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, 2013

GRS
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August 26, 2014

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

Cpt. Robert "Scott" 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, 2013

Dear Mr. Grigoraci and Cpt. Fisher:

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2013, 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, 2015
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2015
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2015

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.

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, 2013, 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, 2013, and assets held as of June 30, 2013, 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
Senior Consultant

Lance Weiss, EA, MAAA, FCA
Senior Consultant

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SECTION I

VALUATION RESULTS AS OF JULY 1, 2013

City of Charleston Firemen's Pension and Relief Fund
Actuarial Study as of July 1, 2013

Executive Summary

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2013, 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, 2015
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2015
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2015

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%.

This report reflects the extraordinary contribution made by the State to the Plan in July of 2013, in the amount of $225,633. The extraordinary contribution is recognized as a receivable contribution as of June 30, 2013.

The following table provides the Plan's funded status as of July 1, 2013:

Assets	$11,271,569
Actuarial Liabilities	$153,863,154
Unfunded Liabilities	$142,591,585
Funded Ratio	7.33%

The following table provides the actual employer contributions, employee contributions, and premium tax allocation for the plan year ended June 30, 2014. The premium tax allocation was based on the results of the July 1, 2012, actuarial valuation.

Plan year ending 2014	Benefit Payment Account	Accumulation Account	Total
Employee Contributions	$490,208	$113,125	$603,333
Premium Tax Allocations	$1,127,799	$416,708	$1,544,507
Employer Contributions	$5,191,340	$0	$5,191,340
Total	$6,809,347	$529,833	$7,339,180

The following table provides the estimated employer contributions, employee contributions and premium tax allocation for the plan year ending June 30, 2015. We have assumed 22.01% of the premium tax allocation of $1,586,890 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 2015	Benefit Payment Account	Accumulation Account	Total
Employee Contributions	$504,514	$116,426	$620,940
Premium Tax Allocations	$1,237,616	$349,274	$1,586,890
Employer Contributions	$5,365,446	$0	$5,365,446
Total	$7,107,576	$465,700	$7,573,276

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, 2013 Actuarial Report from GRS is to be used by municipal pension plans to draw down the September 1, 2014 State Premium Tax Allocation which is allocated in Fiscal Year 2015. 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, 2015 will be based on the Consumer Price Index for calendar year 2014, and the projected results of the July 1, 2013 actuarial valuation.

Additional Remarks on the Valuation Results

Following are additional remarks on the valuation results as of July 1, 2013:

- 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 11.2% on the market value of assets during the plan year ending June 30, 2013, which compares to the expected annualized return of 5.0%. The difference in actual versus expected return produced an asset (gain)/loss of ($594,214).

- 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, 2013, the fund experienced a net liability (gain)/loss of ($1,618,850).

Following are additional remarks on the actuarial valuation projections:

- Employer contributions are expected to increase from $5,365,446 for the plan year ending June 30, 2015, to a high of $10,104,842 for the plan year ending June 30, 2034.

- In 20 years, the funded ratio is projected to increase from 7.3% in 2013 to 28% in 2033, 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, 2012**		**July 1, 2013**
Valuation Interest Rate		5.00%		5.00%
Cost-of-Living Adjustment		3.00%		3.00%
Salary Increase		5.00%		5.00%
Covered Payroll		$8,867,736		$7,872,874
Average Pay		$51,557		$50,467
Expected Benefit Payments		$6,457,736		$6,792,511
1. Actuarial Accrued Liability	No.		No.	
(a) Actives	172	$53,265,515	156	$50,026,205
(b) Retirees	141	$76,188,699	147	$79,914,936
(c) Surviving Spouses	42	$5,830,608	42	$7,637,098
(d) Disabled Members	35	$14,680,873	37	$15,680,425
(e) Deferred Vested Members	2	$1,099,482	1	$604,490
(f) Total	392	$151,065,177	383	$153,863,154
2. Present Value of Future Normal Costs		$32,268,368		$27,776,400
3. Present Value of Benefits (1 + 2)		$183,333,545		$181,639,554
4. Market Value of Assets		$9,314,344		$11,271,569
5. Unfunded Actuarial Accrued Liability (1(f) - 4)		$141,750,833		$142,591,585
6. Funded Ratio (4 / 1(f))		6.17%		7.33%
7. Net Employer Normal Cost				
(a) Gross Normal Cost [a]		$3,610,457		$3,210,458
(b) Employee Contribution Rate		8.00%		8.00%
(c) Expected Employee Contributions		$709,419		$629,830
(d) Net Employer Normal Cost (a - c)		$2,901,038		$2,580,628
(% of Compensation)		32.71%		32.78%
		FY 2014		**FY 2015**
8. Minimum Employer Contribution [b]		$5,191,340		$5,365,446
(% of Projected Compensation)		56%		69%
9. State Insurance Premium Tax Allocation		$1,544,507		$1,586,890
(% of Projected Compensation)		17%		20%

[a] Gross normal cost for plan year end June 30, 2014, includes administrative expenses of $16,836.

[b] Estimated Employer contribution for fiscal year end June 30, 2015.

