

**CITY OF CHARLESTON, WEST VIRGINIA
FIREMEN'S PENSION AND RELIEF FUND
ACTUARIAL VALUATION REPORT
FOR THE YEAR BEGINNING JULY 1, 2012**





August 21, 2013

Mr. Victor Grigoraci
City Treasurer
P.O. Box 2749
Charleston, WV 25330

Mr. Robert Scott Fisher
Pension Board Secretary
City of Charleston Firemen's Pension and Relief Fund
Charleston, WV 25301

**Subject: City of Charleston Firemen's Pension and Relief Fund
Actuarial Valuation Report for the Year Beginning July 1, 2012**

Dear Mr. Grigoraci and Mr. Fisher:

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2012, 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, 2014
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2014
- The Fund's eligibility to provide supplemental benefits for the plan year beginning 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.

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, 2012, 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, 2012, and assets held as of June 30, 2012, 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.

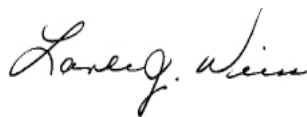
The signing actuaries are independent of the plan sponsor.

The undersigned 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, F.S.A, EA, MAAA, FCA
Senior Consultant



Lance Weiss, E.A., MAAA, FCA
Senior Consultant

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SECTION I

VALUATION RESULTS AS OF JULY 1, 2012

City of Charleston Firemen's Pension and Relief Fund Actuarial Study as of July 1, 2012

Executive Summary

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2012, 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, 2014
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2014
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2014

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%.

City of Charleston Firemen's Pension and Relief Fund Actuarial Study as of July 1, 2012

The following table provides the Plan's funded status as of July 1, 2012:

Assets	\$9,314,344
Actuarial Liabilities	\$151,065,177
Unfunded Liabilities	\$141,750,833
Funded Ratio	6.17%

The following table provides the actual employer contributions, employee contributions, and premium tax allocation for the plan year ended June 30, 2013. The premium tax allocation was based on the results of the July 1, 2011, actuarial valuation.

Plan year ending 2013	Benefit Payment Account	Accumulation Account
Employee Contributions	\$589,973	\$136,148
Premium Tax Allocations	\$1,286,193	\$446,527
Employer Contributions	\$4,622,501	\$0
Total	\$6,498,667	\$582,675

The following table provides the estimated employer contributions, employee contributions and premium tax allocation for the plan year ending June 30, 2014. We have assumed 26.98% of the premium tax allocation of \$1,544,507 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 2014	Benefit Payment Account	Accumulation Account
Employee Contributions	\$568,552	\$131,204
Premium Tax Allocations	\$1,127,799	\$416,708
Employer Contributions	\$5,024,513	\$0
Total	\$6,720,864	\$547,912

City of Charleston Firemen's Pension and Relief Fund

Actuarial Study as of July 1, 2012

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, 2012 Actuarial Report from GRS is to be used by municipal pension plans to draw down the September 1, 2013 State Premium Tax Allocation which is allocated in Fiscal Year 2014. 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-

City of Charleston Firemen's Pension and Relief Fund

Actuarial Study as of July 1, 2012

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

The Supplemental benefits for plan year beginning July 1, 2014 will be based on the Consumer Price Index for calendar year 2013, and the projected results of the July 1, 2012 actuarial valuation.

Additional Remarks on the Valuation Results

Following are additional remarks on the valuation results as of July 1, 2012:

- 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 2.0% on the market value of assets during the plan year ending June 30, 2012, which compares to the expected annualized return of 5.0%. The difference in actual versus expected return produced an asset (gain)/loss of \$263,111.
- 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, 2012, the fund experienced a net liability (gain)/loss of (\$5,741).

Following are additional remarks on the actuarial valuation projections:

- Employer contributions are expected to increase from \$5,024,513 for the plan year ending June 30, 2014, to a high of \$10,720,507 for the plan year ending June 30, 2034.
- In 20 years, the funded ratio is projected to increase from 6.2% in 2012 to 25% in 2032, 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.

