Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF CHARLESTON, WEST VIRGINIA
FIREMEN'S PENSION AND RELIEF FUND
ACTUARIAL VALUATION REPORT
FOR THE YEAR BEGINNING JULY 1, 2014

GRS

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August 21, 2015

Mr. Victor Grigoraci
City Treasurer
501 Virginia Street, East
Charleston, WV 25301

Captain Robert "Scott" S. Fisher
Pension Board Secretary
City of Charleston Firemen's Pension and Relief Fund

Subject: City of Charleston Firemen's Pension and Relief Fund
Actuarial Valuation Report for the Year Beginning July 1, 2014

Dear Mr. Grigoraci and Captain Fisher:

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2014, for the City of Charleston, West Virginia Firemen's Pension and Relief Fund ("Fund" or "Plan"). This valuation has been performed in accordance with the West Virginia Code Chapter 8, Article 22, Sections 16 through 28, inclusive.

In accordance with West Virginia Code §8-22-20, this report provides information on:

- The sponsor's funding requirements for the plan year ending June 30, 2016
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2016
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2016

The assumptions and methods were recommended by the actuary, in the report *Actuarial Assumptions and Experience Review for the Period July 1, 2002, through July 1, 2009*, and approved by the Municipal Pensions Oversight Board, and were first applied in the July 1, 2010, valuation.

West Virginia Code §8-22-20 (c)(4), requires a review of the assumptions and methods at least once every five years. Consequently, we recommend that an experience review be performed for the period July 1, 2009, through June 30, 2014, and that the assumptions and methods be updated effective for the July 1, 2015, valuation.

This report is based on the sponsor's election to finance benefit obligations using the Conservation Method as defined in West Virginia Code §8-22-20 (f)(1).

This valuation is based upon:

Plan Member Data – Data for active members and persons receiving benefits from the Fund as of June 30, 2014, was provided by the Fund's staff. We have tested this data for reasonableness.

Asset Values – A reconciliation of market value of assets during the plan year ending June 30, 2014, and assets held as of June 30, 2014, by investment category, were provided by the Fund.

Plan Provisions – A summary of the key plan provisions valued are set forth in Section VI of the report: Summary of Principal Plan Provisions.

Actuarial Methods – Fund liabilities were measured using the Entry-Age Normal Actuarial Cost Method. The valuation was based on the market value of assets. The actuarial methods used in the valuation are set forth in Section V of the report: Actuarial Assumptions and Methods.

Actuarial Assumptions – The actuarial assumptions used include a discount rate of 5.00%. The assumptions used in the valuation are set forth in Section V of the report: Actuarial Assumptions and Methods.

The valuation results disclosed in this report are based on the data and actuarial assumptions and methods described above, and upon the provisions of the Plan as of the valuation date. Based on these items, we certify these results to be true and correct.

To the best of our knowledge, this actuarial statement is complete and accurate, and has been prepared in accordance with generally accepted actuarial principles and practices.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose stated.

The signing actuaries are independent of the plan sponsor.

Alex Rivera and Lance Weiss are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Sincerely,

Alex Rivera   Lance J. Weiss

Alex Rivera, FSA, EA, MAAA, FCA	Lance Weiss, EA, MAAA, FCA
Senior Consultant	Senior Consultant

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SECTION I

VALUATION RESULTS AS OF JULY 1, 2014

City of Charleston Firemen's Pension and Relief Fund
Actuarial Study as of July 1, 2014

Executive Summary

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2014, for the City of Charleston, West Virginia Firemen's Pension and Relief Fund ("Fund" or "Plan").

In accordance with West Virginia Code §8-22-20, this report provides information on:

- The sponsor's funding requirements for the plan year ending June 30, 2016
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2016
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2016

This report is based on the sponsor's election to finance benefit obligations using the Conservation Method as defined in West Virginia Code §8-22-20 (f)(1).

The key features of the Conservation Method, effective for plan years beginning after April 1, 2011, are summarized below:

- The current local Plan is closed to new employees

- New employees are covered in the newly established multiple employer statewide plan - *Municipal Police Officers and Firefighters Retirement System* ("MPFRS")

- Benefits and expenses in the closed local Plan are financed by contributions made to two asset accounts:

    - The first asset account (Benefit Payment Account) is used to finance benefits and expenses for the fiscal year on a pay-as-you-go basis. Sources to pay current year benefits and expenses include minimum employee contributions of 6.5% of pay, a portion of the premium tax allocation not assigned to the accumulation account as defined below, and employer contributions.

    - The second account (Accumulation Account) cannot be used to pay benefits and expenses until assets exceed actuarial liabilities. Contributions to the accumulation account include employee contributions of 1.5% of pay and a percentage of the premium tax allocation. The percentage of the premium tax allocation is based on the amounts needed to produce 100% funding of liabilities in 35 years when considering assets from both the Benefit Payment Account and the Accumulation Account. This account also includes the Fund's assets prior to the adoption of the Conservation Method.

We understand employer contributions will be made from the City's General Fund and will be used directly to pay benefits not covered by member contributions or the premium tax allocation. We also understand that the Plan's assets will accumulate in the closed Pension and Relief Fund and no benefits or expenses will be paid from this trust until the funded ratio exceeds 100%.

The following table provides the Plan's funded status as of July 1, 2014:

Assets	$12,976,853
Actuarial Liabilities	$154,660,064
Unfunded Liabilities	$141,683,211
Funded Ratio	8.39%

The following table provides the actual employer contributions, employee contributions, and premium tax allocation for the plan year ended June 30, 2015. The premium tax allocation was based on the results of the July 1, 2013, actuarial valuation.

Plan year ending 2015	Benefit Payment Account	Accumulation Account	Total
Employee Contributions	$481,809	$111,187	$592,996
Premium Tax Allocations	$1,237,616	$349,274	$1,586,890
Employer Contributions	$5,004,065	$0	$5,004,065
Total	$6,723,490	$460,461	$7,183,951

The following table provides the estimated employer contributions, employee contributions and premium tax allocation for the plan year ending June 30, 2016. We have assumed 19.82% of the premium tax allocation of $1,577,553 is deposited into the Accumulation Account and the remainder will be used for Benefit Payments. The basis of the premium tax allocation between the Benefit Payment Account and the Accumulation Account is developed from the projection on page eight of the report.

Plan year ending 2016	Benefit Payment Account	Accumulation Account	Total
Employee Contributions	$470,514	$108,580	$579,094
Premium Tax Allocations	$1,264,882	$312,671	$1,577,553
Employer Contributions	$5,448,704	$0	$5,448,704
Total	$7,184,100	$421,251	$7,605,351

Commentary of Premium Tax Allocation

Under §8-22-19 of the West Virginia Code, the plan sponsor is required to deposit the statutory contribution on a monthly basis at a rate of one-twelfth of the annual requirement, in order to receive the premium tax allocation from Municipal Pension Security Fund. However, revenues which are specifically collected for the Fund must be deposited within five days of receipt.

