

**CHARLOTTE FIREFIGHTERS'  
RETIREMENT SYSTEM  
REPORT OF ACTUARY  
ON THE VALUATION  
PREPARED AS OF JULY 1, 2003**



October 30, 2003

Board of Trustees  
Charlotte Firefighters' Retirement System  
428 East Fourth Street  
Suite 205  
Charlotte, NC 28202

Dear Members of the Board:

We are pleased to submit herewith the results of the annual actuarial valuation of the City of Charlotte Firefighters' Retirement System prepared as of July 1, 2003. The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2003, to recommend rates of contribution and to provide accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27). While not verifying the data at source, the actuary performed tests for consistency and reasonability.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the entry age normal cost method. Actuarial value of plan assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 3.75% annually. As indicated in last year's valuation report, recent asset losses and a previous amortization period that exceeded 30 years, have resulted in an increase in the annual required employer contribution rate under GASB, from 12.65% to 13.27% of payroll. Due to the current amortization period of 30 years and unrecognized asset losses of approximately \$34 million, it is likely that the annual required employer contribution rate will increase in subsequent valuations until the \$34 million is fully recognized. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System.

The valuation has been prepared in accordance with the parameters set forth in Statement Nos. 25 and 27 of the Governmental Accounting Standards Board. The annual required contribution (ARC) of the City under GASB for the fiscal year ending June 30, 2005 is 13.27% of payroll, which will liquidate the unfunded accrued liability over a 30-year period.

We have prepared the Schedule of Active Member Valuation Data, Schedule of Retirants and Beneficiaries Added to and Removed from Rolls, the Solvency Test and the Analysis of Financial Experience for the actuarial section of the Annual Report and the Schedule of Funding Progress and Trend Information for the financial section of the Annual Report.

Suite 1900 • 200 Galleria Parkway, N.W. • Atlanta, GA 30339-5918

(770) 955-2488 Office • (770) 933-8336 Fax

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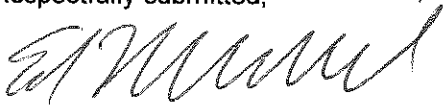
This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

In our opinion the System is currently operating on an actuarially sound basis. Beginning in the fiscal year ending June 30, 2005, City contributions outlined in Section 25 of Title V of the Act will no longer be sufficient to fund the System in an actuarially sound manner. Assuming that the annual required employer contributions to the System are made by the City from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the Retirement System.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,



Edward A. Macdonald, ASA, MAAA, FCA  
Principal, Consulting Actuary



Catherine G. Turcot  
Senior Consultant, Actuary

EAM/CGT:sh

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**CHARLOTTE FIREFIGHTERS' RETIREMENT SYSTEM  
REPORT OF ACTUARY  
ON THE VALUATION  
PREPARED AS OF JULY 1, 2003**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below.

<b>Valuation Date</b>	<b>July 1, 2003</b>	<b>July 1, 2002</b>
Number of active members	876	856
Annualized compensation	\$ 41,354,976	\$ 39,848,691
Retired members and beneficiaries:		
Number	427	411
Annual allowances	\$ 14,512,752	\$ 13,754,421
Number of terminated vested members	2	2
Assets:		
Market Value	\$ 227,136,805	\$ 224,011,606
Actuarial Value	261,022,319	254,012,864
Unfunded actuarial accrued liability	\$ 16,821,205	\$ 11,699,052
Amortization Period	30 years	33 years
<b>Fiscal Year Ending*</b>	<b>June 30, 2005</b>	<b>June 30, 2003</b>
City annual required contribution rate (ARC):		
Normal (including expenses of 0.75%)	11.17%	11.21%
Accrued liability	<u>2.10</u>	<u>1.44</u>
Total	13.27%	12.65%
Member contribution rate	12.65%	12.65%

\*In order to facilitate the determination of the ARC prior to the budget process, the July 1, 2002 valuation will determine the ARC for the fiscal years ending June 30, 2003 and June 30, 2004. The valuation as of July 1, 2003 will determine the ARC for the fiscal year ending June 30, 2005.

2. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule G. There have been no changes since the previous valuation.
3. Schedule E of this report outlines the full set of actuarial assumptions and methods used in the valuation. There have been no changes since the previous valuation.