(Gain) / Loss Analysis

Schedule B

Experience (gain) loss for plan year ending June 30, 2013

1.	(a)	Liability as of 7/1/2012	$151,065,177
	(b)	Normal Cost due 7/1/2012	3,594,111
	(c)	Interest on (a) and (b) to 6/30/2013	7,643,112
	(d)	Benefit Payments with interest to 6/30/2013	6,820,396
	(e)	Effect of Assumption Changes	0
	(f)	Expected Liability at 7/1/2013 [(a) + (b) + (c) - (d) + (e)]	155,482,004
	(g)	Actual Liability at 7/1/2013	$153,863,154
	(h)	Liability (Gain)/Loss [(g) - (f)]	**($1,618,850)**
2.	(a)	Market Value of Assets as of 7/1/2012	$9,314,344
	(b)	Interest on (a) to 6/30/2013	458,541
	(c)	Contributions with interest to 6/30/2013	7,724,866
	(d)	Benefit Payments with interest to 6/30/2013	6,820,396
	(e)	Expected Assets at 6/30/2013 [(a) + (b) + (c) - (d)]	$10,677,355
	(f)	Actual Assets at 7/1/2013	$11,271,569
	(g)	Asset (Gain)/Loss [(e) - (f)]	**($594,214)**
3.		Total (Gain)/Loss [1(h) + 2(g)]	**($2,213,064)**

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		Total Assets ($ in thousands)									Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
	Active	Pay Status	Assets (boy)	Benefits Payments	Expenses	Employer Contributions	Employee Contributions	Premium Tax Allocation Contributions	Total Contributions	Investment Income	Assets (eoy)			
2013	156	227	$9,314	$6,654	$11.4	$4,936	$644	$1,958	$7,538	$1,084	$11,272	$153,863	$142,592	7.3%
2014	147	230	11,272	6,793	16.8	5,191	603	1,545	7,339	577	12,378	157,784	145,406	7.8%
2015	137	234	12,378	7,091	17.1	5,365	621	1,587	7,573	630	13,474	161,601	148,127	8.3%
2016	127	238	13,474	7,331	17.3	5,610	605	1,598	7,814	685	14,625	165,262	150,638	8.8%
2017	119	241	14,625	7,591	17.6	5,844	588	1,650	8,082	743	15,841	168,752	152,911	9.4%
2018	110	245	15,841	7,854	17.8	6,079	574	1,702	8,355	804	17,127	172,054	154,927	10.0%
2019	101	248	17,127	8,132	18.1	6,328	555	1,758	8,642	868	18,487	175,129	156,642	10.6%
2020	91	253	18,487	8,496	18.3	6,666	534	1,814	9,013	937	19,923	177,842	157,920	11.2%
2021	80	259	19,923	8,925	18.6	7,074	499	1,877	9,450	1,009	21,438	180,058	158,620	11.9%
2022	71	263	21,438	9,326	18.9	7,455	458	1,946	9,859	1,085	23,037	181,770	158,733	12.7%
2023	61	267	23,037	9,721	19.1	7,828	423	2,011	10,262	1,165	24,723	182,957	158,233	13.5%
2024	53	270	24,723	10,110	19.4	8,196	382	2,080	10,659	1,249	26,502	183,596	157,094	14.4%
2025	47	271	26,502	10,408	19.7	8,470	345	2,151	10,966	1,338	28,379	183,802	155,423	15.4%
2026	40	273	28,379	10,717	19.9	8,747	323	2,215	11,285	1,432	30,359	183,538	153,178	16.5%
2027	33	274	30,359	11,078	20.2	9,085	282	2,288	11,654	1,532	32,447	182,684	150,237	17.8%
2028	28	275	32,447	11,356	20.5	9,335	244	2,364	11,943	1,636	34,650	181,325	146,675	19.1%
2029	24	274	34,650	11,557	20.7	9,501	215	2,438	12,155	1,747	36,973	179,545	142,572	20.6%
2030	19	273	36,973	11,753	21.0	9,663	190	2,509	12,362	1,863	39,425	177,325	137,900	22.2%
2031	15	272	39,425	11,951	21.2	9,826	160	2,587	12,572	1,986	42,010	174,636	132,626	24.1%
2032	12	269	42,010	12,098	21.5	9,935	132	2,663	12,731	2,116	44,736	171,536	126,799	26.1%
2033	9	267	44,736	12,237	21.7	10,032	111	2,740	12,883	2,252	47,613	168,018	120,405	28.3%
2034	6	264	47,613	12,353	21.9	10,105	84	2,824	13,012	2,396	50,646	164,091	113,445	30.9%
2035	5	259	50,646	12,381	22.1	10,086	64	2,905	13,054	2,548	53,846	159,863	106,017	33.7%
2036	4	255	53,846	12,356	22.2	10,006	52	2,988	13,046	2,709	57,222	155,395	98,174	36.8%
2037	3	249	57,222	12,301	22.4	9,894	41	3,072	13,007	2,878	60,784	150,717	89,933	40.3%
2038	2	244	60,784	12,234	22.5	9,765	32	3,162	12,959	3,057	64,542	145,828	81,285	44.3%
2039	1	238	64,542	12,141	22.6	9,608	20	3,256	12,884	3,245	68,507	140,748	72,241	48.7%
2040	1	232	68,507	11,997	22.7	9,395	13	3,352	12,760	3,444	72,691	135,538	62,846	53.6%
2041	0	226	72,691	11,823	22.7	9,147	8	3,453	12,608	3,653	77,106	130,227	53,120	59.2%
2042	0	220	77,106	11,619	22.8	8,863	5	3,557	12,425	3,875	81,765	124,849	43,084	65.5%
2043	0	213	81,765	11,391	22.8	8,553	3	3,664	12,221	4,108	86,680	119,430	32,750	72.6%
2044	0	206	86,680	11,146	22.7	8,222	2	3,776	12,000	4,355	91,866	113,987	22,120	80.6%
2045	0	199	91,866	10,884	22.6	7,871	1	3,891	11,763	4,614	97,337	108,537	11,200	89.7%
2046	0	192	97,337	10,607	22.5	7,491	1	4,008	11,500	4,888	103,096	103,096	0	100.0%
2047	0	185	103,096	10,315	22.4	23	0	0	23	4,900	97,682	97,682	0	100.0%
2048	0	177	97,682	10,009	22.2	22	0	0	22	4,637	92,309	92,309	0	100.0%
2049	0	170	92,309	9,691	21.9	22	0	0	22	4,376	86,994	86,994	0	100.0%

