City of Greenville
Firemen's Pension Fund

Funding Report as of July 1, 2013
For the Plan Year Ending June 30, 2014
And For The Fiscal Year Ending June 30, 2014

Actuarial Valuation

SHDR
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December 4, 2013

Board of Trustees
City of Greenville Fire Department Pension Fund
City Hall
206 South Main Street
Greenville, SC 29601

Gentlemen:

Stanley, Hunt, DuPree & Rhine, a division of BB&T Insurance Services, has prepared an actuarial valuation for The City of Greenville Firemen's Pension Fund (The Plan) as of July 1, 2013. The information presented in this valuation is applicable to the Plan year ending June 30, 2014. The purpose of the valuation is to:

- Determine the existing and projected plan liabilities for benefits earned by current active, former vested, and retired members or their widows and dependent children
- Measure the sufficiency of the Plan's current funding levels and investment returns on Plan assets.
- Provide disclosures which the City of Greenville can use to meet the requirements of the Government Accounting Standards Board Statements relating to the Plan for the fiscal year ending June 30, 2014.

We look forward to presenting these results, discuss with you any questions, and provide any additional information as may be requested.

Sincerely,

Paul B Burdulis

Paul B. Burdulis, ASA, FCA, MAAA
Senior Vice President and Consulting Actuary
(864) 527-0630

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Summary of Plan Provisions

Effective Date

June 24, 1946, as subsequently amended.

Eligibility Requirements

All regularly paid employees of the regular organized City of Greenville Fire Department are eligible to become Members and accrued benefits under the Plan.

Contributions by Participating Employees

Active Members initially contributed at the rate of 1% of salary. Salary deductions were increased, effective July 1, 1952, to 3% of salary. Deductions remained at this level until June 24, 1975 when they were raised to 5.775% of salary. Beginning in the 1997 Plan year, the City agreed to pay 4% of the State-directed contribution level, so that the net Employee contribution rate is now 1.775%.

Contributions from the City and Other Sources

Begin ~~Feb~~ March 2013

The City currently contributes 19.425% of participating payroll, inclusive of the 4% of the State-directed contribution noted above. 4

The following are also paid into the Fund:

1. Any money, real estate, personal property or other assets made available by gift, devise or bequest;
2. All forfeitures and fines imposed upon any member of the Department by way of discipline;
3. All proceeds from sales of condemned or discarded personal property and equipment in use by the Department;
4. The income from any tax levy imposed by the City Council in order to supplement or support this fund.

Service Retirement Benefits

An active or disabled Member who has attained age 55 and completed at least 25 years of service may retire with a monthly benefit equal to 50% of monthly compensation allowed to such Member as salary at the time of his retirement or disability. For each year of service in excess of 25 years, an additional 2% of monthly compensation allowed to such Member as salary at the time of his retirement or disability will be provided. In no event will more than 35 years of service be considered for the purpose of benefit determination. An adjustment of up to 6% of the percentage of benefit will be added to the benefit calculation to reflect accrued general leave time.

Summary of Plan Provisions (continued)

Disability Retirement Benefits

1. Line of Duty Disability
   A Member who incurs a disability while engaged in the performance of his duty will be retired with a monthly benefit equal to 50% of monthly compensation allowed to such Member as salary at the time of his disability.

2. Disability Other Than in Line of Duty
   A Member who becomes disabled other than in the line of duty after:

   a. The completion of 10 years of service will be retired with a monthly benefit equal to one-third of monthly compensation allowed to such Member as salary at the time of his disability.

   b. The completion of 20 years of service will be retired with a monthly benefit equal to 50% of monthly compensation allowed to such Member as salary at the time of his disability.

If a disabled Member has accrued a greater benefit as a result of completing 25 or more years of service, upon attainment of age 55 such disabled Member's benefit will be adjusted to that payable as a Service Retirement Benefit.

Death Benefits

1. Upon the death of a retired Member, the Member's lawful widow will receive a monthly benefit equal to one-half of the benefit which the retired Member was receiving.

2. Upon the death of an active Member, the Member's lawful widow will receive a monthly benefit equal to one-half of the Member's monthly compensation allowed to such Member as salary at the time of the deceased Member's death.

3. If in the case of (1) or (2) above there is no lawful widow, the monthly benefits described above shall be paid jointly to the surviving children until any such child attains age 18.

4. Upon the death of an active or retired member a $200 funeral benefit will be paid to the nearest relative of the deceased Member.

Withdrawal Benefits

Members have a vested interest in their accrued retirement benefits of 50% after ten years of service. For each year of service beyond ten years, a Member shall be vested an additional 10%, until upon the completion of fifteen years of service such Member becomes 100% vested in his accrued retirement benefit.