4. The entry age actuarial cost method was used to prepare the valuation. Schedule F contains a brief description of the actuarial cost method.
5. Comments on the valuation results as of July 1, 2003 are given in Section IV and further discussion of the contributions is set out in Section V.

### SECTION II - MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the Retirement System office. The valuation included 876 active members with annualized compensation totaling \$41,354,976.
2. The following table shows the number of retired members and beneficiaries as of July 1, 2003 together with the amount of their annual retirement benefits payable under the System as of that date.

**THE NUMBER AND ANNUAL BENEFITS OF  
RETIRED MEMBERS AND BENEFICIARIES  
AS OF JULY 1, 2003**

GROUP	NUMBER*	ANNUAL RETIREMENT BENEFITS
Service Retirements	351	\$ 12,931,188
Disability Retirements	61	1,345,620
Beneficiaries of Deceased Members	<u>15</u>	<u>235,944</u>
Total	427	\$ 14,512,752

\* In addition, there are two terminated members entitled to deferred vested benefits.

3. Table 1 of Schedule H shows the distribution by age and years of membership service of the number of active members included in the valuation, while Table 2 shows the number and annual benefits of retired members and beneficiaries included in the valuation, distributed by age. Table 3 shows the schedule of active member valuation data and Table 4 shows the schedule of retirants and beneficiaries added to and removed from the rolls.

### **SECTION III - ASSETS**

As of July 1, 2003, the total market value of assets amounted to \$227,136,805. The actuarial value of assets used for the current valuation was \$261,022,319. Schedule C shows the development of the actuarial value of assets as of July 1, 2003. Schedule D shows the allocation of the System's assets and the market value of assets for three years.

### **SECTION IV - COMMENTS ON VALUATION**

1. Schedule B of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of July 1, 2003. The valuation was prepared in accordance with the actuarial assumptions set forth in Schedule E and the actuarial cost method which is described in Schedule F.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$383,703,357 of which \$137,294,600 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and \$246,408,757 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has a total present actuarial value of assets of \$261,022,319 as of July 1, 2003. The difference of \$122,681,038 between the total liabilities and the total present assets represents the present value of future contributions.
3. The contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that normal contributions at the rate of 23.07% of payroll are required under the entry age method. Of this amount, 12.65% is paid by the members and the remaining 10.42% is required by the City.
4. Prospective normal contributions at the rate of 23.07% have a present value of \$105,859,833. When this amount is subtracted from \$122,681,038, which is the present value of the total future contributions to be made, there remains \$16,821,205 as the amount of unfunded accrued liability contributions. The development of the unfunded accrued liability is shown in Schedule A.

**SECTION V - CONTRIBUTIONS PAYABLE**

1. The contributions consist of a normal contribution and an accrued liability contribution as determined by actuarial valuation.
2. The normal contribution rate is calculated as the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. On the basis of the valuation the normal contribution rate was determined to be 23.07%.
3. Section 24 of Title V of the Charlotte Firefighters' Retirement System Act states that each member shall contribute an amount equal to the Member's Compensation multiplied by 12.65%.
4. The City normal contribution rate is equal to the difference between the normal contribution rate of 23.07% and the member contribution rate of 12.65%, or 10.42% of payroll. An additional 0.75% is required for expenses, making the total City normal rate 11.17% of payroll.
5. Section 25 of Title V of the Charlotte Firefighters Retirement System Act states that the City of Charlotte shall contribute an amount equal to the Member's Compensation multiplied by 12.65%. Beginning in the fiscal year ending June 30, 2005, these contributions will no longer be sufficient to fund the System in an actuarially sound manner. The required employer contribution rate beginning July 1, 2004, will be 13.27% of payroll.
6. Based on a total employer rate of 13.27%, the annual accrued liability contribution rate is determined to be 2.10% of payroll. This rate will be sufficient to amortize the unfunded actuarial accrued liability within approximately 30 years following the valuation date, on the assumption that the payroll will increase 3.75% each year.



7. The following table summarizes the employer contributions which were determined by the July 1, 2003 valuation and are recommended for use.