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

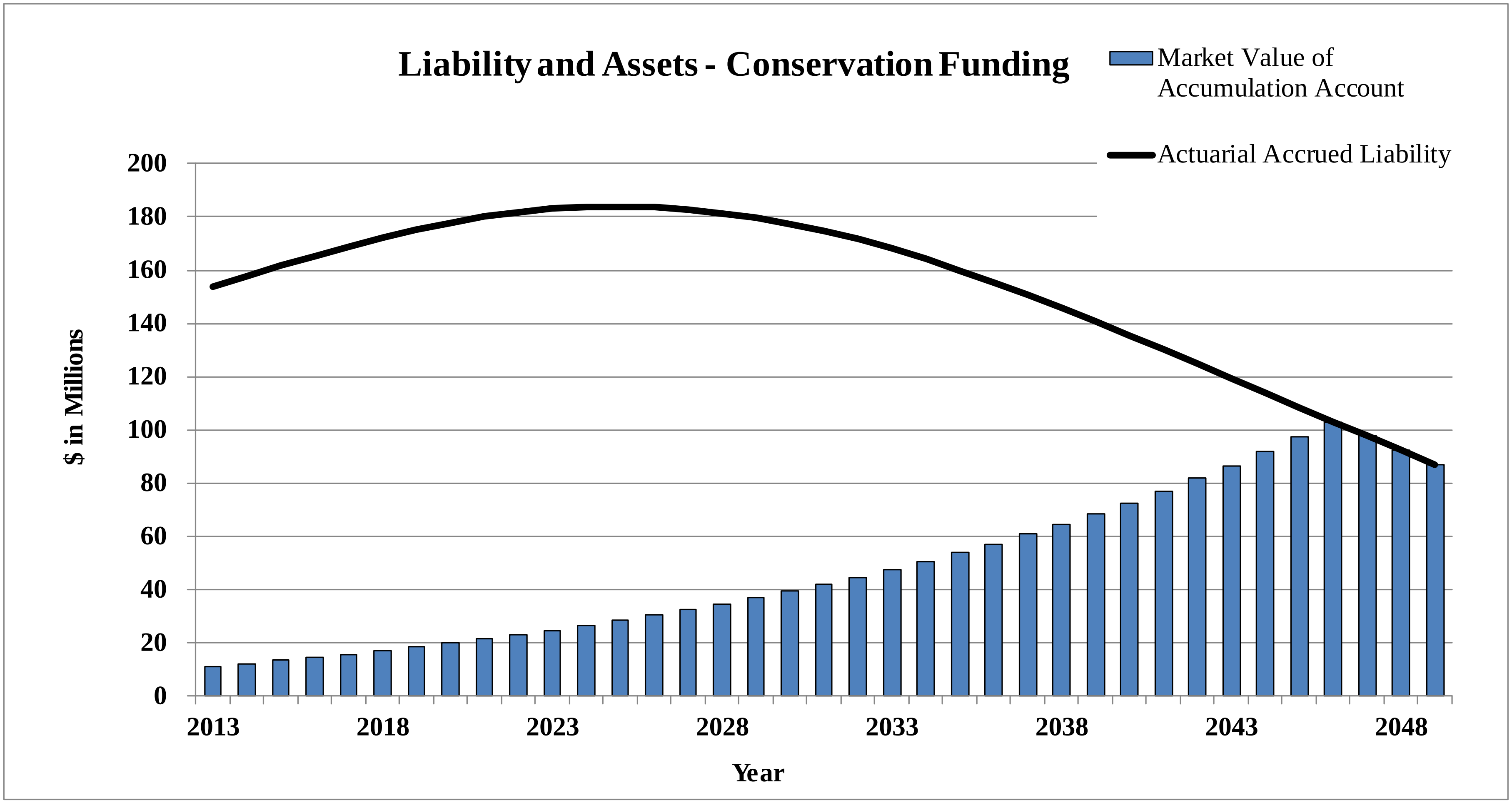
Table 2

	Benefit Payment Account [a]							Accumulation Account [b]				
Plan Year End 30-Jun	Assets (boy)	Benefits Payments	Expenses	Employer Contributions	6.50% of Pay Employee Contributions	77.99% of Premium Tax Allocation	Assets (eoy)	Assets (boy)	1.50% of Pay Employee Contributions	22.01% of Premium Tax Allocation	Investment Income	Assets (eoy)
2015	$0	$7,091	$17.1	$5,365	$505	$1,238	$0	$12,378	$116	$349	$630	$13,474
2016	0	7,331	17.3	5,610	492	1,247	0	13,474	113	352	685	14,625
2017	0	7,591	17.6	5,844	478	1,287	0	14,625	110	363	743	15,841
2018	0	7,854	17.8	6,079	466	1,328	0	15,841	108	375	804	17,127
2019	0	8,132	18.1	6,328	451	1,371	0	17,127	104	387	868	18,487
2020	0	8,496	18.3	6,666	434	1,415	0	18,487	100	399	937	19,923
2021	0	8,925	18.6	7,074	405	1,464	0	19,923	94	413	1,009	21,438
2022	0	9,326	18.9	7,455	372	1,518	0	21,438	86	428	1,085	23,037
2023	0	9,721	19.1	7,828	344	1,568	0	23,037	79	443	1,165	24,723
2024	0	10,110	19.4	8,196	310	1,623	0	24,723	72	458	1,249	26,502
2025	0	10,408	19.7	8,470	280	1,677	0	26,502	65	473	1,338	28,379
2026	0	10,717	19.9	8,747	262	1,727	0	28,379	61	487	1,432	30,359
2027	0	11,078	20.2	9,085	229	1,784	0	30,359	53	504	1,532	32,447
2028	0	11,356	20.5	9,335	198	1,844	0	32,447	46	520	1,636	34,650
2029	0	11,557	20.7	9,501	175	1,902	0	34,650	40	537	1,747	36,973
2030	0	11,753	21.0	9,663	155	1,957	0	36,973	36	552	1,863	39,425
2031	0	11,951	21.2	9,826	130	2,017	0	39,425	30	569	1,986	42,010
2032	0	12,098	21.5	9,935	108	2,077	0	42,010	25	586	2,116	44,736
2033	0	12,237	21.7	10,032	90	2,137	0	44,736	21	603	2,252	47,613
2034	0	12,353	21.9	10,105	68	2,202	0	47,613	16	621	2,396	50,646
2035	0	12,381	22.1	10,086	52	2,265	0	50,646	12	639	2,548	53,846
2036	0	12,356	22.2	10,006	42	2,330	0	53,846	10	658	2,709	57,222
2037	0	12,301	22.4	9,894	33	2,396	0	57,222	8	676	2,878	60,784
2038	0	12,234	22.5	9,765	26	2,466	0	60,784	6	696	3,057	64,542
2039	0	12,141	22.6	9,608	16	2,540	0	64,542	4	717	3,245	68,507
2040	0	11,997	22.7	9,395	11	2,614	0	68,507	3	738	3,444	72,691
2041	0	11,823	22.7	9,147	7	2,693	0	72,691	2	760	3,653	77,106
2042	0	11,619	22.8	8,863	4	2,774	0	77,106	1	783	3,875	81,765
2043	0	11,391	22.8	8,553	3	2,858	0	81,765	1	807	4,108	86,680
2044	0	11,146	22.7	8,222	2	2,945	0	86,680	0	831	4,355	91,866
2045	0	10,884	22.6	7,871	1	3,035	0	91,866	0	856	4,614	97,337
2046	0	10,607	22.5	7,491	0	3,126	0	97,337	0	882	4,889	103,096
2047	0	10,315	22.4	23	0	0	0	103,096	0	0	5,155	97,682
2048	0	10,009	22.2	22	0	0	0	97,682	0	0	4,884	92,309
2049	0	9,691	21.9	22	0	0	0	92,309	0	0	4,615	86,994