Based upon discussions with the Municipal Pensions Oversight Board ("MPOB"), we understand the annual premium tax allocation is determined by September 1st each year. Municipalities can begin invoicing the MPOB for their share of the premium tax allocation after receiving their state provided actuarial study and after the municipality has made employer contributions to the Benefit Payment Account (for plans not using the Conservation Method, the employer contributions must have been paid into the Pension and Relief Fund). Each municipal treasurer shall use the invoice template provided by the MPOB to begin drawing down the state allocation for the municipal pension plan. This July 1, 2014 Actuarial Report from GRS is to be used by municipal pension plans to draw down the September 1, 2015 State Premium Tax Allocation which is allocated in Fiscal Year 2016. Our valuation and projections assume the sponsor will make the statutory contributions on a timely basis, and will be eligible to receive the premium tax allocation.

Commentary on Solvency Projections and Supplemental Benefits

Under § 8-22-26a of the West Virginia Code, all retirees, surviving spouses, and disabled pensioners are eligible for Supplemental Benefits that provide automatic cost-of-living benefits commencing on the first day of July following two years of retirement. The benefit equals the percentage increase in the Consumer Price Index, limited to 4.0 percent (2.0 percent for certain disabled pensioners), multiplied by the sum of the allowable amount (first $15,000 of initial benefits paid) and the accumulated supplemental pensions paid in prior years.

The Court of Appeals decision requires that Supplemental Benefits be provided on "the allowable amount of the first $15,000 of the total annual pension paid in addition to the accumulated supplemental pension from the previous years." The decision implies that compound cost-of-living increases should be applied to both the allowable amount of $15,000 and the accumulated supplemental pension amounts for prior years. Additional Supplemental Benefits are payable only if the Plan satisfies the minimum standard for actuarial soundness as defined in West Virginia Code § 8-22-20. This minimum standard requires that the fund remain "solvent" over the next 15-year projection period. Based on discussions with the West Virginia Municipal Pensions Oversight Board, and our understanding of the administrative practices of other local police and fire pension funds in West Virginia, the "solvency" requirement generally means that the fund's market value of assets is projected to be greater than zero for all plan years prior to the end of the 15-year projection period. The projection is based on the most recent actuarial valuation and assumes the plan sponsor will make contributions according to the funding policy elected by the sponsor as defined by the West Virginia Code. (Although the 15-year solvency test may satisfy the minimum standard for actuarial soundness under the statutes, it is not necessarily consistent with generally accepted actuarial principles.)

The City of Charleston has elected to fund benefits using the Conservation Method of financing as defined in the West Virginia Code Section 8-22-20(f)(1). Under this funding methodology, the fund's market value of assets is projected to be greater than zero for all plan years prior to the end of the 15-

year projection period. Accordingly, this contribution methodology satisfies the minimum standard for actuarial soundness.

The Supplemental benefits for plan year beginning July 1, 2016 will be based on the Consumer Price Index for calendar year 2015, and the projected results of the July 1, 2014 actuarial valuation.

Additional Remarks on the Valuation Results

Following are additional remarks on the valuation results as of July 1, 2014:

- The assumptions and methods were recommended by the actuary, in the report *Actuarial Assumptions and Experience Review for the Period July 1, 2002, through July 1, 2009*, and approved by the Municipal Pensions Oversight Board. The key assumptions are fully disclosed in Section V of the report.

- The sponsor changed from the Alternative Method to the Conservation Method effective for the plan year beginning on July 1, 2011.

- The Fund experienced an approximate annualized return of 11.4% on the market value of assets during the plan year ending June 30, 2014, which compares to the expected annualized return of 5.0%. The difference in actual versus expected return produced an asset (gain)/loss of ($736,400).

- An actuarial valuation is based on the expectation of certain events such as salary increases, retirement, disability, mortality, termination, and cost of living increases. Demographic or liability experience (gains)/losses are generated when the actual occurrence of such events differs from the expectation. During the plan year ending June 30, 2014, the fund experienced a net liability (gain)/loss of ($3,052,358).

Following are additional remarks on the actuarial valuation projections:

- Employer contributions are expected to increase from $5,448,704 for the plan year ending June 30, 2016, to a high of $9,902,835 for the plan year ending June 30, 2034.

- In 20 years, the funded ratio is projected to increase from 8.4% in 2014 to 31% in 2034, and ultimately to 100% in 2046. This policy defers contributions and produces virtually no significant growth in the funded ratio until the last 10 years of the projection period. This policy is not consistent with generally accepted actuarial principles.

Summary of Key Valuation Results

Schedule A

Valuation Date		**July 1, 2013**		**July 1, 2014**
Valuation Interest Rate		5.00%		5.00%
Cost-of-Living Adjustment		3.00%		3.00%
Salary Increase		5.00%		5.00%
Covered Payroll		$7,872,874		$7,364,910
Average Pay		$50,467		$51,145
Expected Benefit Payments		$6,792,511		$6,706,149
1. Actuarial Accrued Liability	No.		No.	
(a) Actives	156	$50,026,205	144	$49,538,110
(b) Retirees	147	$79,914,936	147	$81,340,010
(c) Surviving Spouses	42	$7,637,098	45	$8,157,523
(d) Disabled Members	37	$15,680,425	36	$15,624,421
(e) Deferred Vested Members	1	$604,490	0	$0
(f) Total	383	$153,863,154	372	$154,660,064
2. Present Value of Future Normal Costs		$27,776,400		$25,005,131
3. Present Value of Benefits (1 + 2)		$181,639,554		$179,665,195
4. Market Value of Assets		$11,271,569		$12,976,853
5. Unfunded Actuarial Accrued Liability (1(f) - 4)		$142,591,585		$141,683,211
6. Funded Ratio (4 / 1(f))		7.33%		8.39%
7. Net Employer Normal Cost				
(a) Gross Normal Cost [a]		$3,210,458		$2,996,816
(b) Employee Contribution Rate		8.00%		8.00%
(c) Expected Employee Contributions		$629,830		$589,193
(d) Net Employer Normal Cost (a - c)		$2,580,628		$2,407,623
(% of Compensation)		32.78%		32.69%
		FY 2015		**FY 2016**
8. Minimum Employer Contribution [b]		$5,004,065		$5,448,704
(% of Projected Compensation)		65%		74%
9. State Insurance Premium Tax Allocation		$1,586,890		$1,577,553
(% of Projected Compensation)		20%		21%

[a] Gross normal cost for plan year end June 30, 2015, includes administrative expenses of $17,341.
[b] Estimated Employer contribution for fiscal year end June 30, 2016.