City of Charleston Firemen's Pension and Relief Fund
Actuarial Study as of July 1, 2012

Summary of Key Valuation Results

Schedule A

Valuation Date	July 1, 2011		July 1, 2012	
Valuation Interest Rate	5.00%		5.00%	
Cost-of-Living Adjustment	3.00%		3.00%	
Salary Increase	5.00%		5.00%	
Covered Payroll	\$9,214,083		\$8,867,736	
Average Pay	\$51,475		\$51,557	
Expected Benefit Payments	\$6,277,002		\$6,457,736	
1. Actuarial Accrued Liability	<u>No.</u>		<u>No.</u>	
(a) Actives	179	\$51,205,138	172	\$53,265,515
(b) Retirees	142	\$75,343,506	141	\$76,188,699
(c) Surviving Spouses	44	\$6,013,019	42	\$5,830,608
(d) Disabled Members	34	\$12,584,316	35	\$14,680,873
(e) Deferred Vested Members	2	\$1,046,188	2	\$1,099,482
(f) Total	401	\$146,192,167	392	\$151,065,177
2. Present Value of Future Normal Costs		\$35,856,739		\$32,268,368
3. Present Value of Benefits (1 + 2)		\$182,048,906		\$183,333,545
4. Market Value of Assets		\$8,463,553		\$9,314,344
5. Unfunded Actuarial Accrued Liability (1(f) - 4)		\$137,728,614		\$141,750,833
6. Funded Ratio (4 / 1(f))		5.79%		6.17%
7. Net Employer Normal Cost				
(a) Gross Normal Cost ^a		\$3,792,939		\$3,610,457
(b) Employee Contribution Rate		8.00%		8.00%
(c) Expected Employee Contributions		\$737,127		\$709,419
(d) Net Employer Normal Cost (a - c)		\$3,055,812		\$2,901,038
(% of Compensation)		33.16%		32.71%
		FY 2013		FY 2014
8. Minimum Employer Contribution ^b		\$4,622,501		\$5,024,513
(% of Projected Compensation)		48%		54%
9. State Insurance Premium Tax Allocation		\$1,732,720		\$1,544,507
(% of Projected Compensation)		18%		17%

^a Gross normal cost for plan year end June 30, 2013, includes administrative expenses of \$16,346.

^b Estimated Employer contribution for fiscal year end June 30, 2013.

City of Charleston Firemen's Pension and Relief Fund
Actuarial Study as of July 1, 2012

(Gain) / Loss Analysis

Schedule B

Experience (gain) loss for plan year ending June 30, 2012

1. (a) Liability as of 7/1/2011	\$146,192,167
(b) Normal Cost due 7/1/2011	3,777,069
(c) Interest on (a) and (b) to 6/30/2012	7,498,462
(d) Benefit Payments with interest to 6/30/2012	6,396,780
(e) Effect of Assumption Changes	0
(f) Expected Liability at 7/1/2012 [(a) + (b) + (c) - (d) + (e)]	151,070,918
(g) Actual Liability at 7/1/2012	\$151,065,177
(h) Liability (Gain)/Loss [(g) - (f)]	(\$5,741)
2. (a) Market Value of Assets as of 7/1/2011	\$8,463,553
(b) Interest on (a) to 6/30/2012	423,178
(c) Contributions with interest to 6/30/2012	7,087,504
(d) Benefit Payments with interest to 6/30/2012	6,396,780
(e) Expected Assets at 6/30/2012 [(a) + (b) + (c) - (d)]	\$9,577,455
(f) Actual Assets at 7/1/2012	\$9,314,344
(g) Asset (Gain)/Loss [(e) - (f)]	\$263,111
3. Total (Gain)/Loss [1(h) + 2(g)]	\$257,370

SECTION II

ACTUARIAL PROJECTIONS

City of Charleston Firemen's Pension and Relief Fund

Actuarial Projections (\$ in thousands)