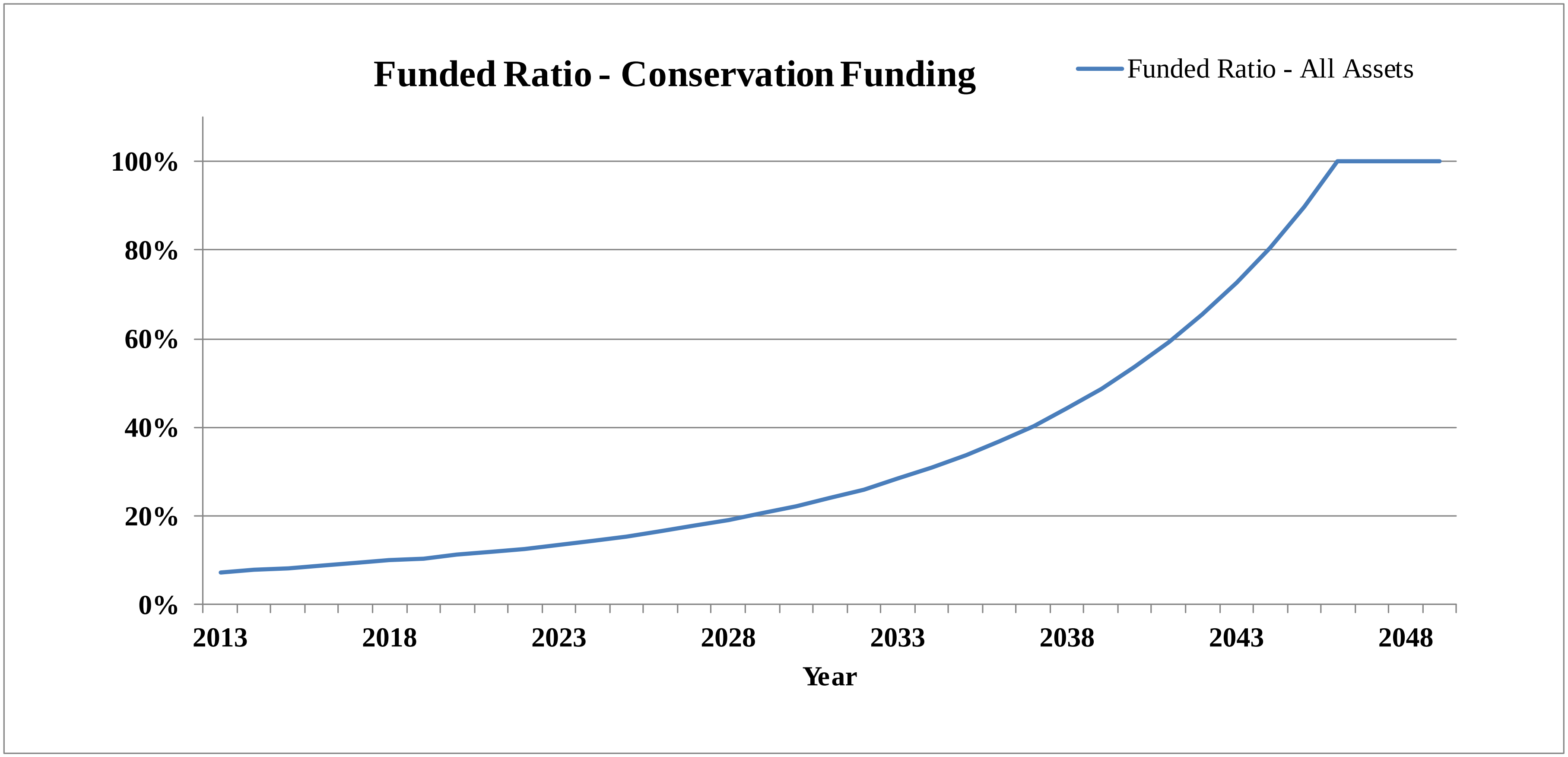
[a] *Employer contributions paid from the City's General Fund are used to finance benefits not covered by the applicable employee contributions or premium tax allocation.*

