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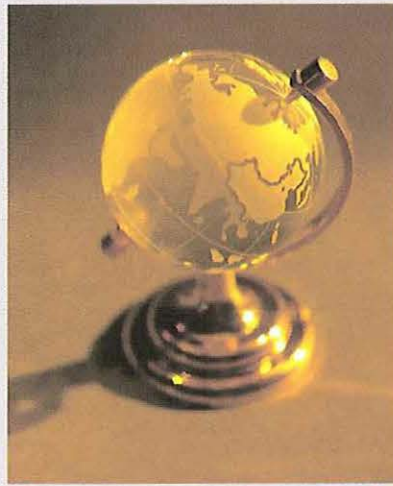
CONSULTING, LLC

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## **Report on the Annual Valuation of the City of Charlotte Firefighters' Retirement System**

**Prepared as of  
July 1, 2005**



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## Cavanaugh Macdonald

CONSULTING, LLC

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October 21, 2005

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, 2005. The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2005, 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. The annual required employer contribution rate is 13.05% of payroll for the fiscal year ending June 30, 2007. However, it is our understanding that the System will continue funding at the statutory required contribution rate of 12.65%. 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. Since the previous valuation, the assumed rates of withdrawal and retirement have been revised in accordance with the results of the experience investigation prepared as of July 1, 2004.

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, 2007 is 13.05% 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.



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.

Beginning in the fiscal year ending June 30, 2005, City contributions outlined in Section 25 of Title V of the Act are not 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.

Respectfully submitted,

A handwritten signature in purple ink, appearing to read 'E. Macdonald'.

Edward A. Macdonald, ASA, FCA, MAAA  
President

A handwritten signature in purple ink, appearing to read 'Cathy Turcot'.

Catherine G. Turcot  
Senior Consultant

A handwritten signature in purple ink, appearing to read 'Ed Koebel'.

Edward Koebel, EA, ACA  
Senior Actuary

EAM/CGT/EK:sh



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**CHARLOTTE FIREFIGHTERS' RETIREMENT SYSTEM  
REPORT OF ACTUARY  
ON THE VALUATION  
PREPARED AS OF JULY 1, 2005**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

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

VALUATION DATE	July 1, 2005	July 1, 2004*
Active members:		
Number	935	897
Annualized compensation	\$ 47,165,418	\$ 44,009,056
Retired members and beneficiaries:		
Number	443	435
Annual allowances	\$ 15,438,131	\$ 14,887,728
Number of terminated vested members	2	1
Assets:		
Market Value	\$ 286,021,483	\$ 263,339,748
Actuarial Value	291,244,173	274,947,662
Unfunded actuarial accrued liability	\$ 9,100,504	\$ 17,393,171
Amortization Period	30 years	30 years
Fiscal Year Ending	June 30, 2007	June 30, 2006
City annual required contribution rate (ARC):		
Normal (including expenses of 0.75%)	11.95%	11.19%
Accrued liability	<u>1.10</u>	<u>2.08</u>
Total	13.05%	13.27%
Member contribution rate	12.65%	12.65%

\*Reported by prior actuarial firm.

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. Since the previous valuation, the assumed rates of withdrawal and retirement have been revised in accordance with results of the experience investigation prepared as of July 1, 2004.
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, 2005 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 935 active members with annualized compensation totaling \$47,165,418.
2. The following table shows the number of retired members and beneficiaries as of July 1, 2005 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, 2005**

GROUP	NUMBER*	ANNUAL RETIREMENT BENEFITS
Service Retirements	365	\$ 13,835,618
Disability Retirements	59	1,300,977
Beneficiaries of Deceased Members	<u>19</u>	<u>301,536</u>
Total	443	\$ 15,438,131

\*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, 2005, the total market value of assets amounted to \$286,021,483. The actuarial value of assets used for the current valuation was \$291,244,173. Schedule C shows the development of the actuarial value of assets as of July 1, 2005. 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, 2005. 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 \$436,561,582 of which \$145,459,473 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and \$291,102,109 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 \$291,244,173 as of July 1, 2005. The difference of \$145,317,409 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 23.85% of payroll are required under the entry age method. Of this amount, 12.65% is paid by the members and the remaining 11.20% is required by the City.