**CITY ANNUAL REQUIRED CONTRIBUTIONS (ARC)  
FOR FISCAL YEAR ENDING JUNE 30, 2005**

CONTRIBUTION	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION
Normal (including expenses of 0.75%)	11.17%
Accrued Liability	<u>2.10</u>
Total	13.27%

**SECTION VI - ACCOUNTING INFORMATION**

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS  
AS OF JULY 1, 2003**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	427
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	2
Active Participants	<u>876</u>
Total	1,305

2. Another such item is the schedule of funding progress as shown below.

**SCHEDULE OF FUNDING PROGRESS**  
Dollar Amounts in Thousands

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
7/1/98	\$187,387	\$179,351	\$ (8,036)	104.5%	\$28,964	(27.7)%
7/1/99	216,336	186,854	(29,482)	115.8	32,462	(90.8)
7/1/00*	235,901	239,784	3,883	98.4	33,080	11.7
7/1/01	246,614	254,767	8,153	96.8	38,079	21.4
7/1/02	254,013	265,712	11,699	95.6	39,849	29.4
7/1/03	261,022	277,843	16,821	93.9	41,355	40.7

All figures prior to 7/1/99 are from July 1, 1998 actuarial valuation report prepared by the prior actuary.

\* Economic and demographic assumptions were changed as of July 1, 2000 due to an experience review. In addition, the asset valuation method was changed.

3. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2003.

**Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending 6/30/03**

(a) Employer annual required contribution	\$ 5,278,000
(b) Interest on net pension obligation	(533,000)
(c) Adjustment to annual required contribution	<u>(338,000)</u>
(d) Annual pension cost (a) + (b) - (c)	\$ 5,083,000
(e) Employer contributions made for fiscal year ending 6/30/03	<u>5,278,000</u>
(f) Increase (decrease) in net pension obligation (d) - (e)	\$ (195,000)
(g) Net pension obligation beginning of fiscal year	<u>(6,883,000)</u>
(h) Net pension obligation end of fiscal year (f) + (g)	\$ (7,078,000)

**TREND INFORMATION**  
Dollar Amounts in Thousands

Year Ending	Annual Pension Cost (APC)	Percentage Of APC Contributed	Net Pension Obligation (NPO)
June 30, 2001	\$5,540	81.9%	\$(6,845)
June 30, 2002	5,024	100.8	(6,883)
June 30, 2003	5,083	103.8	(7,078)

4. The annual required contribution (ARC) as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below.

**EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)**

EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)	Fiscal Year Ending June 30 <sup>th</sup>	
	2004	2005
Normal (includes expenses)	11.21%	11.17%
Accrued liability	<u>1.44</u>	<u>2.10</u>
Total	12.65%	13.27%

In order to facilitate the determination of the ARC prior to the budget process, the July 1, 2002 valuation will determine the ARC for the fiscal years ending June 30, 2003 and June 30, 2004. The valuation as of July 1, 2003 will determine the ARC for the fiscal year ending June 30, 2005.

5. Additional information as of July 1, 2003 follows.

Valuation date	7/1/03
Actuarial cost method	Entry age
Amortization method	Level dollar open
Remaining amortization period	30 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.75%
Projected salary increases*	4.75-7.75%
*Includes inflation at	3.75%
Cost-of-living adjustments	N/A

**SECTION VII – EXPERIENCE**

1. As an aid to the Board in adopting service and mortality tables, the actuary prepared an experience investigation for the five-year period ending June 30, 1999. The valuation was based on the assumptions adopted by the Board at the April 27, 2000 Board meeting as a result of that investigation.
  
2. The following table shows the estimated change in the unfunded accrued liability from various factors that resulted in an increase of \$5,122,000 in the unfunded accrued liability from \$11,699,000 to \$16,821,000 during the fiscal year ending July 1, 2003.