A Member's vested accrued retirement benefit will be based on earnings and actual service at date of termination. The vested accrued benefit is payable upon Normal Retirement Age, age 55. In lieu of a monthly pension, a vested terminated Member may elect upon termination to take a refund of his contributions with 4% interest.

A Member who leaves the service of the Fire Department prior to becoming eligible for retirement benefits shall be entitled to a refund of his contributions with 4% interest.

Actuarial Assumptions

Development of Actuarial Assumptions

In determining costs for a retirement program, it is necessary to make certain assumptions as to the expected future experience that will take place within the program. These assumptions include the rates of mortality to be experienced by both the active, retired and widowed plan participants, the rates of termination of employment prior to retirement, the rates at which plan participants can be expected to take disability retirement, the age at which retirement will actually occur, the rates at which salaries will increase, the rate of investment return to be earned by the fund and the expenses to be incurred. The ultimate cost of any given retirement plan will depend upon actual plan experience.

It is possible to derive actuarial assumptions from the experience of the group under consideration. This is most often the case in very large groups. For plans of this size, the assumptions are best determined from the experience of similar groups, and standard published tables are available which can be used. Changes to assumptions will be considered when actual experience differs substantially and when estimates for the future suggest these changes.

Actuarial Assumptions for Valuation of Liabilities and Costs

Mortality Rate: RP-2000 Combined Mortality Table projected to 2023 using Scale AA, Sex-distinct.

Disability Rate: The following are examples of the probability that a Member will become disabled within one year. A disabled mortality assumption is also utilized.

Age	Percentage
25	0.068%
40	0.230%
55	1.176%

Duty-related disabilities are assumed to be 50% of all disabilities.

Withdrawal Rate: The following are examples of the probability that a Member will terminate within one year for reasons other than death.

Age	Percentage
25	7.72%
40	5.15%
55	0.94%

Salary Scale: Assumed salaries increase at 4% per year. Below is the ratio of salary at Normal Retirement (age 55) to salary at the following ages:

Age	Percentage
25	324%
40	180%

Actuarial Assumptions (continued)

Rate of Retirement: 50% of all remaining active Members are assumed to retire each year following attainment of age 55 or the completion of 35 years of service, if later, but not beyond age 62.

Interest Rate:
Pre-Retirement: 7.0%
Post-Retirement: 7.0%

Marriage: It is assumed that 75% of the actives are married at death or retirement with spouses that are three years younger.

Adjustment for Unused Leave Time: The inclusion of accrued general leave in the benefit calculation is assumed to increase retirement benefits by 4%.

Actuarial Methods

Actuarial Cost Method

The Actuarial Cost Method used is known as the Projected Unit Credit Method. The method divides the cost of funding benefits into two parts: Normal Cost and past service liability (Actuarial Liability). The Normal Cost for each member is the present value of the Member's projected benefits at assumed date of decrement divided by a participant's total service. The Actuarial Liability for each Member is the present value of the Member's projected benefit at date of decrement multiplied by the ratio of past service over total service. Only active members have a Normal Cost; the Actuarial Liability for inactive members or widows is the present value of all future payments.

The sum of each Member's Normal Cost and Actuarial Liability is the Plan's total Normal Cost and total Actuarial Liability, respectively. If the past liability were fully funded, the total annual cost would be Normal Cost.

Because liabilities under a pension plan are based on actuarial assumptions (mortality, investment return, etc.) which will never precisely coincide with actual experience, variations known as actuarial gains and losses will occur, determined each time an actuarial valuation of the Plan is made. Such gains or losses are a component of the unfunded Actuarial Liability and are amortized to determine the recommended contribution.

Amortization Method

Effective July 1, 2009, the amortization cost for any Unfunded Actuarial Liability as of each valuation date is determined using an open 30-year amortization period.

Actuarial Valuation of Asset Method

The Actuarial Value of Assets is determined at Market Value.

Valuation Date

July 1

Changes from Prior Year Report

Plan Provisions: No Changes.

Actuarial Cost Method: No Changes.

Actuarial Assumptions: No Changes.

Summary of Plan Participants

	June 30, 2012	June 30, 2013
1. ACTIVES		
a. Number	137	138
b. Expected Annual Earnings	$ 5,943,619	$ 6,258,936
c. Average Expected Earnings	$ 43,384	$ 45,355
d. Average Current Age	40.5	41.2
e. Average Past Service	16.3	16.9
2. DEFERRED VESTED		
a. Number	4	5
b. Average Annual Deferred Pension	$ 12,564	$ 13,114
3. PARTICIPANTS IN PAY STATUS		
a. Retirees[1]	69[2]	69[2]
b. Surviving Widows	27	26
c. Average Annual Retiree Pension	$ 29,910	$ 29,305
d. Average Annual Widow Pension	$ 14,712	$ 15,116

[1] Includes 3 Disabled Retirees.