4. Prospective normal contributions at the rate of 23.85% have a present value of \$136,216,905. When this amount is subtracted from \$145,317,409, which is the present value of the total future contributions to be made, there remains \$9,100,504 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 23.85%.
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 23.85% and the member contribution rate of 12.65%, or 11.20% of payroll. An additional 0.75% is required for expenses, making the total City normal rate 11.95% 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 are no longer sufficient to fund the System in an actuarially sound manner. The required employer contribution rate beginning July 1, 2005, is 13.27% of payroll and the required employer contribution rate beginning July 1, 2006 is 13.05% of payroll.
6. Based on a total employer rate of 13.05%, the annual accrued liability contribution rate is determined to be 1.10% 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, 2005 valuation and are recommended for use.

**CITY ANNUAL REQUIRED CONTRIBUTIONS (ARC)  
FOR FISCAL YEAR ENDING JUNE 30, 2007**

CONTRIBUTION	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION
Normal (including expenses of 0.75%)	11.95%
Accrued Liability	<u>1.10</u>
Total	13.05%

**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, 2005**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	443
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	2
Active Participants	<u>935</u>
Total	1,380



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 Accrued 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)
7/1/00 <sup>1</sup>	\$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
7/1/04	274,948	292,341	17,393	94.1	44,009	39.5
7/1/05 <sup>2</sup>	291,244	300,345	9,101	97.0	47,165	19.3

All figures prior to July 1, 2005 were reported by prior actuarial firm.

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

<sup>2</sup>Demographic assumptions were changed as of July 1, 2005 due to an experience review.

3. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2005.

**Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending 6/30/05**

(a)	Employer annual required contribution	\$ 6,159,000
(b)	Interest on net pension obligation	(564,000)
(c)	Adjustment to annual required contribution	<u>(376,000)</u>
(d)	Annual pension cost (a) + (b) - (c)	\$ 5,971,000
(e)	Employer contributions made for fiscal year ending 6/30/05	<u>5,871,000</u>
(f)	Increase (decrease) in net pension obligation (d) - (e)	\$ 100,000
(g)	Net pension obligation beginning of fiscal year	<u>(7,280,000)</u>
(h)	Net pension obligation end of fiscal year (f) + (g)	\$ (7,180,000)



**TREND INFORMATION**  
Dollar Amounts in Thousands

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation (NPO)</u>
June 30, 2003	\$5,083	103.8%	\$(7,078)
June 30, 2004	5,352	103.8	(7,280)
June 30, 2005	5,971	103.1	(7,180)

All figures prior to July 1, 2005 were reported by prior actuarial firm.

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)**

<b>EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)</b>	<b>Fiscal Year Ending June 30, 2007</b>
Normal (including expenses)	11.95%
Accrued liability	<u>1.10</u>
Total	13.05%

5. Additional information as of July 1, 2005 follows:

Valuation date	7/1/05
Actuarial cost method	Entry age
Amortization period	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, 2004. The valuation was based on the assumptions adopted by the Board at the October 27, 2004 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 a decrease of \$8,292,000 in the unfunded accrued liability from \$17,393,000 to \$9,101,000 during the fiscal year ending June 30, 2005.

**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	\$ 1,348
Accrued Liability Contribution	(713)
Recognized Asset Loss	1,306
Liability (Gain)/Loss	(82)
Salary Increases	(2,878)
Amendments	0
Assumption and Method Changes*	<u>(7,273)</u>
Increase in Unfunded Accrued Liability	\$(8,292)

\*Includes impact of change in actuarial software.



SCHEDULE A

**DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AS OF JULY 1, 2005**

(1)	Present value of prospective benefits:	
(a)	Present active members	\$ 291,102,109
(b)	Present retired members, beneficiaries and former members entitled to deferred vested benefits	<u>145,459,473</u>
(c)	Total	\$ 436,561,582
(2)	Present value of future System and member normal contributions before expenses	<u>136,216,905</u>
(3)	Actuarial accrued liabilities 1(c) – (2)	\$ 300,344,677
(4)	Actuarial value of assets	<u>291,244,173</u>
(5)	Unfunded actuarial accrued liability (3) – (4)	\$ 9,100,504



SCHEDULE B – VALUATION BALANCE SHEET AND SOLVENCY TEST

VALUATION BALANCE SHEET

RESULTS OF THE VALUATION AS OF JULY 1, 2005  
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES  
OF THE CHARLOTTE FIREFIGHTERS' RETIREMENT SYSTEM

ACTUARIAL LIABILITIES

Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits	\$ 145,459,473
Present value of prospective benefits payable on account of present active members	<u>\$ 291,102,109</u>
Total liabilities	<u>\$ 436,561,582</u>

PRESENT AND PROSPECTIVE ASSETS

Actuarial value of assets	\$ 291,244,173
Present value of future contributions	
City and member normal contributions	136,216,905
Unfunded accrued liability contributions	<u>9,100,504</u>
Total prospective contributions	\$ 145,317,409
Total assets	<u>\$ 436,561,582</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)
7/1/05 <sup>1</sup>	\$49.8	\$145.5	\$105.0	\$291.2	100%	100%	91.3%
7/1/04	46.7	139.5	106.1	274.9	100	100	83.6
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 <sup>2</sup>	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

All figures prior to July 1, 2005 were reported by prior actuarial firm.