[b] *Assets accumulate in the Pension and Relief Fund.*

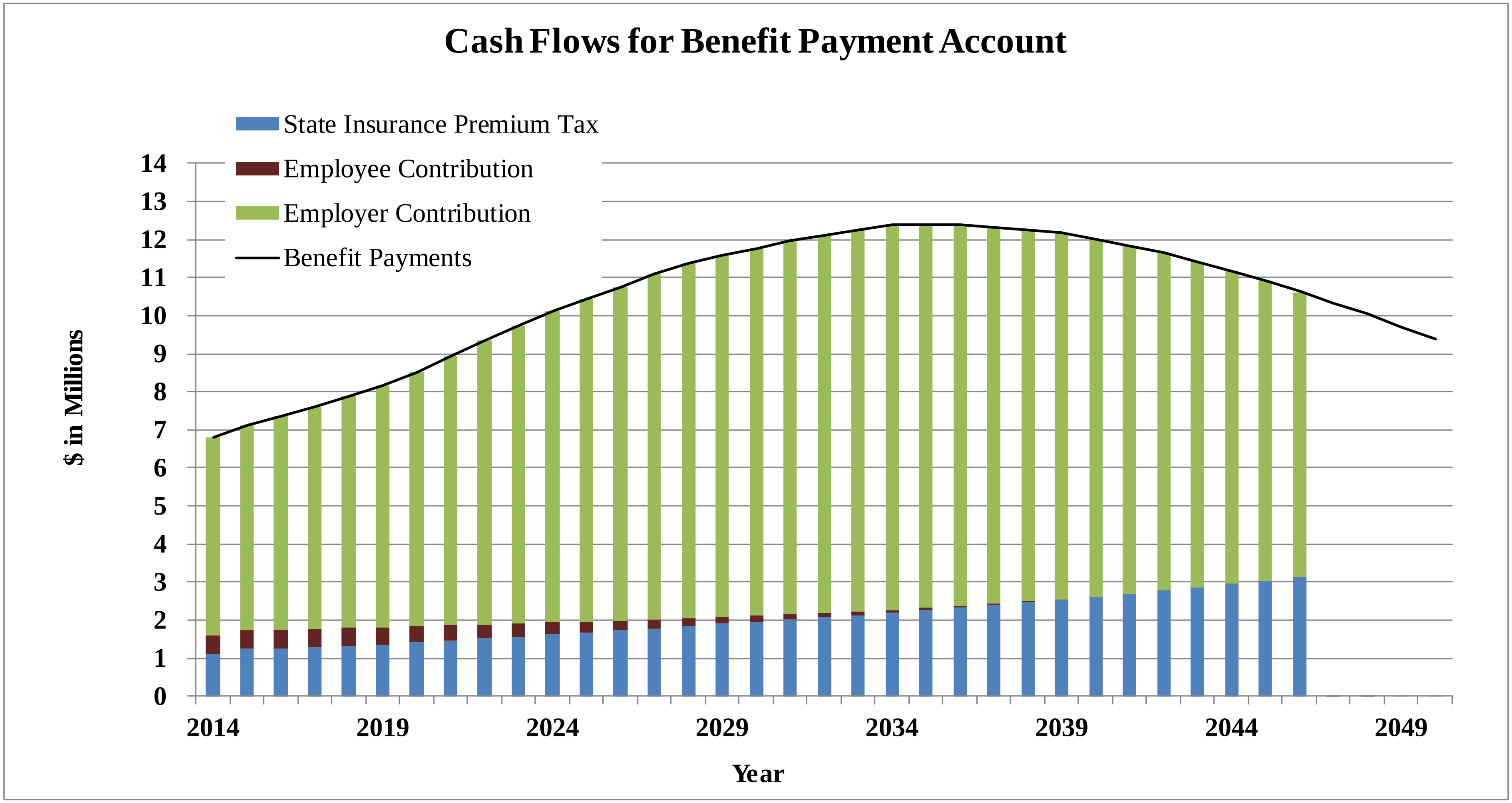
Graph 1


Liability and Assets - Conservation Funding
Market Value of Accumulation Account
Actuarial Accrued Liability
$ in Millions
200
180
160
140
120
100
80
60
40
20
0
2013
2018
2023
2028
2033
2038
2043
2048
Year

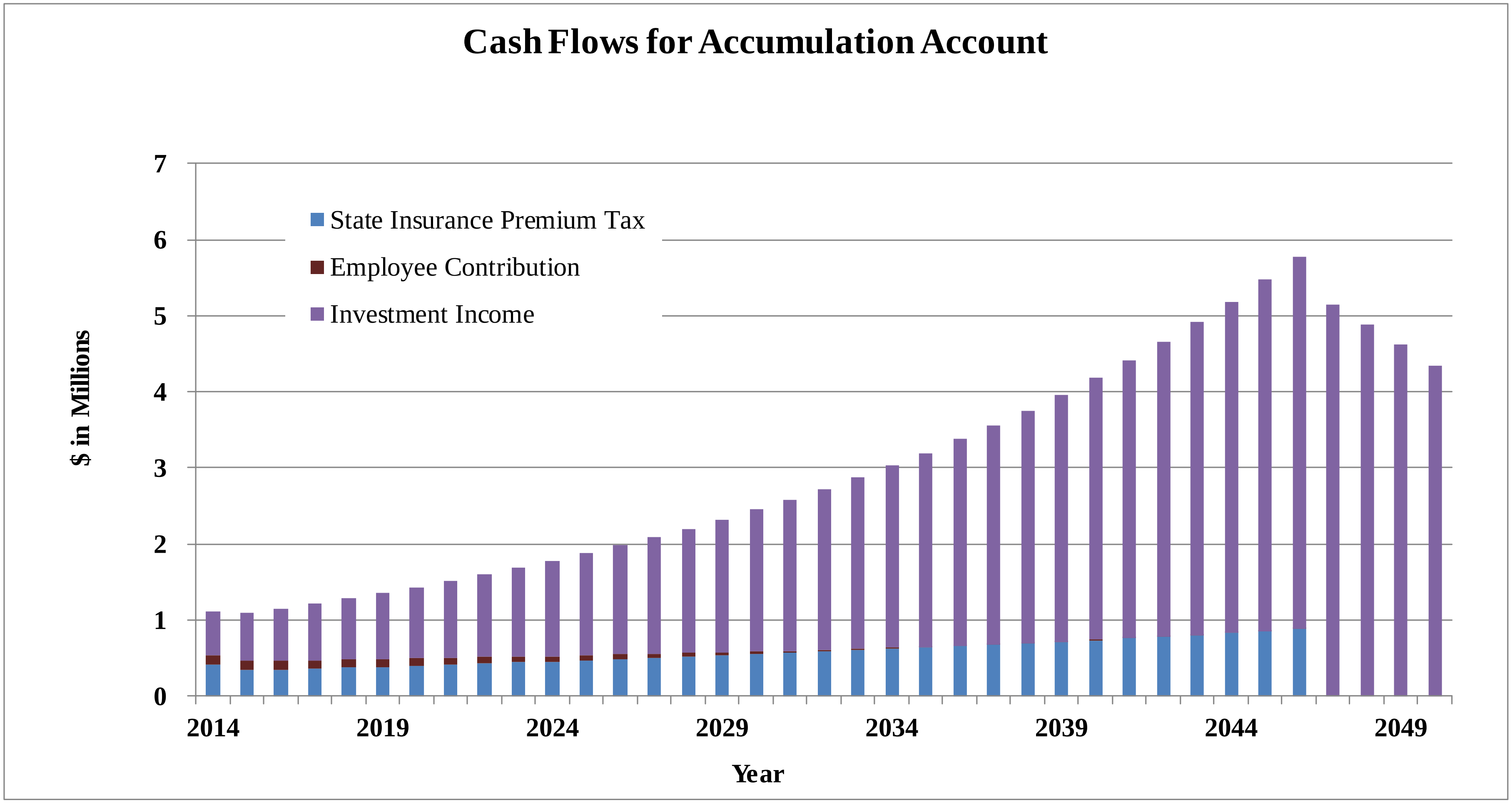
Graph 2


Funded Ratio - Conservation Funding
Funded Ratio - All Assets
100%
80%
60%
40%
20%
0%
2013
2018
2023
2028
2033
2038
2043
2048
Year

Graph 3


Cash Flows for Benefit Payment Account
State Insurance Premium Tax
Employee Contribution
Employer Contribution
Benefit Payments
$ in Millions
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
2014
2019
2024
2029
2034
2039
2044
2049
Year

Graph 4


Cash Flows for Accumulation Account
7
6
5
4
3
2
1
0
$ in Millions
State Insurance Premium Tax
Employee Contribution
Investment Income
2014
2019
2024
2029
2034
2039
2044
2049
Year

SECTION III

GASB 27 INFORMATION

This information is presented in draft form for review by the Fund's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the Fund's financial statements.

