deductions, including interest, the difference or balance of his accumulated deductions will be paid in a lump sum to the retiree's beneficiary or beneficiaries of choice.

Option C: A reduced annual allowance, payable in monthly installments, commencing at retirement. At the death of the retired employee, $\frac{2}{3}$ of the allowance is payable to the member's designated beneficiary (who may be the spouse, or former spouse who remains unmarried for a member whose retirement becomes effective on or after February 2, 1992, child, parent, sister, or brother of the employee) for the life of the beneficiary. For members who retired on or after January 12, 1988, if the beneficiary pre-deceases the retiree, the benefit payable increases (or pops up) to the amount which would have been payable under Option A. Option C became available to accidental disability retirees on November 7, 1996.

ALLOCATION OF PENSION COSTS : If a member's total creditable service was partly earned by employment in more than one retirement system, the cost of the "pension portion" is allocated between the different systems pro rata based on the member's service within each retirement system.

SECTION XI
GLOSSARY OF TERMS

ACTUARIAL ACCRUED LIABILITY That portion of the Actuarial Present Value of pension plan benefits which is not provided by future Normal Costs or employee contributions. It is the portion of the Actuarial Present Value attributable to service rendered as of the Valuation Date.

ACTUARIAL ASSUMPTIONS Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the amount and duration of pension benefits, such as: mortality, withdrawal, disablement and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

ACTUARIAL COST METHOD (or FUNDING METHOD) A procedure for allocating the Actuarial Present Value of all past and future pension plan benefits to the Normal Cost and the Actuarial Accrued Liability.

ACTUARIAL GAIN OR LOSS (or EXPERIENCE GAIN or LOSS) A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions, during the period between two Actuarial Valuation dates.

Note: The effect on the Accrued Liability and/or the Normal Cost resulting from changes in the Actuarial Assumptions, the Actuarial Cost Method or pension plan provisions would be described as such, not as an Actuarial Gain (Loss).

ACTUARIAL PRESENT VALUE The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

AMORTIZATION PAYMENT That portion of the pension plan appropriation which represents payments made to pay interest on and the reduction of the Unfunded Accrued Liability.

ANNUAL STATEMENT The statement submitted to PERAC each year that describes the asset holdings and Fund balances as of December 31 and the transactions during the calendar year that affected the financial condition of the retirement system.

ANNUITY RESERVE FUND The fund into which total accumulated deductions, including interest, is transferred at the time a member retires, and from which annuity payments are made.

ANNUITY SAVINGS FUND The fund in which employee contributions plus interest credited are held for active members and for former members who have not withdrawn their contributions and are not yet receiving a benefit (inactive members).

SECTION XI
GLOSSARY OF TERMS (Continued)

ASSETS The value of securities as described in Section VIII.

COST OF BENEFITS The estimated payment from the pension system for benefits for the fiscal year. This is the minimum amount payable during the first six years of some Funding Schedules.

EXPENSE FUND The fund into which the appropriation for administrative expenses is paid and from which all such expenses are paid.

FUNDING SCHEDULE The schedule based upon the most recently approved actuarial valuation which sets forth the amount which would be appropriated to the pension system in accordance with Section 22D of M.G.L. Chapter 32.

GASB Governmental Accounting Standards Board

NORMAL COST Total Normal Cost is that portion of the Actuarial Present Value of pension plan benefits which is to be paid in a single fiscal year. The Employee Normal Cost is the amount of the expected employee contributions for the fiscal year. The Employer Normal Cost is the difference between the Total Normal Cost and the Employee Normal Cost.

PENSION FUND The fund into which appropriation amounts as determined by PERAC are paid and from which pension benefits are paid.

PENSION RESERVE FUND The fund which shall be credited with all amounts set aside by a system for the purpose of establishing a reserve to meet future pension liabilities. These amounts would include excess interest earnings.

SPECIAL FUND FOR MILITARY SERVICE CREDIT The fund which is credited with amounts paid by the City of Leominster Retirement Board equal to the amount which would have been contributed by a member during a military leave of absence as if the member had remained in active service of the City of Leominster. In the event of retirement or a non-job related death, such amount is transferred to the Annuity Reserve Fund. In the event of termination prior to retirement or death, such amount shall be transferred to the Pension Fund.

UNFUNDED ACCRUED LIABILITY The excess of the Actuarial Accrued Liability over the Assets.