**ANALYSIS OF FINANCIAL EXPERIENCE - CHANGE IN UNFUNDED ACCRUED LIABILITY**

(in thousands of dollars)

Item	Amount of Increase/ (Decrease)
Interest (7.75%) added to previous unfunded accrued liability	907
Accrued Liability Contribution	(601)
Recognized Asset Loss	8,471
Liability (Gain)/ Loss	536
Salary Increases	(4,191)
Amendments	0
Asset Method Change	0
Assumption Changes	<u>0</u>
Increase In Unfunded Accrued Liability	5,122

SCHEDULE A**DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AS OF JULY 1, 2003**

(1)	Present value of prospective benefits:	
(a)	Present active members	\$ 246,408,757
(c)	Present retired members, beneficiaries and former members entitled to deferred vested benefits	<u>137,294,600</u>
(c)	Total	\$ 383,703,357
(2)	Present value of future System and member normal contributions before expenses	<u>105,859,833</u>
(3)	Actuarial accrued liabilities 1(c) – (2)	\$ 277,843,524
(4)	Actuarial value of assets	<u>261,022,319</u>
(5)	Unfunded actuarial accrued liability (3) – (4)	\$ 16,821,205

SCHEDULE B - VALUATION BALANCE SHEET AND SOLVENCY TEST

## VALUATION BALANCE SHEET

RESULTS OF THE VALUATION AS OF JULY 1, 2003  
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES  
OF THE CHARLOTTE FIREFIGHTERS' RETIREMENT SYSTEMACTUARIAL LIABILITIES

Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits	\$ 137,294,600
Present value of prospective benefits payable on account of present active members	\$ <u>246,408,757</u>
Total liabilities	\$ <u>383,703,357</u>

PRESENT AND PROSPECTIVE ASSETS

Actuarial value of assets	\$ 261,022,319
Present value of future contributions	
City and member normal contributions	105,859,833
Unfunded accrued liability contributions	<u>16,821,205</u>
Total prospective contributions	\$ 122,681,038
Total assets	\$ <u>383,703,357</u>

**SCHEDULE B (cont'd)****SOLVENCY TEST  
(\$ millions)**

Valuation Date	Aggregate Accrued Liabilities For			Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets		
	(1) Active Member Contributions	(2) Retirants And Beneficiaries	(3) Active Members (Employer Financed Portion)		(1)	(2)	(3)
7/1/03	\$42.5	\$137.3	\$98.0	\$261.0	100%	100%	82.9%
7/1/02	39.7	130.5	95.5	254.0	100	100	87.7
7/1/01	37.7	121.1	96.0	246.6	100	100	91.5
7/1/00*	34.0	123.8	82.0	235.9	100	100	95.2
7/1/99	32.3	87.9	66.7	216.3	100	100	100.0
7/1/98	31.1	79.6	68.7	187.4	100	100	100.0
7/1/97	29.4	73.6	65.1	161.7	100	100	90.2
7/1/96	28.1	68.3	64.8	142.9	100	100	71.7
7/1/95	26.1	63.7	61.9	129.0	100	100	63.4
7/1/94	24.8	59.3	58.7	117.4	100	100	56.8

All figures prior to July 1, 1999 are from July 1, 1998 actuarial report prepared by the prior actuary.

- \* Economic and demographic assumptions were changed as of July 1, 2000 due to an experience review. In addition, the asset valuation method was changed.

SCHEDULE CDEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1) Actuarial Value of Assets as of July 1, 2002	\$ 254,012,864
(2) 2002/2003 Net Cash Flow	
(a) Contributions	10,917,902
(b) Disbursements	<u>14,966,195</u>
(c) Net Cash Flow	
(2)a - (2)b	(4,048,293)
(3) Expected Investment Return $[(1) \times .0775] + [(2)c \times .03875]$	19,529,126
(4) Expected Actuarial Value of Assets as of July 1, 2003 (1) + (2)c + (3)	269,493,697
(5) Market Value of Assets as of July 1, 2003	227,136,805
(6) Excess of Market Over Expected (5) - (4)	(42,356,892)
(7) 20% Adjustment Towards Market .20 x (6)	(8,471,378)
(8) Actuarial Value of Assets as of July 1, 2003 (4) + (7)	\$ 261,022,319
(9) Rate of Return on Market Value	3.23%
(10) Rate of Return on Actuarial Value	4.39%