Funding Progress and Employer Contributions — Schedule C

Valuation Date	**July 1, 2012**	**July 1, 2013**
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]	28 Years, Level % of Pay	27 Years, Level % of Pay

Schedule of Funding Progress

Actuarial Valuation Date	**July 1, 2012**	**July 1, 2013**
1. Market Value of Assets	$9,314,344	$11,271,569
2. Actuarial Accrued Liability	$151,065,177	$153,863,154
3. Unfunded Actuarial Accrued Liability (2 - 1)	$141,750,833	$142,591,585
4. Funded Ratio (1/2)	6%	7%
5. Covered Payroll	$8,867,736	$7,872,874
6. UAAL as Percentage of Covered Payroll (3/5)	1599%	1811%

Schedule of Employer Contributions [c]	**FY 2013**	**FY 2014**
1. Annual Required Contribution		
(a) Employer Normal Cost	$2,901,038	$2,580,628
(b) Amortization of Unfunded Actuarial Accrued Liability	$5,743,496	$5,964,196
(c) Annual Required Contribution (ARC) (a + b)	$8,644,534	$8,544,824
2. Employer Contribution	$4,734,867	$5,191,340 [b]
3. Premium Tax Allocation	$1,732,720	$1,770,140 [d]
4. Percentage of ARC Contributed [(2 + 3)/1(c)]	75%	81%

[a] Suggested amortization policy to comply with GASB No. 27 Standards.

[b] Actual employer contribution for fiscal year end June 30, 2014.

[c] The Conservation contribution plus premium tax allocation does not satisfy the GASB 27 ARC minimum requirements.

[d] Fiscal year end June 30, 2014, premium tax allocation includes a one-time extraordinary State contribution of $225,633 made in July of 2013.

Annual Pension Cost and Contributions

Schedule D

Valuation Date	**July 1, 2012**	**July 1, 2013**
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]	28 Years, Level % of Pay	27 Years, Level % of Pay

Annual Pension Cost and Contributions

Fiscal Year End	**June 30, 2013**	**June 30, 2014**
1. Annual Pension Cost for FYE June 30		
(a) Annual Required Contribution (ARC) for FYE June 30	$8,644,534	$8,544,824
(b) Interest on Net Pension Obligation (NPO) as of July 1 of FY	$2,039,800	$2,167,988
(c) Adjustment to ARC	($1,652,982)	($1,813,614)
(d) Annual Pension Cost (a + b + c)	$9,031,352	$8,899,198
2. Net Pension Obligation as of FYE June 30		
(a) NPO as of July 1 of FY [c]	$40,795,997	$43,359,762
(b) Annual Pension Cost for FY	$9,031,352	$8,899,198
(c) Employer Contribution	$4,734,867	$5,191,340 [b]
(d) Premium Tax Allocations	$1,732,720	$1,770,140 [d]
(e) NPO as of FYE (a + b - c - d)	$43,359,762	$45,297,480

Pension Cost Summary

Fiscal Year End	**June 30, 2013**	**June 30, 2014**
1. Annual Pension Cost	$9,031,352	$8,899,198
2. Employer Contribution	$4,734,867	$5,191,340 [b]
3. Premium Tax Allocation	$1,732,720	$1,770,140 [d]
4. Percentage of Annual Pension Cost Contributed [(2 + 3)/ 1]	72%	78%
5. Net Pension Obligation (estimated)	$43,359,762	$45,297,480

[a] Suggested amortization policy to comply with GASB No. 27 standards.

[b] Actual employer contribution for fiscal year end June 30, 2014.

[c] NPO as of July 1, 2013, as disclosed in the City's Financial Statement for fiscal year end June 30, 2013.

[d] Fiscal year end June 30, 2014, premium tax allocation includes a one-time extraordinary State contribution of $225,633 made in July of 2013.

SECTION IV

VALUATION DATA AS OF JULY 1, 2013

Reconciliation of Assets

Schedule E

Plan Year Ending	**June 30, 2012**	**June 30, 2013**
A. Market Value of Assets Beginning of Year	$8,463,553	$9,314,344
1. Revenue During Fiscal Year		
(a) Employee Contribution	$690,127	$644,474
(b) Governmental Contribution		
(i) From Local Government	$4,505,745	$4,935,630
(ii) From State Government	$1,722,267	$1,732,720
(iii) Reallocation from State Government	$0	$225,633
(iv) Total	$6,228,012	$6,893,983
(c) Earnings on Investments		
(i) Net Appreciation (Depreciation)	$53,021	$958,969
(ii) Interest	$39,938	$33,598
(iii) Dividends	$127,943	$139,261
(iv) Net Realized Gain (Loss) on Sale/Exchange	$0	$0
(v) Other	$0	$0
(vi) Investment Expense	($40,487)	($47,611)
(vii) Total	$180,415	$1,084,217
(d) Other Revenue	$0	$0
(e) Receivable Contribution[a]	$0	$0
(f) Total Revenue (sum of (a) through (e))	$7,098,554	$8,622,674
2. Expenditures During Fiscal Year		
(a) Benefits Paid	$6,201,250	$6,565,775
(b) Withdrawals	$39,511	$88,270
(c) Administrative Expenses	$7,002	$11,404
(d) Total Expenditures (sum of (a) through (c))	$6,247,763	$6,665,449
B. Market Value of Assets End of Year [A + 1(f) - 2(d)]	$9,314,344	$11,271,569
C. Approximate Return on Assets	2.0%	11.2%