[2] Excludes two Alternate Payees receiving total annual benefits of $7,116 under QDROs applicable to two retired participants receiving benefits.

Statement of Assets

	Market Value	
	6/30/2012	6/30/2013
Assets		
Cash & Cash Equivalents	$ 3,373	$ 1,752
Net Accounts Receivable	128,229	129,264
Investments Held by Agent	36,555,176	39,212,862
Total Assets	$ 36,686,778	$ 39,343,878
Liabilities		
Accounts Payables	0	0
Total Liabilities	0	0
Net Assets	$ 36,686,778	$ 39,343,878

Statement of Income and Expenses

Net Assets at 7/1/2012			$ 36,686,778
Income			
Employer Contribution	$ 1,206,121		
Employee Contribution	216,901		
Other Contributions	145,167		
Investment Earnings	3,876,961		
Total Net Income		$ 5,445,150	
Expenses			
Pension Payments	2,478,204		
Insurance Benefits	9,411		
Investment Expenses	300,435		
Total Expenses		2,788,050	
Net Increase in Pension Trust Assets			2,657,100
Net Assets at 6/30/2013			$ 39,343,878

Estimated Plan Termination Liability

1. Assumptions

   a. Mortality Table:

      (1) RP-2000 Combined Mortality Table Projected to 2023 using Scale AA, Sex-distinct

      (2) Females assumed to be 3 years younger than their spouses

      (3) All Active Members are 100% vested

   b. Discount Rate: 7.00% 4.00%

	b. Discount Rate:	7.00%	4.00%
2.	Present Value of Accrued Benefits	40,756,138	59,320,846
3.	Market Value of Assets	39,343,878	39,343,878
4.	Excess Assets/(Shortfall) = (3)-(2)	(1,412,260)	(19,976,968)

Summary of Actuarial Valuation results as of July 1, 2013

1. Present Value of Future Benefits			
a. Active Lives			
(1) Retirement	$ 22,899,452		
(2) Vesting	3,343,074		
(3) Death	554,837		
(4) Disability	1,411,562		
(5) Total		28,208,925	
b. Deferred Vesteds		520,305	
c. Retirees		21,197,559	
d. Widows		3,335,130	
e. Total		53,261,919	
2. Present Value of Future Employee Contributions		901,389	
3. Accrued Liability			
a. Active Lives		20,615,146	
b. Deferred Vesteds		520,305	
c. Retirees		21,197,559	
d. Widows		3,335,130	
e. Total		45,668,140	
4. Actuarial Value of Assets		39,343,878	
5. Actual Unfunded Liability / (Surplus) = [(3)-(4)]		6,324,262	
6. Increase in (3) Due to Method Change	0		
7. Increase in (3) Due to Benefit Changes	0		
8. Increase in (3) Due to Assumption Change	0		
9. Expected Unfunded Liability	7,473,543		
10. Gain or (Loss) = (9)-[(5)-(6)-(7)-(8)]		1,149,281	
11. Funding Requirements			
a. Normal Cost			
(1) Retirement	606,295		
(2) Vesting	132,334		
(3) Death	24,051		
(4) Disability	53,348		
(5) Total		816,028	
b. Less Expected Employee Contributions		(104,261)	- 4 mths
c. Net Employer Normal Cost = (a)-(b)		711,767	- overstated
d. Thirty Year Amortization of Unfunded Liability / (Surplus)	[illegible]	476,308	same
e. Employer Funding Requirement at beginning of Fiscal Year		1,188,075	

7% 1/2 interest [illegible]

1,228,954

Analysis of Results

Investment Return

We determined the estimated annual rate of investment return on Plan assets on a dollar weighted basis over the prior year. We summarize our results below and include results for the past 20 years.

Year	Estimated Annual Rate of Return	
1993	7.9%	
1994	(2.6)%	
1995	16.3%	
1996	7.7%	
1997	8.40%	
Five Year Average		7.4%
6/30/1999	3.4%	
6/30/2000	2.4%	
6/30/2001	10.3%	
6/30/2002	6.5%	
6/30/2003	3.3%	
Five Year Average		5.1%
6/30/2004	7.7%	
6/30/2005	7.2%	
6/30/2006	4.8%	
6/30/2007	12.6%	
6/30/2008	(2.1)%	
Five Year Average		5.9%
6/30/2009	(12.9)%	
6/30/2010	10.9%	
6/30/2011	18.4%	
6/30/2012	2.5%	
6/30/2013	9.9%	
Five Year Average		5.2%
Twenty Year Average		5.9%

The actual return on Plan assets, net of expenses, for the year ended June 30, 2013 was greater than the assumed 7% discount rate, producing an asset gain for the period.