<sup>1</sup>Demographic assumptions were changed as of July 1, 2005 due to an experience review.

<sup>2</sup>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 C

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of July 1, 2004	\$ 274,947,662
(2)	2004/2005 Net Cash Flow	
(a)	Contributions	12,125,000
(b)	Disbursements	<u>15,693,000</u>
(c)	Net Cash Flow (2)a – (2)b	(3,568,000)
(3)	Expected Investment Return [(1) x .0775] + [(2)c x .03875]	21,170,184
(4)	Expected Actuarial Value of Assets as of July 1, 2005 (1) + (2)c + (3)	292,549,846
(5)	Market Value of Assets as of July 1, 2005	286,021,483
(6)	Excess of Market Over Expected (5) – (4)	(6,528,363)
(7)	20% Adjustment Towards Market .20 x (6)	(1,305,673)
(8)	Actuarial Value of Assets as of July 1, 2005 (4) + (7)	\$ 291,244,173
(9)	Rate of Return on Market Value	10.04%
(10)	Rate of Return on Actuarial Value	7.27%





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

Investment Managers	Type of Investment	Percent Allocation
Evergreen Investment Management Company	Value Equity – Large Capitalization	15.0%
Boston Partners Asset Management	Value Equity – Mid Capitalization	8.5%
Investment Counselors of Maryland	Value Equity – Small Capitalization	3.5%
Alliance Bernstein Capital Management	Growth Equity – Large Capitalization	9.5%
Cadence Capital Management	Growth Equity – Mid Capitalization	8.7%
Banc of America Capital Management	Growth Equity – Small Capitalization	3.3%
SSGA S&P 500 Flagship Fund	Large Capitalization	5.5%
Morgan Stanley Dean Witter	International Equity Fund	11.6%
	Emerging Markets Equity Fund	2.4%
T. Rowe Price International, Inc.	International Equity Fund	2.5%
Metropolitan Life Insurance Company	Real Estate Equity Fund	5.1%
Barrow, Hanley, McWhinney & Strauss	Fixed Income	10.3%
State Street Global Advisors	Fixed Income Index Fund	10.1%
Baring Asset Management	International Fixed Income Fund	3.2%
	Emerging Debt Fund	0.3%
Internal Management	Money Market	0.5%

	June 30, 2005	June 30, 2004	June 30, 2003
Cash	\$ (1,344,902)	\$ (848,933)	\$ 526,430
Cash Equivalents	5,230,119	6,699,784	6,892,425
Fixed Income Investments	57,864,982	47,824,541	48,349,199
Equity Investments	223,476,086	208,900,164	171,604,466
Other	321,112	338,520	355,927
Accrued Income	353,822	319,498	310,373
Accrued Contributions	407,546	438,629	256,099
Accrued Liabilities/Expenses	<u>(287,282)</u>	<u>(332,455)</u>	<u>(1,158,115)</u>
Total Market Value	\$ 286,021,483	\$ 263,339,748	\$ 227,136,805



**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 October 27, 2004 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	1.8%	0.05%	.0006%
25	1.8	0.05	.0007
30	1.0	0.09	.0009
35	1.0	0.23	.0009
40	1.0	0.41	.0012
45	0.6	0.61	.0017
50		1.00	.0028
55		1.00	.0048

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



Annual Rate of Retirement\*

Age	Age 60 with 5 Years Service or 25 Years Service	Age 50 with 25 Years Service*	30 Years Service
<50	12%	N/A	30%
50 – 52	12	30%	30
53 – 57	12	40	30
58 – 64	12	20	30
65	100	100	100

\*An additional 30% are assumed to retire when first eligible.

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.

UNUSED SICK AND VACATION DAYS: 12% load on Final Average Salary at Retirement for cashed-in vacation and sick days. In addition, ½ year added to credited service at retirement.