(Gain) / Loss Analysis — Schedule B

Experience (gain) loss for plan year ending June 30, 2014

1.	(a)	Liability as of 7/1/2013	$153,863,154
	(b)	Normal Cost due 7/1/2013	3,193,622
	(c)	Interest on (a) and (b) to 6/30/2014	7,772,998
	(d)	Benefit Payments with interest to 6/30/2014	7,117,352
	(e)	Effect of Assumption Changes	0
	(f)	Expected Liability at 7/1/2014 [(a) + (b) + (c) - (d) + (e)]	157,712,422
	(g)	Actual Liability at 7/1/2014	$154,660,064
	(h)	Liability (Gain)/Loss [(g) - (f)]	**($3,052,358)**
2.	(a)	Market Value of Assets as of 7/1/2013	$11,271,569
	(b)	Interest on (a) to 6/30/2014	563,578
	(c)	Contributions with interest to 6/30/2014	7,522,658
	(d)	Benefit Payments with interest to 6/30/2014	7,117,352
	(e)	Expected Assets at 6/30/2014 [(a) + (b) + (c) - (d)]	$12,240,453
	(f)	Actual Assets at 7/1/2014	$12,976,853
	(g)	Asset (Gain)/Loss [(e) - (f)]	**($736,400)**
3.		Total (Gain)/Loss [1(h) + 2(g)]	**($3,788,758)**

SECTION II

ACTUARIAL PROJECTIONS

City of Charleston Firemen's Pension and Relief Fund
Actuarial Projections ($ in thousands) Table 1

Plan Year End 30-Jun	Number Active	Number Pay Status	Total Assets ($ in thousands) Assets (boy)	Benefits Payments	Expenses	Employer Contributions	Employee Contributions	Premium Tax Allocation Contributions	Total Contributions	Investment Income	Assets (eoy)	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
2014	144	228	$11,272	$6,944	$8.1	$5,191	$603	$1,545	$7,339	$1,318	$12,977	$154,660	$141,683	8.4%
2015	135	232	12,977	6,706	17.3	5,004	593	1,587	7,184	660	14,098	158,313	144,216	8.9%
2016	126	235	14,098	7,167	17.6	5,449	579	1,578	7,605	715	15,234	161,869	146,635	9.4%
2017	118	238	15,234	7,395	17.9	5,681	566	1,586	7,834	772	16,427	165,301	148,874	9.9%
2018	109	242	16,427	7,646	18.1	5,900	556	1,636	8,092	832	17,687	168,568	150,881	10.5%
2019	101	245	17,687	7,918	18.4	6,145	538	1,689	8,372	895	19,018	171,618	152,600	11.1%
2020	90	251	19,018	8,266	18.7	6,464	518	1,746	8,728	962	20,423	174,331	153,908	11.7%
2021	80	256	20,423	8,683	19.0	6,859	486	1,806	9,151	1,032	21,904	176,566	154,662	12.4%
2022	70	261	21,904	9,082	19.3	7,239	446	1,871	9,556	1,106	23,465	178,301	154,836	13.2%
2023	61	265	23,465	9,487	19.6	7,619	411	1,937	9,967	1,185	25,111	179,502	154,391	14.0%
2024	53	269	25,111	9,887	19.8	8,000	369	2,004	10,373	1,267	26,844	180,140	153,296	14.9%
2025	47	269	26,844	10,188	20.1	8,278	332	2,072	10,681	1,354	28,671	180,341	151,670	15.9%
2026	39	272	28,671	10,502	20.4	8,559	310	2,135	11,003	1,445	30,597	180,064	149,467	17.0%
2027	33	274	30,597	10,866	20.7	8,900	268	2,206	11,374	1,542	32,627	179,193	146,566	18.2%
2028	28	274	32,627	11,139	21.0	9,146	230	2,278	11,654	1,644	34,765	177,827	143,062	19.5%
2029	23	273	34,765	11,334	21.3	9,306	203	2,349	11,858	1,751	37,019	176,054	139,035	21.0%
2030	19	273	37,019	11,533	21.5	9,469	179	2,419	12,068	1,864	39,396	173,840	134,444	22.7%
2031	15	272	39,396	11,736	21.8	9,639	149	2,492	12,279	1,983	41,901	171,154	129,254	24.5%
2032	12	269	41,901	11,886	22.1	9,752	122	2,566	12,440	2,108	44,540	168,054	123,514	26.5%
2033	8	267	44,540	12,017	22.3	9,843	100	2,638	12,581	2,240	47,322	164,549	117,227	28.8%
2034	6	264	47,322	12,119	22.5	9,903	75	2,715	12,693	2,380	50,254	160,659	110,405	31.3%
2035	5	260	50,254	12,143	22.7	9,881	57	2,793	12,730	2,527	53,345	156,477	103,132	34.1%
2036	3	255	53,345	12,119	22.9	9,806	45	2,868	12,719	2,681	56,603	152,058	95,455	37.2%
2037	2	250	56,603	12,066	23.1	9,698	35	2,947	12,680	2,845	60,039	147,430	87,391	40.7%
2038	2	245	60,039	11,992	23.2	9,566	26	3,028	12,620	3,017	63,661	142,607	78,946	44.6%
2039	1	239	63,661	11,885	23.3	9,398	17	3,114	12,529	3,198	67,479	137,619	70,140	49.0%
2040	1	233	67,479	11,741	23.4	9,187	12	3,202	12,401	3,390	71,506	132,509	61,003	54.0%
2041	0	227	71,506	11,571	23.5	8,948	7	3,293	12,248	3,591	75,751	127,301	51,550	59.5%
2042	0	220	75,751	11,371	23.5	8,673	4	3,390	12,067	3,804	80,228	122,029	41,801	65.7%
2043	0	213	80,228	11,148	23.5	8,372	3	3,489	11,864	4,029	84,949	116,715	31,767	72.8%
2044	0	207	84,949	10,908	23.5	8,051	2	3,591	11,644	4,265	89,926	111,379	21,453	80.7%
2045	0	200	89,926	10,652	23.4	7,711	1	3,697	11,409	4,514	95,173	106,035	10,862	89.8%
2046	0	193	95,173	10,382	23.3	7,349	0	3,805	11,154	4,777	100,700	100,700	0	100.0%
2047	0	185	100,700	10,096	23.1	23	0	0	24	4,786	95,389	95,389	0	100.0%
2048	0	178	95,389	9,797	22.9	23	0	0	23	4,528	90,120	90,120	0	100.0%
2049	0	171	90,120	9,486	22.7	23	0	0	23	4,272	84,906	84,906	0	100.0%
2050	0	163	84,906	9,162	22.4	22	0	0	22	4,019	79,763	79,763	0	100.0%