**SCHEDULE D****ASSET INFORMATION**

<b>Investment Managers</b>	<b>Type of Investment</b>	<b>Percent Allocation</b>
Evergreen Investment Management Company	Value Equity – Large Capitalization	14.7%
Boston Partners Asset Management	Value Equity – Mid Capitalization	8.0%
Investment Counselors of Maryland	Value Equity – Small Capitalization	3.3%
Alliance Capital Management	Growth Equity – Large Capitalization	9.8%
Cadence Capital Management	Growth Equity – Mid Capitalization	7.5%
Banc of America Capital Management	Growth Equity – Small Capitalization	3.2%
SSgA S&P 500 Flagship Fund	Large Capitalization	4.5%
Morgan Stanley Dean Witter	International Equity Fund Emerging Markets Equity Fund	12.2% 1.7%
T. Rowe Price International, Inc.	International Equity Fund	2.6%
Metropolitan Life Insurance Company	Real Estate Equity Fund	5.4%
Barrow, Hanley, McWhinney & Strauss	Fixed Income	12.1%
State Street Global Advisors	Fixed Income Index Fund	10.6%
Baring Asset Management	International Fixed Income Fund Emerging Debt Fund	3.3% 0.5%
Internal Management	Money Market	0.8%

	<b>June 30, 2003</b>	<b>June 30, 2002</b>	<b>June 30, 2001</b>
Cash	\$ 526,430	\$ (9,186,275)	\$ 457,131
Cash Equivalents	6,892,425	15,066,403	6,978,547
Fixed Income Investments	48,349,199	58,935,800	55,837,070
Equity Investments	171,604,466	158,815,054	176,437,942
Other	355,927	373,334	83,678
Accrued Income	310,373	409,094	408,997
Accrued Contributions	256,099	118,234	105,933
Accrued Liabilities/Expenses	(1,158,115)	(520,037)	(404,413)
Total Market Value	\$ 227,136,805	\$ 224,011,606	\$ 239,904,885

**SCHEDULE E****OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the valuation were selected by the Actuary and adopted by the Board April 27, 2000 unless otherwise indicated.

INVESTMENT RATE OF RETURN: 7.75% per year, compounded annually. (adopted 10-26-2000)

SALARY INCREASES: Representative values of the assumed annual rates of salary increases (adopted 10-26-2000) are as follows:

<u>Age</u>	<u>Rate*</u>
20	7.75%
25	7.75
30	7.75
35	7.25
40	6.25
45	4.75
50	4.75
55	4.75

\* Includes inflation of 3.75%

SEPARATIONS FROM ACTIVE SERVICE: For death rates, the UP 1994 Male Table was used. Representative values of the assumed annual rates of separation from active service are as follows:

<u>Age</u>	<u>Annual Rate of</u>		
	<u>Withdrawal</u>	<u>Disability*</u>	<u>Death</u>
20	2.0%	0.05%	.0006%
25	2.0	0.05	.0007
30	2.0	0.09	.0009
35	2.0	0.23	.0009
40	1.7	0.41	.0012
45	0.8	0.61	.0017
50		1.00	.0028
55		1.00	.0048

\* 65% of the disabilities are assumed to be in the line of duty.

<u>Annual Rate of Retirement*</u>			
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
50-54	20%	60	20%
55	20	61	20
56	20	62	20
57	20	63	20
58	20	64	20
59	20	65	100

\* An additional 30% are assumed to retire at the age when first eligible for unreduced retirement and 100% are assumed to retire after completing 30 years of membership service.

**DEATHS AFTER RETIREMENT:** The UP 1994 Male Table is used for the period after retirement and for dependent beneficiaries. The same table is used for the period after disability set forward five years.

**EXPENSES:** 0.75% of payroll.

**PERCENT MARRIED:** 100% of active members are assumed to be married with the male three years older than his spouse.

**ASSETS:** Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value. (adopted 10-26-2000)

**VALUATION METHOD:** Entry age actuarial cost method (adopted 7-1-98). See Schedule F for a brief description of this method.

**SCHEDULE F****ACTUARIAL COST METHOD**

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.75 per cent), of each member's expected benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the entry age actuarial cost method. Under this method, a calculation is made to determine the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.