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

Assets Held by Category

Schedule F

Plan Year Ending	June 30, 2012		June 30, 2013	
1. Cash and Short-term Investments	$1,846,174	20%	$640,451	6%
2. Government Securities				
(a) Treasury Notes and Bonds	$1,470,477		$3,632,574	
(b) State and Municipal Bonds	$0		$0	
(c) Total Government Securities	$1,470,477	16%	$3,632,574	32%
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	$5,853,773		$6,771,735	
(b) Mutual Fund Shares (Stocks)	$0		$0	
(c) Total Corporate Stocks	$5,853,773	63%	$6,771,735	60%
5. Other	$398	0%	$1,176	0%
6. Receivable Contribution [a]	$143,522	1%	$0	0%
7. Receivable State Reallocation	$0	0%	$225,633	2%
Total Market Value of Assets [sum of (1) through (7)]	$9,314,344		$11,271,569	

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

City of Charleston Firemen’s Pension and Relief Fund
Valuation Data as of July 1, 2013

Summary of Participant Activity

Schedule G

	Actives	Retirees	Disabled	Deferred Vested	Spouses and Beneficiaries	Totals
Total Participants July 1, 2012:	**172**	**141**	**35**	**2**	**42**	**392**
New Actives:						**0**
Returned to Actives Status:						**0**
Data Corrections/Other Changes:					2	**2**
Vested Terminations:						**0**
Non-Vested Terminations:	(5)					**(5)**
Disabled:	(3)		3			**0**
Retirements:	(7)	8	(1)			**0**
Deaths with Beneficiary:	(1)	(2)		(1)	4	**0**
Deaths w/o Beneficiary:					(5)	**(5)**
Expired Annuity or Stop Payment:					(1)	**(1)**
Net Changes:	(16)	6	2	(1)	0	**(9)**
Total Participants June 30, 2013:	**156**	**147**	**37**	**1**	**42**	**383**

Distribution of Active Employees by Age and Length of Service

Schedule H

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**	**36,646**
25-29		6	3							**9**	**431,892**
30-34		6	16	3						**25**	**1,157,473**
35-39		3	12	10	4					**29**	**1,384,709**
40-44			8	15	24	6				**53**	**2,699,551**
45-49				5	16	8	3			**32**	**1,744,721**
50-54					4	1	1			**6**	**368,745**
55-59					1					**1**	**49,137**
60-64											**0**
65-69											**0**
Over 70											**0**
Totals	**0**	**16**	**39**	**33**	**49**	**15**	**4**	**0**	**0**	**156**	**$ 7,872,874**

Averages

Age:	40.6	years
Service:	12.8	years
Annual Pay:	$50,467	

City of Charleston Firemen’s Pension and Relief Fund
Valuation Data as of July 1, 2013

Participants Summary

Schedule I

Active Participants	**July 1, 2012**	**July 1, 2013**
Number of Actives	172	156
Total Annual Pay	$8,867,736	$7,872,874
Average Age	40.1	40.6
Average Service	12.2	12.8

Inactive Participants	**July 1, 2012**		**July 1, 2013**	
Type	No.	Annual Benefit	No.	Annual Benefit
Retirees	141	$4,900,420	147	$5,198,828
Surviving Spouses	42	$543,854	42	$629,500
Disabled Members	35	$833,930	37	$895,726
Deferred Vested Members	2	$54,897	1	$30,335

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, 2013	
Assets	$11,271,569
Liabilities using a 6.0% discount rate	$135,163,814
Funded Ratio	8.3%
Expected Benefit Payments	$6,792,511
Liquidity Ratio	1.66
Equity Exposure	60.1%
Projected Funded Ratio after 15 years	25.3%

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, 2015.

(4) The total available premium tax allocation, net of expenses, as of September 1, 2014, includes a Base Allocation of $8,709,689, an Excess Allocation of $7,672,864.71, and an Expired Premium Tax Allocation of $230,452.88.

(5) For the plan year ending June 30, 2014, all Pension and Relief Funds reported a total of 1,703 eligible active members, and 2,134 eligible retired members. The City of Charleston Firemen's Pension and Relief Fund reported 155 eligible active members, and 229 eligible retired members, based on the average number of plan participants for the 12 month period ending June 30, 2014. The Fund is eligible to receive a premium tax allocation of $1,586,890 for the fiscal year ending June 30, 2015.

(6) The total premium tax allocation was assumed to increase by 2% in calendar year ending 2015, and 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, 2013

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	2% for year 1 3% on and after year 2
Cost Method	Entry-Age Normal Level-Percentage-of-Pay 30 – Year Closed Level-Percentage-of-Pay Amortization for GASB 27 Accounting (from July 1, 2010). 27 years remaining as of July 1, 2013.
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, 2013

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.