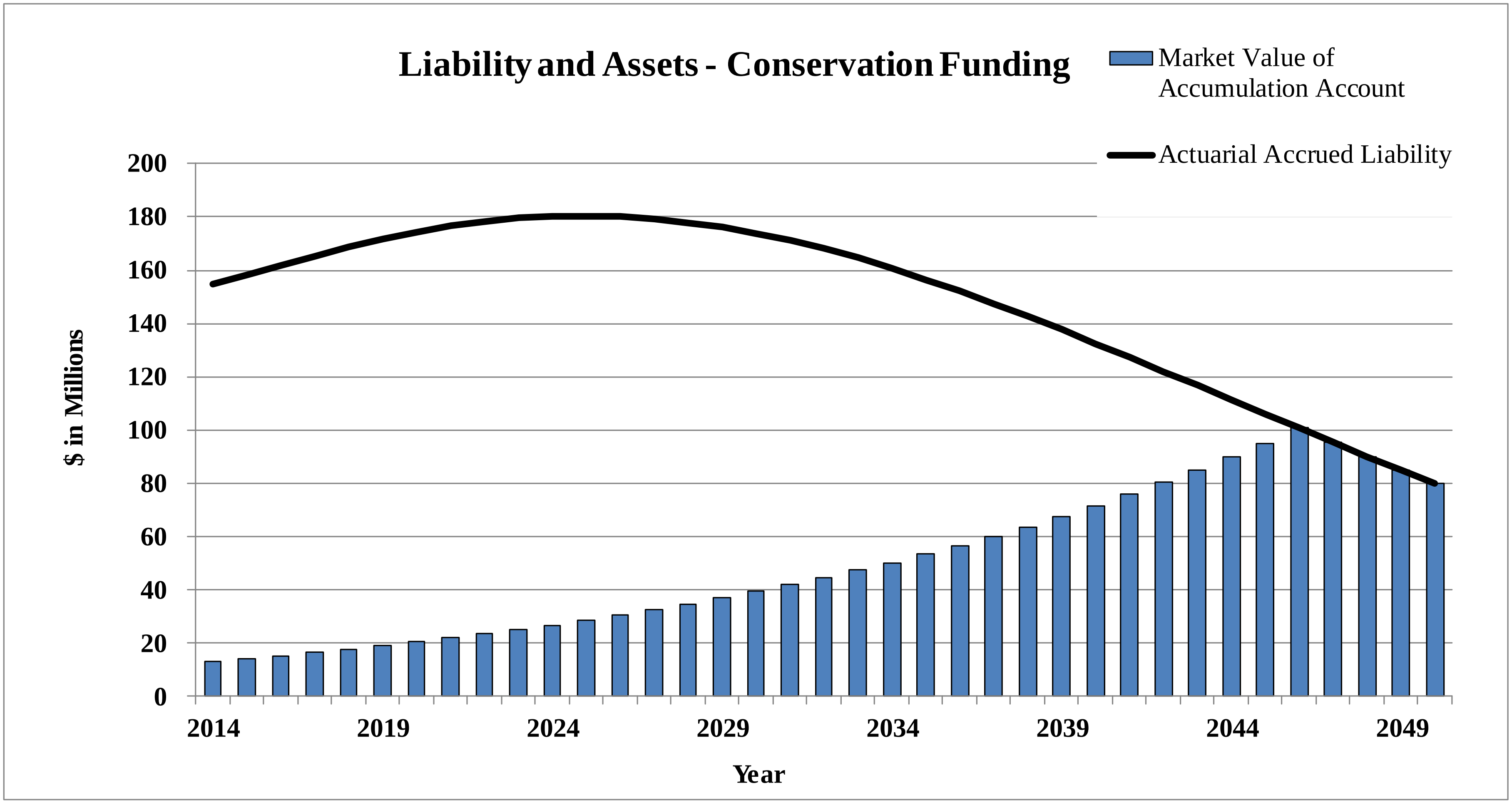
City of Charleston Firemen's Pension and Relief Fund
Actuarial Projections ($ in thousands)

Table 2

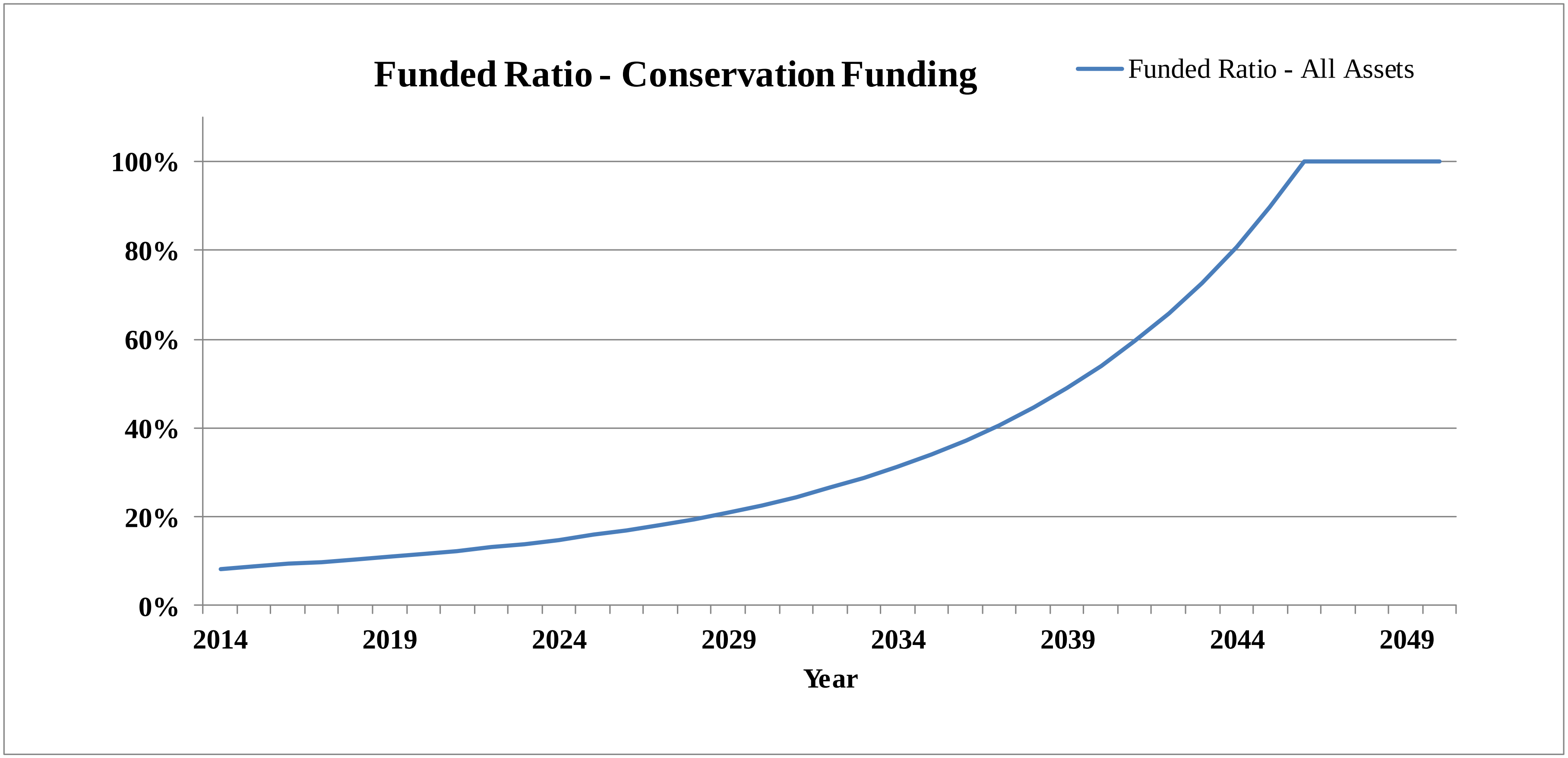
Plan Year End 30-Jun	Benefit Payment Account [a]: Assets (boy)	Benefits Payments	Expenses	Employer Contributions	6.50% of Pay Employee Contributions	80.18% of Premium Tax Allocation	Assets (eoy)	Accumulation Account [b]: Assets (boy)	1.50% of Pay Employee Contributions	19.82% of Premium Tax Allocation	Investment Income	Assets (eoy)
2016	$0	$7,167	$17.6	$5,449	$471	$1,265	$0	$14,098	$109	$313	$715	$15,234
2017	0	7,395	17.9	5,681	460	1,272	0	15,234	106	314	772	16,427
2018	0	7,646	18.1	5,900	452	1,311	0	16,427	104	324	832	17,687
2019	0	7,918	18.4	6,145	437	1,355	0	17,687	101	335	895	19,018
2020	0	8,266	18.7	6,464	421	1,400	0	19,018	97	346	962	20,423
2021	0	8,683	19.0	6,859	395	1,448	0	20,423	91	358	1,032	21,904
2022	0	9,082	19.3	7,239	362	1,500	0	21,904	84	371	1,106	23,465
2023	0	9,487	19.6	7,619	334	1,553	0	23,465	77	384	1,185	25,111
2024	0	9,887	19.8	8,000	300	1,607	0	25,111	69	397	1,267	26,844
2025	0	10,188	20.1	8,278	270	1,661	0	26,844	62	411	1,354	28,671
2026	0	10,502	20.4	8,559	252	1,711	0	28,671	58	423	1,445	30,597
2027	0	10,866	20.7	8,900	218	1,769	0	30,597	50	437	1,542	32,627
2028	0	11,139	21.0	9,146	187	1,826	0	32,627	43	451	1,644	34,765
2029	0	11,334	21.3	9,306	165	1,883	0	34,765	38	466	1,751	37,019
2030	0	11,533	21.5	9,469	146	1,940	0	37,019	34	480	1,864	39,396
2031	0	11,736	21.8	9,639	121	1,998	0	39,396	28	494	1,983	41,901
2032	0	11,886	22.1	9,752	99	2,057	0	41,901	23	509	2,108	44,540
2033	0	12,017	22.3	9,843	81	2,115	0	44,540	19	523	2,240	47,322
2034	0	12,119	22.5	9,903	61	2,177	0	47,322	14	538	2,380	50,254
2035	0	12,143	22.7	9,881	46	2,239	0	50,254	11	554	2,527	53,345
2036	0	12,119	22.9	9,806	37	2,299	0	53,345	8	568	2,681	56,603
2037	0	12,066	23.1	9,698	28	2,363	0	56,603	7	584	2,845	60,039
2038	0	11,992	23.2	9,566	22	2,428	0	60,039	5	600	3,017	63,661
2039	0	11,885	23.3	9,398	14	2,497	0	63,661	3	617	3,198	67,479
2040	0	11,741	23.4	9,187	10	2,567	0	67,479	2	635	3,390	71,506
2041	0	11,571	23.5	8,948	6	2,641	0	71,506	1	653	3,591	75,751
2042	0	11,371	23.5	8,673	3	2,718	0	75,751	1	672	3,804	80,228
2043	0	11,148	23.5	8,372	2	2,797	0	80,228	1	691	4,029	84,949
2044	0	10,908	23.5	8,051	1	2,880	0	84,949	0	712	4,265	89,926
2045	0	10,652	23.4	7,711	1	2,964	0	89,926	0	733	4,514	95,173
2046	0	10,382	23.3	7,349	0	3,051	0	95,173	0	754	4,777	100,700
2047	0	10,096	23.1	23	0	0	0	100,700	0	0	5,035	95,389
2048	0	9,797	22.9	23	0	0	0	95,389	0	0	4,769	90,120
2049	0	9,486	22.7	23	0	0	0	90,120	0	0	4,506	84,906
2050	0	9,162	22.4	22	0	0	0	84,906	0	0	4,245	79,763