Table 1

Plan Year End	Total Assets (\$ in thousands)											Actuarial		
	Number		Assets (boy)	Benefits Payments	Expenses	Employer Contributions	Employee Contributions	Premium Tax		Investment Income	Assets (eoy)	Accrued Liability	Unfunded Liability	Funded Ratio
	Active	Pay Status						Allocation Contributions	Total Contributions					
2012	172	220	\$8,464	\$6,241	\$7.0	\$4,506	\$690	\$1,722	\$6,918	\$180	\$9,314	\$151,065	\$141,751	6.2%
2013	162	221	9,314	6,482	16.3	4,623	726	1,733	7,081	480	10,377	155,684	145,307	6.7%
2014	151	226	10,377	6,704	16.7	5,025	700	1,545	7,269	532	11,457	160,199	148,741	7.2%
2015	140	230	11,457	6,981	17.0	5,301	682	1,565	7,548	586	12,594	164,537	151,943	7.7%
2016	130	234	12,594	7,264	17.4	5,577	661	1,598	7,837	643	13,793	168,679	154,886	8.2%
2017	121	238	13,793	7,566	17.8	5,859	641	1,650	8,150	704	15,062	172,608	157,547	8.7%
2018	112	242	15,062	7,871	18.2	6,138	622	1,705	8,466	767	16,406	176,311	159,905	9.3%
2019	103	245	16,406	8,178	18.7	6,421	601	1,763	8,785	835	17,829	179,767	161,938	9.9%
2020	92	250	17,829	8,568	19.2	6,789	578	1,819	9,186	906	19,334	182,846	163,512	10.6%
2021	82	255	19,334	9,019	19.8	7,225	541	1,882	9,648	982	20,925	185,419	164,494	11.3%
2022	72	259	20,925	9,441	20.3	7,632	500	1,950	10,081	1,062	22,606	187,478	164,871	12.1%
2023	63	264	22,606	9,867	20.9	8,041	463	2,015	10,519	1,146	24,383	188,983	164,600	12.9%
2024	54	267	24,383	10,292	21.4	8,451	418	2,084	10,954	1,235	26,259	189,902	163,644	13.8%
2025	48	268	26,259	10,620	21.8	8,761	378	2,155	11,294	1,329	28,240	190,356	162,116	14.8%
2026	41	270	28,240	10,946	22.2	9,059	354	2,220	11,633	1,428	30,334	190,327	159,993	15.9%
2027	35	272	30,334	11,320	22.6	9,414	312	2,293	12,019	1,533	32,544	189,704	157,160	17.2%
2028	29	272	32,544	11,615	22.9	9,686	273	2,369	12,328	1,644	34,879	188,564	153,685	18.5%
2029	25	271	34,879	11,849	23.2	9,893	243	2,440	12,576	1,761	37,344	186,966	149,622	20.0%
2030	19	271	37,344	12,100	23.4	10,116	213	2,512	12,841	1,885	39,946	184,851	144,905	21.6%
2031	15	270	39,946	12,346	23.6	10,338	176	2,587	13,101	2,015	42,693	182,198	139,505	23.4%
2032	12	268	42,693	12,529	23.8	10,490	144	2,665	13,299	2,153	45,592	179,078	133,486	25.5%
2033	8	266	45,592	12,700	23.9	10,622	119	2,746	13,487	2,298	48,653	175,491	126,838	27.7%
2034	6	263	48,653	12,836	24.0	10,721	89	2,831	13,640	2,452	51,886	171,461	119,575	30.3%
2035	5	258	51,886	12,876	24.0	10,714	67	2,918	13,700	2,614	55,300	167,104	111,805	33.1%
2036	3	254	55,300	12,859	23.9	10,643	54	3,009	13,705	2,785	58,907	162,488	103,581	36.3%
2037	2	249	58,907	12,810	23.8	10,535	42	3,102	13,679	2,966	62,718	157,643	94,925	39.8%
2038	1	244	62,718	12,744	23.6	10,406	32	3,198	13,636	3,157	66,744	152,577	85,833	43.7%
2039	1	238	66,744	12,645	23.4	10,245	20	3,297	13,562	3,359	70,996	147,318	76,321	48.2%
2040	1	232	70,996	12,499	23.1	10,029	14	3,399	13,441	3,573	75,488	141,920	66,432	53.2%
2041	0	226	75,488	12,323	22.7	9,780	8	3,504	13,292	3,798	80,233	136,415	56,182	58.8%
2042	0	219	80,233	12,114	22.3	9,495	5	3,612	13,112	4,036	85,244	130,838	45,594	65.2%
2043	0	212	85,244	11,881	21.9	9,181	3	3,723	12,908	4,287	90,536	125,214	34,678	72.3%
2044	0	206	90,536	11,630	21.4	8,847	2	3,838	12,687	4,552	96,125	119,562	23,438	80.4%
2045	0	199	96,125	11,361	20.9	8,493	1	3,956	12,450	4,833	102,025	113,900	11,875	89.6%
2046	0	192	102,025	11,078	20.4	8,110	1	4,078	12,188	5,128	108,243	108,243	0	100.0%
2047	0	184	108,243	10,778	19.8	18	0	0	19	5,146	102,610	102,610	0	100.0%
2048	0	177	102,610	10,464	19.3	18	0	0	18	4,872	97,016	97,016	0	100.0%