**SCHEDULE G****SUMMARY OF MAIN SYSTEM PROVISIONS  
AS INTERPRETED FOR VALUATION PURPOSES**

Member	An employee of the Charlotte Fire Department who is subject to the provisions of the Civil Service Act.
Membership Service Credit	Service for all periods of employment with the Charlotte Fire Department for which contributions have been paid.
Final Average Salary	A member's average monthly compensation for any 2 consecutive years within the last 5 years of membership service.
Accrued Benefit	The monthly amount of retirement benefits earned by a member as of any date computed on his Final Average Salary and Membership Service Credit at that date.
Service Retirement Benefit	
Eligibility	Age 50 and 25 years of membership service credit, age 60 and 5 years of membership service credit or 30 years of membership service credit.
Benefit	Monthly benefit is 2.6% of final average salary multiplied by years of membership service credit. Salary in the final year includes cashed-in vacation and sick days. The minimum monthly benefit is \$902.75.
Early Retirement Benefit	
Eligibility	25 years of membership service credit.
Benefit	Accrued benefit reduced by 3% for each year member is under age 50.
In the Line of Duty Disability Retirement Benefit	
Eligibility	No requirements.
Benefit	78% of final average salary or normal retirement benefit if greater.
Not in the Line of Duty Disability Retirement Benefit	
Eligibility	10 years of service.
Benefit	39% of final average salary plus 1.95% of such salary for each year of membership service credit in excess of 10 years, not less than \$902.75 per month.

Deferred Vested  
Retirement Benefit

Eligibility

5 years of service. Member contributions not withdrawn.

Benefit

Accrued benefit payable at age 60. A member may choose a refund of contributions with 4% interest in lieu of this benefit.

Termination Benefit

If a member is terminated with less than 5 years of membership service credit, he is entitled to a return of his accumulated contributions.

Death Benefit

If a member dies in service, his beneficiary is entitled to a return of the member's accumulated contributions, plus those contributions made by the City on his behalf, plus interest of 4% per year. May elect to receive actuarial equivalent monthly benefit under the 66-2/3% Joint and Survivor Option.

Optional Forms of Benefit

- (1) 10 year certain and life annuity.
- (2) 100%, 75%, 66-2/3% or 50% joint and survivorship annuity.
- (3) Joint and survivorship annuity with a pop-up provision.

Contributions

The City and the members each contribute 12.65%.

**SCHEDULE H****TABLE 1****AGE - SERVICE TABLE**

Distribution of Active Members as of July 1, 2003 by Age and Service Groups

Attained Age	Completed Years of Service									Total
	0	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	> 35	
24 & under	16	27	1							44
Total Pay	486,668	885,092	36,400							1,408,160
Avg. Pay	30,417	32,781	36,400							32,004
25 to 29	21	75	36							132
Total Pay	651,924	2,550,652	1,481,428							4,684,004
Avg. Pay	31,044	34,009	41,151							35,485
30 to 34	9	39	80	27	1					156
Total Pay	272,636	1,310,608	3,538,028	1,400,412	63,700					6,585,384
Avg. Pay	30,293	33,605	44,225	51,867	63,700					42,214
35 to 39	1	19	49	54	52					175
Total Pay	29,952	661,492	2,078,388	2,926,716	2,880,176					8,576,724
Avg. Pay	29,952	34,815	42,416	54,198	55,388					49,010
40 to 44	1	7	17	33	96	16				170
Total Pay	31,408	241,592	748,020	1,663,116	5,285,384	916,552				8,886,072
Avg. Pay	31,408	34,513	44,001	50,397	55,056	57,285				52,271
45 to 49	1	2	6	16	50	46	17			138
Total Pay	33,020	71,500	253,968	881,296	2,734,316	2,672,072	999,336			7,645,508
Avg. Pay	33,020	35,750	42,328	55,081	54,686	58,089	58,784			55,402
50 to 54			1	2	8	18	17	4		50
Total Pay			46,436	110,136	406,432	985,192	1,053,416	264,472		2,866,084
Avg. Pay			46,436	55,068	50,804	54,733	61,966	66,118		57,322
55 to 59				1	5		1			7
Total Pay				44,200	249,756		73,372			367,328
Avg. Pay				44,200	49,951		73,372			52,475
60 to 64					1			1	2	4
Total Pay					44,200			93,080	198,432	335,712
Avg. Pay					44,200			93,080	99,216	83,928
<b>Total</b>	<b>49</b>	<b>169</b>	<b>190</b>	<b>133</b>	<b>213</b>	<b>80</b>	<b>35</b>	<b>5</b>	<b>2</b>	<b>876</b>
Total Pay	1,505,608	5,720,936	8,182,668	7,025,876	11,663,964	4,573,816	2,126,124	357,552	198,432	41,354,976
Avg. Pay	30,727	33,852	43,067	52,826	54,760	57,173	60,746	71,510	99,216	47,209