Analysis of Results (continued)

Actual Earnings Increases
Total annual payroll increased 5.3% over the prior year; the total annual payroll for continuing active Members increased by 5.2%.

Retirement
Over the prior year, one active Member retired and began receiving payments from the Plan.

Death
There were no deaths among active Members, no deaths among retired Members and two deaths among widows.

Disabilities
No Members became disabled during the period.

Terminations
Three active Members terminated or transferred before the earliest retirement age, two of which received lump sum payouts of their accumulated employee contributions with interest.

New Participants
During the year ended June 30, 2013, five new Members entered the Plan. Under closed group valuation methodology, no new participants are expected.

Overall there was a relatively small net gain due to demographic experience.

Ø July - Sept

3% Oct - Jan / Feb

7.8% Feb - May

Actuarial Gain/Loss Analysis

Components of Gain / (Loss):

- Gain / (Loss) on assets

Expected assets at 7/1/2013	$ 38,303,792	
Actual assets at 7/1/2013	39,343,878	
Gain/(Loss)		$ 1,040,086

- Gain / (Loss) on liabilities

Expected accrued liability at 7/1/2013	$ 45,777,335	
Actual accrued liability at 7/1/2013	45,668,140	
Gain/(Loss)		$ 109,195

Aggregate Gain /(Loss)	$ 1,149,281

Government Accounting Standards Board Information (GASB Nos. 25 and 27)

A. Annual Pension Cost for Fiscal Year ending 6/30/2013

1. Annual Required Contribution	$ 1,327,158
2. Interest on Net Pension Obligation (Asset)	(322,100)
3. Amortization of Net Pension Obligation (Asset)	(358,478)
4. Annual Pension Cost = (1)+(2)-(3)	$ 1,363,536

B. Net Pension Obligation (Asset) as of 6/30/2013

inc normal funding

1. Net Pension Obligation (Asset) at Beginning of Year	$ (4,601,429)
2. Actual Employer Contribution (including other contributions)	1,351,288
3. Annual Pension Cost	1,363,536
4. Net Pension Obligation 6/30/2013 = (1)-(2)+(3)	$ (4,589,181)
5. Increase/(Decrease) in NPO from Beginning of Period	$ 12,248

C. Basic Information

1. Amortization Method: Level Dollar
2. Amortization Period: 30 years
3. Amortization Period: Open Method
4. The employer funding policy is based upon a 1974 City Ordinance (as subsequently modified) that requires an employer contribution of 19.425% of participating payroll. Employee contributions are mandatory at 1.775% of compensation. Contributions are assumed to be made uniformly throughout the year.

D. Trend Data

	Fiscal Year Ending		
	6/30/2014	6/30/2013	6/30/2012
1. Valuation Date	7/1/2013	7/1/2012	7/1/2011
2. Actuarial Value of Assets	$39,343,878	$36,686,778	$36,575,209
3. Actuarial Accrued Liability	45,668,140	44,384,186	42,662,169
4. Unfunded Actuarial Accrued Liability / (Surplus)	6,324,262	7,697,408	6,086,960
5. Assets as % of Actuarial Accrued Liability	86.2%	82.7%	85.7%
6. Annual Covered Payroll	6,258,936	5,943,619	5,882,915
7. Unfunded Actuarial Liability as % of Payroll	101.0%	129.5%	103.5%

Government Accounting Standards Board Information (GASB Nos. 25 and 27) (continued)

E. Development of Annual Pension Cost for fiscal year ending 6/30/2014

1.	Annual Required Contribution with interest adjustment	$ 1,228,954
2.	Interest on Net Pension Obligation	(321,243)
3.	Amortization of Net Pension Obligation with interest adjustment	(357,524)
4.	Annual Pension Cost = (1)+(2)-(3)	$ 1,265,235

Age and Service Distribution

Schedule of Active Participant Data

Service / Age Group	<1 Yr. No.	1-4 Yrs. No.	5-9 Yrs. No.	10-14 Yrs. No.	15-19 Yrs. No.	20-24 Yrs. No.	25-29 Yrs. No.	30-34 Yrs. No.	35-39 Yrs. No.	40 + Yrs. No.	Total No.
0-24	1	3	0	0	0	0	0	0	0	0	4
25-29	1	11	8	2	0	0	0	0	0	0	22
30-34	1	4	9	4	0	0	0	0	0	0	18
35-39	2	3	2	8	4	0	0	0	0	0	19
40-44	0	0	1	2	5	5	0	0	0	0	13
45-49	0	0	0	0	1	12	15	2	0	0	30
50-54	0	1	0	0	1	4	4	13	0	0	23
55-59	0	0	0	0	0	1	0	4	4	0	9
60-64	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0	0
Total	**5**	**22**	**20**	**16**	**11**	**22**	**19**	**19**	**4**	**0**	**138**