## 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 the highest 2 consecutive years within the last 5 years of membership service. Salary in the final year includes cashed-in vacation and sick days.
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. 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 receive a lump sum equal to the return of the member's accumulate contributions, plus those contributions made by the City on his behalf, plus interest of 4% per year. In lieu of the lump sum, his beneficiary may elect an annuity which is the actuarial equivalent of the lump sum. If the deceased member was eligible for a service or early retirement on the day before death, the spouse may elect to receive the actuarial equivalent monthly benefit under the 66-2/3% Joint and Survivor Option.

Option 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 contribution 12.65%.



**SCHEDULE H**

**TABLE 1**

**DISTRIBUTION OF ACTIVE MEMBERS AS OF JULY 1, 2005 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	20	27	6							53
Total Pay	648,060	959,759	233,555							1,841,374
Avg. Pay	32,403	33,955	38,926							34,743
25 to 29	24	72	52	1						149
Total Pay	788,478	2,674,988	2,309,305	46,463						5,819,234
Avg. Pay	32,853	37,153	44,410	46,463						39,055
30 to 34	13	43	73	34						163
Total Pay	428,085	1,600,940	3,445,763	2,007,869						7,482,657
Avg. Pay	32,930	37,231	47,202	59,055						45,906
35 to 39	2	9	63	48	55					177
Total Pay	64,468	343,100	2,972,819	2,684,164	3,287,106					9,351,657
Avg. Pay	32,234	38,122	47,188	55,920	59,766					52,834
40 to 44	1	4	21	38	93	31				188
Total Pay	34,672	152,992	987,048	2,105,587	5,286,928	1,958,112				10,525,339
Avg. Pay	34,672	38,248	47,002	55,410	56,849	63,165				55,986
45 to 49		1	6	10	45	47	18			127
Total Pay		38,225	264,323	583,105	2,588,720	2,756,369	1,178,546			7,409,288
Avg. Pay		38,225	44,054	58,310	57,527	58,646	65,475			58,341
50 to 54		1		7	14	13	26	1	1	63
Total Pay		33,019		390,551	802,594	774,526	1,665,474	66,934	66,934	3,800,032
Avg. Pay		33,019		55,793	57,328	59,579	64,057	66,934	66,934	60,318
55 to 59				2	3	1	2	4		12
Total Pay				100,249	146,711	66,934	156,291	236,442		706,627
Avg. Pay				50,124	48,904	66,934	78,146	59,110		58,886
≥ 60					1	1			1	3
Total Pay					46,463	48,785			133,962	229,210
Avg. Pay					46,463	48,785			133,962	76,403
<b>Total</b>	<b>60</b>	<b>157</b>	<b>221</b>	<b>140</b>	<b>211</b>	<b>93</b>	<b>46</b>	<b>5</b>	<b>2</b>	<b>935</b>
Total Pay	1,963,763	5,803,023	10,212,813	7,917,988	12,158,522	5,604,726	3,000,311	303,376	200,896	47,165,418
Avg. Pay	32,729	36,962	46,212	56,557	57,623	60,266	65,224	60,675	100,448	50,444



**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	21	\$ 546,181	\$ 26,009
51 – 55	84	3,297,288	39,253
56 – 60	107	3,756,867	35,111
61 – 65	71	2,778,200	39,130
66 – 70	68	2,600,618	38,244
71 – 75	39	1,136,253	29,135
76 – 80	30	805,398	26,847
Over 80	<u>23</u>	<u>517,326</u>	<u>22,492</u>
Total	443	\$ 15,438,131	\$ 34,849

**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>
7/1/05	897	22	60	935	\$47,165,418	\$50,444	2.8%
7/1/04	876	17	38	897	44,009,056	49,062	3.9
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

Results prior to the 7/1/05 valuation were reported by prior actuarial firm.

\*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

<u>Year Ended</u>	<u>Rolls – Beginning of Year</u>		<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>Rolls – End of Year</u>		<u>% Increase in Annual Allowances</u>	<u>Average Annual Allowances</u>
	<u>No.</u>	<u>Annual Allowances</u>	<u>No.</u>	<u>Annual Allowances</u>	<u>No.</u>	<u>Annual Allowances</u>	<u>No.</u>	<u>Annual Allowances</u>		
7/1/05	435	\$14,887,728	19	\$854,621	11	\$304,218	443	\$15,438,131	3.7%	\$34,849
7/1/04	427	14,512,752	16	629,172	8	254,196	435	14,887,728	2.6	34,225
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

Results prior to the 7/1/05 valuation were reported by the prior actuarial firm.

\* 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.