**TABLE 2**  
**NUMBER OF RETIRED MEMBERS AND BENEFICIARIES**  
**AND THEIR BENEFITS BY AGE**

<u>Attained Age</u>	<u>Number Of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
50 & Under	18	\$ 468,024	\$ 26,001
51-55	86	3,206,532	37,285
56-60	99	3,535,776	35,715
61-65	65	2,475,696	38,088
66-70	70	2,560,884	36,584
71-75	37	1,074,192	29,032
76-80	31	750,876	24,222
Over 80	<u>21</u>	<u>440,772</u>	<u>20,989</u>
Total	427	\$ 14,512,752	\$ 33,988

**TABLE 3**  
**SCHEDULE OF ACTIVE MEMBER VALUATION DATA**

<u>Valuation Date</u>	<u>Number Prior Year</u>	<u>Exits</u>	<u>New Entrants</u>	<u>Number Current Year</u>	<u>Annual Payroll</u>	<u>Annual Average Pay</u>	<u>% Increase in Average Pay</u>
7/1/03	856	29	49	876	\$41,354,976	\$47,209	1.4%
7/1/02	853	31	34	856	39,848,691	46,552	4.3
7/1/01	780	15	88	853	38,079,024	44,641	5.3
7/1/00	783	35	32	780	33,079,899	42,410	2.3
7/1/99	778	31	36	783	32,462,456*	41,459	11.4
7/1/98	749	30	59	778	28,963,868	37,229	3.6
7/1/97	721	29	57	749	26,922,035	35,944	-0.6
7/1/96	709	25	37	721	26,072,828	36,162	3.7
7/1/95	N/A	N/A	N/A	709	24,723,956	34,872	4.7
7/1/94	N/A	N/A	N/A	724	24,120,362	33,315	2.4

Results prior to the 7/1/99 valuation were provided by the prior actuary.

\* Reflects all pay raises granted to firefighters effective July 7, 1999.



**TABLE 4**  
**SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES**  
**ADDED TO AND REMOVED FROM ROLLS**

Year Ended	Rolls - Beginning of Year		Added to Rolls		Removed from Rolls		Rolls - End of Year		% Increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
7/1/03	411	\$13,754,121	23	\$ 970,560	7	\$211,929	427	\$14,512,752	5.5	\$33,988
7/1/02	389	12,824,893	29	1,202,320	7	273,092	411	13,754,121	7.2	33,466
7/1/01	394	13,000,973**	11	287,966	16	464,046	389	12,824,893	(1.4)	32,969
7/1/00	377	9,946,747*	28	3,260,650**	11	206,424	394	13,000,973**	30.7	32,997
7/1/99	358	8,882,634	26	950,857	7	119,640	377	9,946,747*	12.0	26,384
7/1/98	337	8,199,997	24	762,314	3	79,677	358	8,882,634	8.3	24,812
7/1/97	321	7,602,561	22	698,791	6	101,335	337	8,199,997	7.9	24,332
7/1/96	307	7,046,272	19	616,589	5	60,300	321	7,602,561	7.9	23,684
7/1/95	298	6,552,767	18	613,085	9	119,580	307	7,046,272	7.5	22,952
7/1/94	N/A	N/A	N/A	N/A	N/A	N/A	298	6,552,767	0.4	21,989

Results prior to the 7/1/99 valuation were provided by the prior actuary.

- \* Includes 8.33% benefit adjustment effective July 1, 1998 for members retired prior to July 1, 1989.
- \*\* Includes ad hoc benefit adjustments granted since the previous valuation.