[a] *Employer contributions paid from the City's General Fund are used to finance benefits not covered by the applicable employee contributions or premium tax allocation.*
[b] *Assets accumulate in the Pension and Relief Fund.*

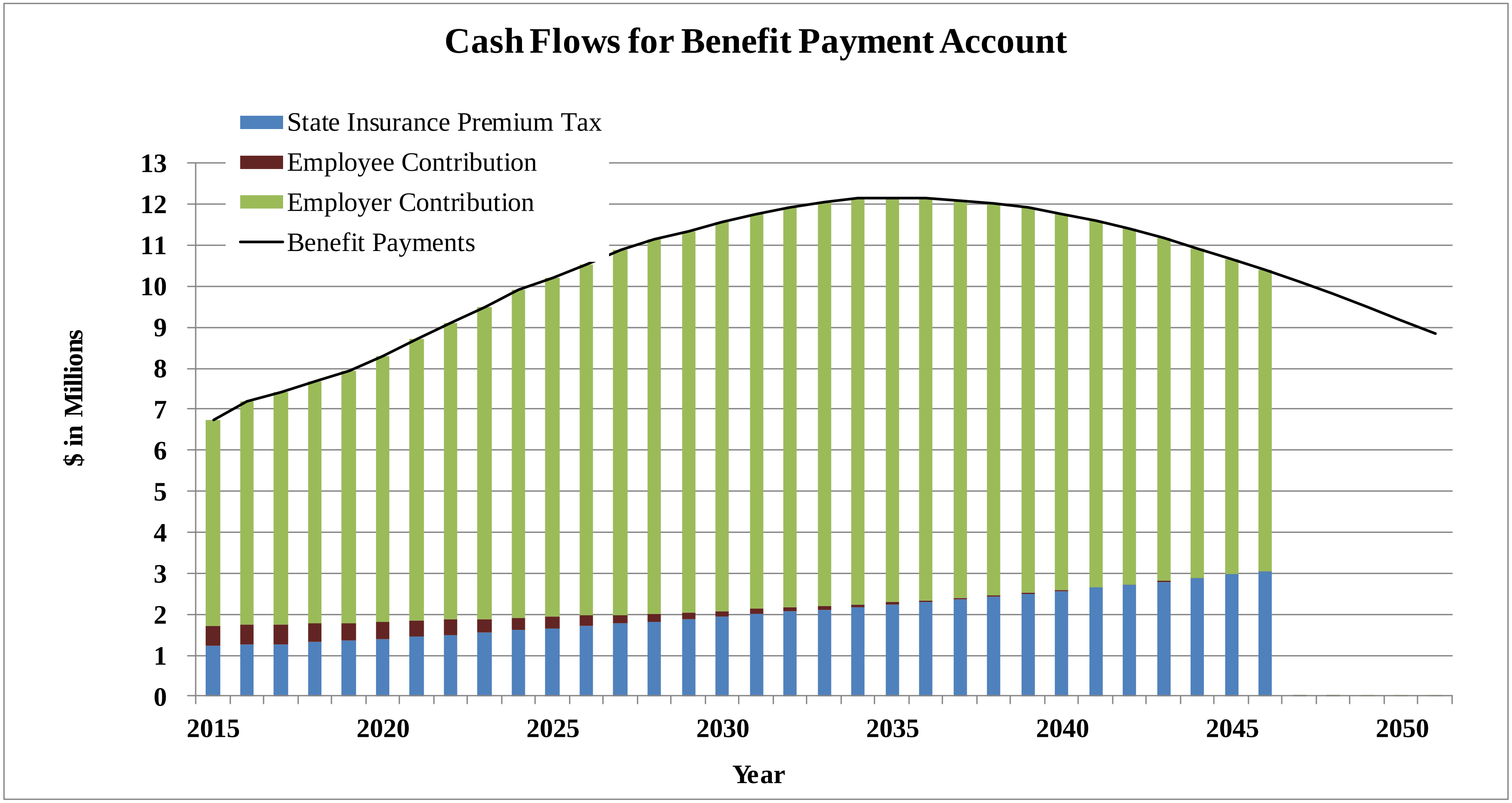
Graph 1


Liability and Assets - Conservation Funding
Market Value of Accumulation Account
Actuarial Accrued Liability
200
180
160
140
120
100
80
60
40
20
0
$ in Millions
2014
2019
2024
2029
2034
2039
2044
2049
Year