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

Table 2

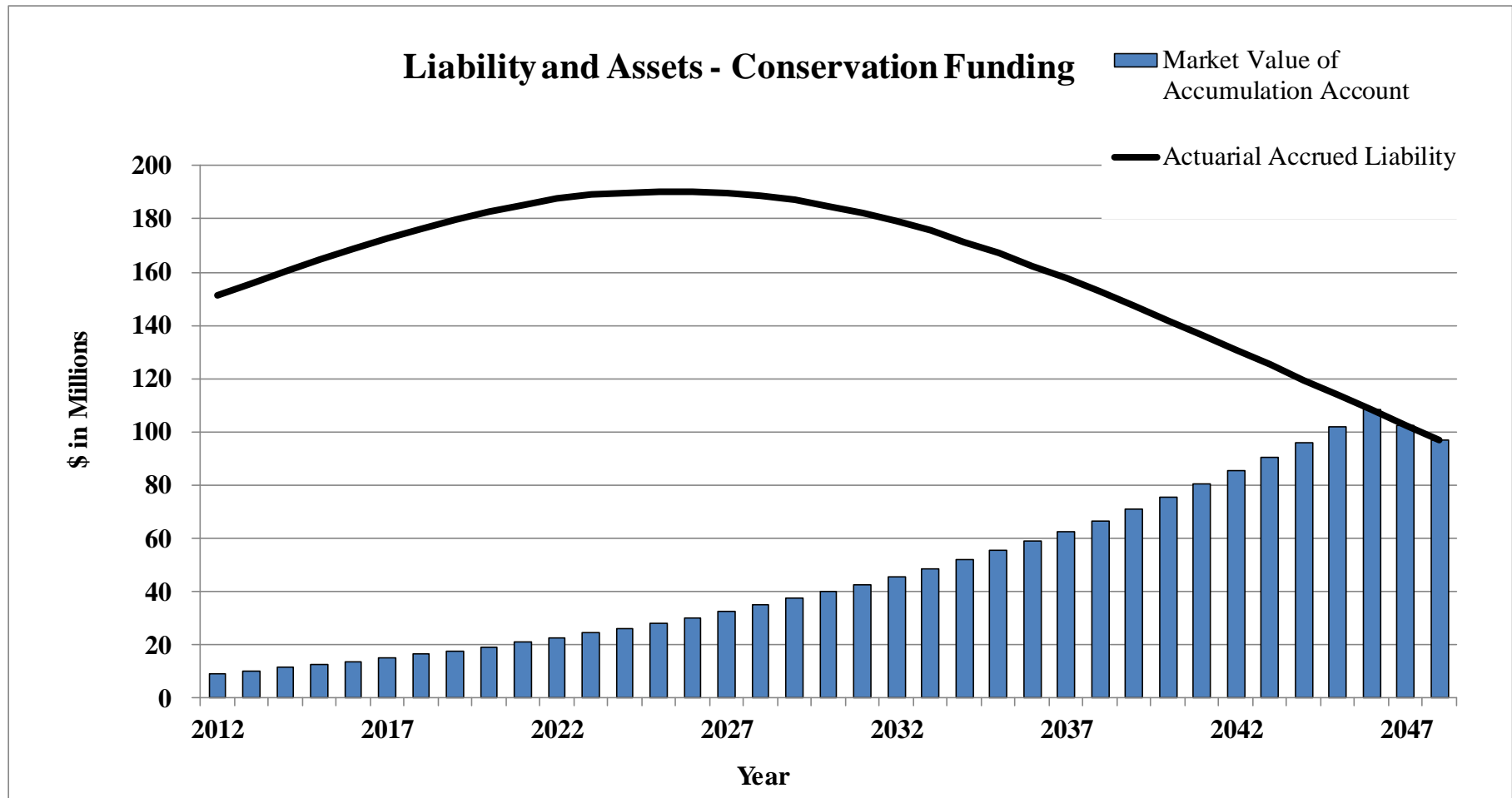
Plan Year End 30-Jun	Benefit Payment Account ^a							Accumulation Account ^b				
	Assets (boy)	Benefits Payments	Expenses	Employer Contributions	6.50% of Pay Employee Contributions	73.02% of Premium Tax Allocation	Assets (eoy)	Assets (boy)	1.50% of Pay Employee Contributions	26.98% of Premium Tax Allocation	Investment Income	Assets (eoy)
2014	\$0	\$6,704	\$16.7	\$5,025	\$569	\$1,128	\$0	\$10,377	\$131	\$417	\$532	\$11,457
2015	0	6,981	17.0	5,301	554	1,143	0	11,457	128	422	586	12,594
2016	0	7,264	17.4	5,577	537	1,167	0	12,594	124	431	643	13,793
2017	0	7,566	17.8	5,859	521	1,205	0	13,793	120	445	704	15,062
2018	0	7,871	18.2	6,138	505	1,245	0	15,062	117	460	767	16,406
2019	0	8,178	18.7	6,421	488	1,287	0	16,406	113	476	835	17,829
2020	0	8,568	19.2	6,789	470	1,328	0	17,829	108	491	906	19,334
2021	0	9,019	19.8	7,225	440	1,374	0	19,334	101	508	982	20,925
2022	0	9,441	20.3	7,632	406	1,424	0	20,925	94	526	1,062	22,606
2023	0	9,867	20.9	8,041	376	1,471	0	22,606	87	544	1,146	24,383
2024	0	10,292	21.4	8,451	340	1,522	0	24,383	78	562	1,235	26,259
2025	0	10,620	21.8	8,761	307	1,574	0	26,259	71	581	1,329	28,240
2026	0	10,946	22.2	9,059	287	1,621	0	28,240	66	599	1,428	30,334
2027	0	11,320	22.6	9,414	254	1,674	0	30,334	59	619	1,533	32,544