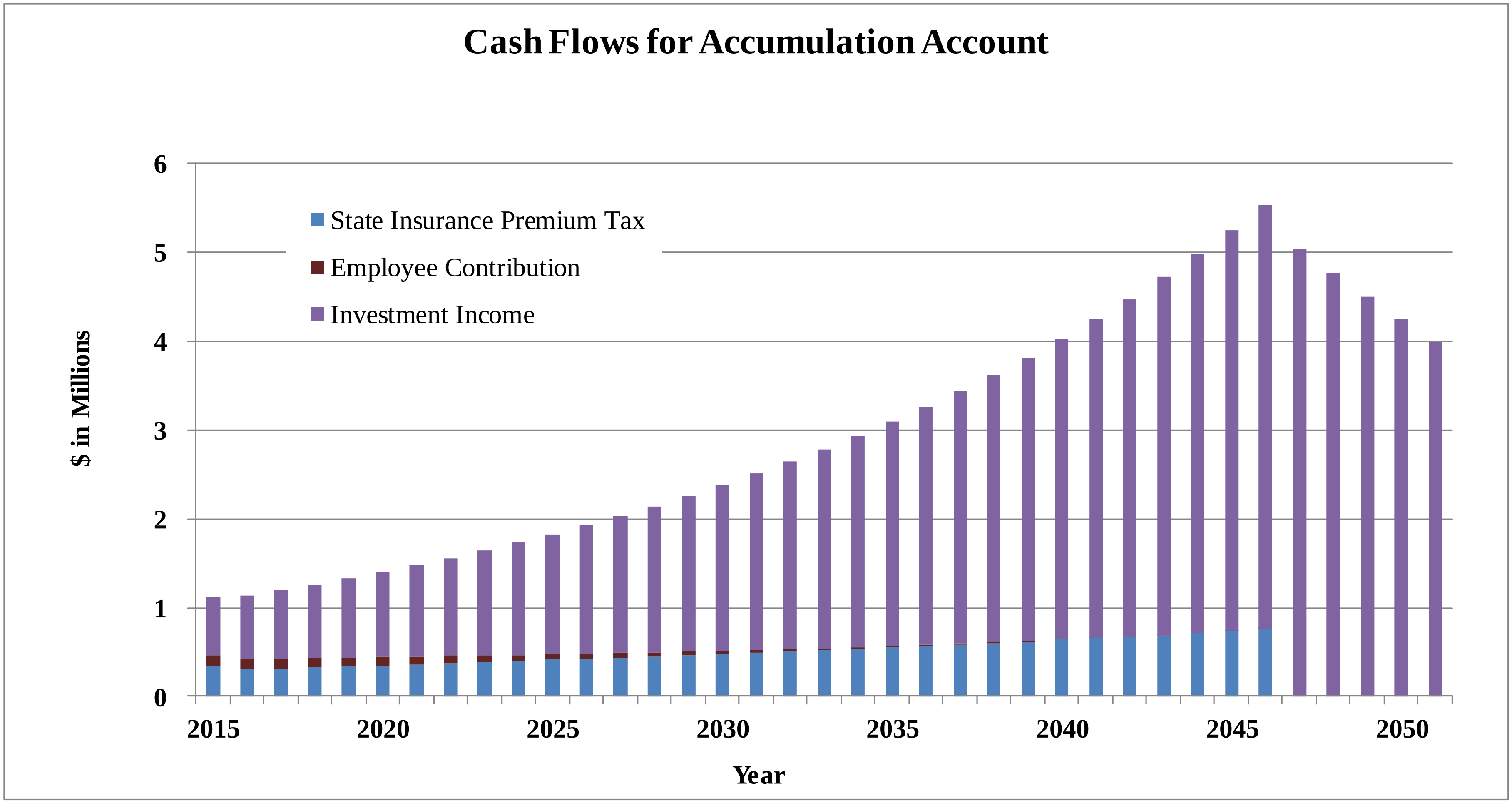
Graph 2


Funded Ratio - Conservation Funding
Funded Ratio - All Assets
100%
80%
60%
40%
20%
0%
2014
2019
2024
2029
2034
2039
2044
2049
Year

Graph 3


Cash Flows for Benefit Payment Account
State Insurance Premium Tax
Employee Contribution
Employer Contribution
Benefit Payments
$ in Millions
13
12
11
10
9
8
7
6
5
4
3
2
1
0
2015
2020
2025
2030
2035
2040
2045
2050
Year

Graph 4


Cash Flows for Accumulation Account
State Insurance Premium Tax
Employee Contribution
Investment Income
$ in Millions
0
1
2
3
4
5
6
2015
2020
2025
2030
2035
2040
2045
2050
Year

SECTION III

ACTUARIALLY DETERMINED CONTRIBUTION FOR GASB NOS. 67 AND 68 REPORTING

City of Charleston Firemen's Pension and Relief Fund
Actuarially Determined Contribution For GASB Nos. 67 and 68 Reporting

Funding Progress and Employer Contributions — Schedule C

Valuation Date	**July 1, 2013**	**July 1, 2014**
Valuation Interest Rate	5.00%	5.00%
Cost-of-Living Adjustment	3.00%	3.00%
Wage Inflation	4.00%	4.00%
Salary Increase	5.00%	5.00%
Actuarial Value of Assets	Market	Market
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Remaining Amortization Period [a]	27 Years, Level % of Pay	26 Years, Level % of Pay

Schedule of Funding Progress

Actuarial Valuation Date	**July 1, 2013**	**July 1, 2014**
1. Market Value of Assets	$11,271,569	$12,976,853
2. Actuarial Accrued Liability	$153,863,154	$154,660,064
3. Unfunded Actuarial Accrued Liability (2 - 1)	$142,591,585	$141,683,211
4. Funded Ratio (1/2)	7%	8%
5. Covered Payroll	$7,872,874	$7,364,910
6. UAAL as Percentage of Covered Payroll (3/5)	1811%	1924%

Schedule of Employer Contributions [c]	**FY 2014**	**FY 2015**
1. Actuarially Determined Contribution		
(a) Employer Normal Cost	$2,580,628	$2,407,623
(b) Amortization of Unfunded Actuarial Accrued Liability	$5,964,196	$6,125,994
(c) Actuarially Determined Contribution (ADC) (a + b)	$8,544,824	$8,533,617
2. Employer Contribution	$5,191,340	$5,004,065 [b]
3. Premium Tax Allocation	$1,544,506	$1,586,890
4. Percentage of ADC Contributed [(2 + 3)/1(c)]	79%	77%

[a] Suggested amortization policy to comply with GASB Nos. 67 and 68 Standards.
[b] Actual employer contribution for fiscal year end June 30, 2015.
[c] The Conservation contribution plus premium tax allocation does not satisfy the Actuarially Determined Contribution as defined by GASB Nos. 67 and 68.

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SECTION IV

VALUATION DATA AS OF JULY 1, 2014

Reconciliation of Assets **Schedule D**

Plan Year Ending	Benefit Account	Accumulation Account	Total June 30, 2014
A. Market Value of Assets End of Prior Year	($185,638)	$11,457,207	$11,271,569
1. Revenue During Fiscal Year			
(a) Employee Contribution	$490,207	$113,126	$603,333
(b) Governmental Contribution			
(i) From Local Government	5,191,340	0	5,191,340
(ii) From State Government	1,127,798	416,708	1,544,506
(iii) Reallocation from State Government	0	0	0
(iv) Total	**$6,319,138**	**$416,708**	**$6,735,846**
(c) Earnings on Investments			
(i) Net Appreciation (Depreciation)	0	1,167,115	1,167,115
(ii) Bond Interest	88	55,623	55,711
(iii) Dividends	0	152,607	152,607
(iv) Net Realized Gain (Loss) on Sale/Exchange	0	0	0
(v) Other	0	0	0
(vi) Less Investment Expense	0	(57,438)	(57,438)
(vii) Total	**$88**	**$1,317,907**	**$1,317,995**
(d) Other Revenue	0	$0	$0
(e) Receivable Contribution [a]	$0	$0	$0
(f) Total Revenue (sum of (a) through (e))	**$6,809,433**	**$1,847,741**	**$8,657,174**
2. Expenditures During Fiscal Year			
(a) Benefits Paid	6,822,654	0	6,822,654
(b) Withdrawals	6,518	114,586	121,104
(c) Administrative Expenses	8,132	0	8,132
(d) Total Expenditures (sum of (a) through (c))	**$6,837,304**	**$114,586**	**$6,951,890**
3. Accruals			
(a) Receivable (other than State and Local Contributions)	0	0	0
(b) Less Payable	0	0	0
(c) Total	**$0**	**$0**	**$0**
B. Market Value of Assets End of Year [A + 1(f) - 2(d) + 3(c)]	**($213,509)**	**$13,190,362**	**$12,976,853**
C. Approximate Return on Assets			11.4%

[a] *Receivable contributions for each respective plan year ending.*

Assets Held by Category

Schedule E

Plan Year Ending	June 30, 2013		June 30, 2014	
1. Cash and Short-term Investments	$640,451	6%	$3,248,230	25%
2. Government Securities				
(a) Treasury Notes and Bonds	$3,632,574		$3,455,556	
(b) State and Municipal Bonds	$0		$0	
(c) Total Government Securities	$3,632,574	32%	$3,455,556	27%
3. Corporate Bonds				
(a) Bonds	$0		$0	
(b) Mortgage Backed Securities	$0		$0	
(c) Debentures	$0		$0	
(d) Mutual Fund Shares (Bonds)	$0		$0	
(e) Total Corporate Bonds	$0	0%	$0	0%
4. Corporate Stocks				
(a) Stocks	$6,771,735		$6,269,693	
(b) Mutual Fund Shares (Stocks)	$0		$0	
(c) Total Corporate Stocks	$6,771,735	60%	$6,269,693	48%
5. Other	$1,176	0%	$3,374	0%
6. Receivable Contributions [a]	$0	0%	$0	0%
7. Receivable State Reallocation	$225,633	2%	$0	0%
Total Market Value of Assets [sum of (1) through (7)]	$11,271,569		$12,976,853	

[a] *Receivable contributions for each respective plan year ending.*

Summary of Participant Activity

Schedule F

	Actives	Retirees	Disabled	Deferred Vested	Spouses and Beneficiaries	Totals
Total Participants July 1, 2013:	**156**	**147**	**37**	**1**	**42**	**383**
New Actives:						**0**
Returned to Actives Status:						**0**
Data Corrections/Other Changes:			1			**1**
Vested Terminations:						**0**
Non-Vested Terminations:	(5)					**(5)**
Disabled:	(2)		2			**0**
Retirements:	(5)	7	(1)	(1)		**0**
Deaths with Beneficiary:		(2)	(2)		4	**0**
Deaths w/o Beneficiary:		(5)	(1)		(1)	**(7)**
Expired Annuity or Stop Payment:						**0**
Net Changes:	(12)	0	(1)	(1)	3	**(11)**
Total Participants June 30, 2014:	**144**	**147**	**36**	**0**	**45**	**372**

Distribution of Active Employees by Age and Length of Service — Schedule G

Attained Age	Less than 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35	Totals	Valuation Payroll
				Years of Service to Valuation Date							
Under 20											$ 0
20-24		1								**1**	**39,802**
25-29		2	4							**6**	**265,188**
30-34		3	15	4						**22**	**1,016,476**
35-39		2	11	4	7					**24**	**1,184,646**
40-44		1	6	13	23	6				**49**	**2,581,816**
45-49				8	13	10	2			**33**	**1,777,930**
50-54					5	2	2			**9**	**499,052**
55-59											**0**
60-64											**0**
65-69											**0**
Over 70											**0**
Totals	**0**	**9**	**36**	**29**	**48**	**18**	**4**	**0**	**0**	**144**	**$ 7,364,910**

Averages

Age:	41.3	years
Service:	13.6	years
Annual Pay:	$51,145	

Participants Summary

Schedule H

Active Participants	July 1, 2013	July 1, 2014
Number of Actives	156	144
Total Annual Pay	$7,872,874	$7,364,910
Average Age	40.6	41.3
Average Service	12.8	13.6

Inactive Participants	July 1, 2013		July 1, 2014	
Type	No.	Annual Benefit	No.	Annual Benefit
Retirees	147	$5,198,828	147	$5,279,832
Surviving Spouses	42	$629,500	45	$673,150
Disabled Members	37	$895,726	36	$880,665
Deferred Vested Members	1	$30,335	0	$0

SECTION V

ACTUARIAL ASSUMPTIONS AND METHODS

Discount Rate

The following table outlines the factors used to determine the discount rate:

Funded Ratio as of Valuation Date [1]	Liquidity Ratio [2]	Equity Exposure [3]	Projected Funded Ratio after 15 Years [1]	Proposed Discount Rate
60% or more	10	50% or more	70% or more	7.0%
40% or more	8	40% or more	60% or more	6.5%
30% or more	6	30% or more	50% or more	6.0%
15% or more	4	n/a	40% or more	5.5%
Less than 15%	n/a	n/a	Less than 40%	5.0%

[1] Funded ratios based on a 6.5% investment return assumption for plans using an actuarially sound policy (standard or optional) and a 6.0% investment return assumption for other plans (alternative or conservation).
[2] Liquidity ratio equals assets as of the valuation date divided by expected benefits for the year.
[3] Based on investment policy.

As of June 30, 2014	
Assets	$12,976,853
Liabilities using a 6.0% discount rate	$135,978,319
Funded Ratio	9.5%
Expected Benefit Payments	$6,706,149
Liquidity Ratio	1.94
Equity Exposure	48.3%
Projected Funded Ratio after 15 years	26.5%

Discount Rate	5.00%

The premium tax allocation is projected using the following methodology:

(1) The Base Allocation for all Pension and Relief Funds is a fixed amount equal to $8,709,689 in all future years. This amount is allocated to each individual Pension and Relief Fund in proportion to the number of eligible members, which includes active members covered in either the Pension and Relief Fund or the newly established statewide plan, Municipal Police Officers and Firefighters Retirement System ("MPFRS").

(2) The Excess Allocation is equal to the excess of the current year premium tax assigned to all Pension and Relief Funds over the total Base Allocation. This amount is allocated to each individual Pension and Relief Fund in proportion to the number of eligible active and retired members covered in either the Pension and Relief Fund or the MPFRS.

(3) We have assumed all Pension and Relief Funds will make the minimum statutory contribution requirement and will receive 100% of both the Base Allocation and the Excess Allocation assigned to the individual plan. Consequently, the projections do not include any reallocation of Expired Premium Tax Allocation for plan years beginning on and after July 1, 2016.

(4) The total available premium tax allocation, net of expenses, as of September 1, 2015, includes a Base Allocation of $8,709,689.42, an Excess Allocation of $7,909,493.59, and an Expired Premium Tax Allocation of $284,133.52.

(5) For the plan year ending June 30, 2015, all Pension and Relief Funds reported a total of 1,703 eligible active members, and 2,145 eligible retired members. The City of Charleston Firemen's Pension and Relief Fund reported 150 eligible active members, and 230 eligible retired members, based on the average number of plan participants for the 12 month period ending June 30, 2015. The Fund is eligible to receive a premium tax allocation of $1,577,553 for the fiscal year ending June 30, 2016.

(6) The total premium tax allocation was assumed to increase by 3% in calendar years ending on and after 2016.

City of Charleston Firemen's Pension and Relief Fund
Actuarial Assumptions and Methods
Used in the Valuation as of July 1, 2014

General Inflation	3.00%
Expected Salary Increase	General Inflation: 3.00% *plus* Wage Inflation: 1.00% *plus* Service Based Increase: Years of Service — Increase 1 — 9.0% 2 — 4.5% 3 - 4 — 2.0% after 4 years of service — 1.0%
Post-retirement COLA	3.00% on first $15,000 of Annual Benefit and on the accumulated supplemental pension amounts for prior years.
Increase in State Insurance Premium Tax Allocation	3% on and after year 1
Cost Method	Entry-Age Normal Level-Percentage-of-Pay 30 – Year Closed Level-Percentage-of-Pay Amortization, as of July 1, 2010, for determining the GASB 67/68 Actuarially Determined Contribution. The remaining amortization period is 26 years as of July 1, 2014.
Asset Method	Market Value

City of Charleston Firemen's Pension and Relief Fund
Actuarial Assumptions and Methods
Used in the Valuation as of July 1, 2014

Turnover	Sample Rates – Age / Rates 25 / 10% 35 / 4% 45 / 2% 50 / 0%
Retirement	Age / Rates 50-51 / 45% 52-54 / 30% 55 / 45% 56 / 35% 57 / 55% 58 / 100%
Mortality	Active: 85 percent of 1994 Group Annuity Mortality Post-Retirement: 1994 Group Annuity Mortality Disabled: 1994 Group Annuity Mortality set forward 4 years
Disability	Sample Rates – Age / Rates[a] 30 / 0.27% 40 / 0.57% 50 / 0.87% [a] Assumes 40% duty related and 60% non-duty related.
Percent Married	90%
Spouse Age	Females 3 years younger than males

SECTION VI

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Employee Eligibility — All compensated employees of the Fire Department hired before June 1, 2011 are eligible to participate in the Firemen's Pension and Relief Fund.

Average Annual Compensation — The average of any three twelve-consecutive-month periods of employment which produces the highest average annual compensation.

Each twelve-consecutive-month annual compensation is limited to 120% of the *Average Adjusted Salary* received by the member in the two consecutive twelve-consecutive-month periods immediately preceding the twelve-consecutive-month period used in determining benefits.

The *Average Adjusted Salary* is base salary (exclusive of all overtime and other pay) of the year used in determining benefits multiplied by the ratio of total salary (includes all overtime and other pay) to base salary from the respective preceding twelve-consecutive-month period.

Determining Years of Service Credit (Credited Service**)** — The number of years that the member has contributed to the employees retirement and benefit fund.

Prior Military Service — A city may provide that members who have been honorably discharged from the military shall receive up to two years prior service credit for military service prior to their employment with the city.

Current Military Service — Any current member who has been on qualified military service in the armed forces of the United States with an honorable discharge may, within six months from his or her date of discharge, be given credit for continuous service in the paid police or fire department.

Any member who has served in active duty with the armed forces of the United States, whether prior to or subsequent to becoming a member of a paid police or fire department, shall receive one additional percent for each year so served in active military duty, up to a maximum of four additional percent.

Absence from the service because of sickness or injury for a period of two years or less shall not be construed as time out of service.

Contributions — Participating employees contribute 8.0% of compensation. Participating employees hired on or after January 1, 2010 contribute 9.5% of pay. The municipality has elected to contribute the minimum employer contribution under the Conservation Method.

Normal Retirement — Members are eligible at the earlier of age 50 with 20 years of credited service or age 65.

Benefit Commencement — Annual retirement pension benefits commence upon retirement or upon the member attaining age fifty, whichever is later, payable in twelve monthly installments.

Accrued Benefit — The annual retirement benefit equals 60% of average annual compensation, not less than $6,000, plus an additional percentage of average annual compensation for service over 20 years equal to 2% for each year of service between 20 and 25 and 1% for each year of service between 25 and 30 years. Employees serving in the military are eligible for an additional 1% of average annual compensation for each year of military service up to four years. The maximum benefit is limited to 75% of average annual compensation. Benefits continue for life.

Disability Retirement — Members are eligible after earning five years of service. No service requirement if disability is service related.

The monthly disability benefit equals the greater of 60% of monthly salary at disability or $500. Employees serving in the military are eligible for an additional benefit of 1% of monthly salary at disability for each year of military service up to four years. Disability benefits, when aggregated with monthly state workers compensation benefits, shall not exceed 100% of the member's monthly compensation at the time of disability. Benefits continue for life or until recovery.

Death Benefits — Members are eligible after earning five years of service. No service requirement if death is service related. Retirees and terminated vested participants are also eligible.

The benefit is equal to 60% of the participant's benefit, but not less than $300 per month, payable to the spouse until death or remarriage. Other dependents (children, parents, brothers, and sisters) are also eligible for death benefits. To each dependent child, twenty percent of the participant's benefit until the child attains eighteen or marries; to each dependent orphaned child, twenty-five percent of the participant's benefit until the child attains eighteen or marries; to each dependent parent, ten percent of the participant's benefit for life, and to each dependent brother or sister, the sum of fifty dollars per month (but a total not to exceed $100 per month) until such individual attains the age of eighteen years or marries.

In no case shall the payments to the surviving spouse and children be reduced below sixty-five percent of the total amount paid to all dependents.

Supplemental Pension Benefits — All retirees, surviving beneficiaries and disability pensioners are eligible for automatic cost-of-living benefits commencing on the first day of July following two years of retirement. The benefits equal the percentage increase in the Consumer Price Index, limited to 4% (2% for some disability retirees), multiplied by the sum of the allowable amount which is the first $15,000 of the total annual benefits paid and the accumulated supplemental pension amounts for prior years.

Termination Benefits — Any member who terminates employment prior to retirement will be entitled to a refund of contributions without interest.

Refunds — Any member who terminates from their department without receiving a retirement pension shall be refunded all deductions made from his salary, without interest. Any member who receives such a refund and subsequently wishes to reenter the department must repay to the pension fund all sums refunded with interest at the rate of eight percent annual.