2028	0	11,615	22.9	9,686	221	1,730	0	32,544	51	639	1,644	34,879
2029	0	11,849	23.2	9,893	197	1,781	0	34,879	46	658	1,761	37,344
2030	0	12,100	23.4	10,116	173	1,834	0	37,344	40	678	1,885	39,946
2031	0	12,346	23.6	10,338	143	1,889	0	39,946	33	698	2,015	42,693
2032	0	12,529	23.8	10,490	117	1,946	0	42,693	27	719	2,153	45,592
2033	0	12,700	23.9	10,622	97	2,005	0	45,592	22	741	2,298	48,653
2034	0	12,836	24.0	10,721	72	2,067	0	48,653	17	764	2,452	51,886
2035	0	12,876	24.0	10,714	54	2,131	0	51,886	13	787	2,614	55,300
2036	0	12,859	23.9	10,643	44	2,197	0	55,300	10	812	2,785	58,907
2037	0	12,810	23.8	10,535	34	2,265	0	58,907	8	837	2,966	62,718
2038	0	12,744	23.6	10,406	26	2,335	0	62,718	6	863	3,157	66,744
2039	0	12,645	23.4	10,245	17	2,407	0	66,744	4	889	3,359	70,996
2040	0	12,499	23.1	10,029	11	2,482	0	70,996	3	917	3,573	75,488
2041	0	12,323	22.7	9,780	7	2,558	0	75,488	2	945	3,798	80,233
2042	0	12,114	22.3	9,495	4	2,637	0	80,233	1	974	4,036	85,244
2043	0	11,881	21.9	9,181	3	2,719	0	85,244	1	1,004	4,287	90,536
2044	0	11,630	21.4	8,847	2	2,802	0	90,536	0	1,035	4,552	96,125
2045	0	11,361	20.9	8,493	1	2,889	0	96,125	0	1,067	4,833	102,025
2046	0	11,078	20.4	8,110	0	2,977	0	102,025	0	1,100	5,128	108,243
2047	0	10,778	19.8	18	0	0	0	108,243	0	0	5,412	102,610
2048	0	10,464	19.3	18	0	0	0	102,610	0	0	5,130	97,016

^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.

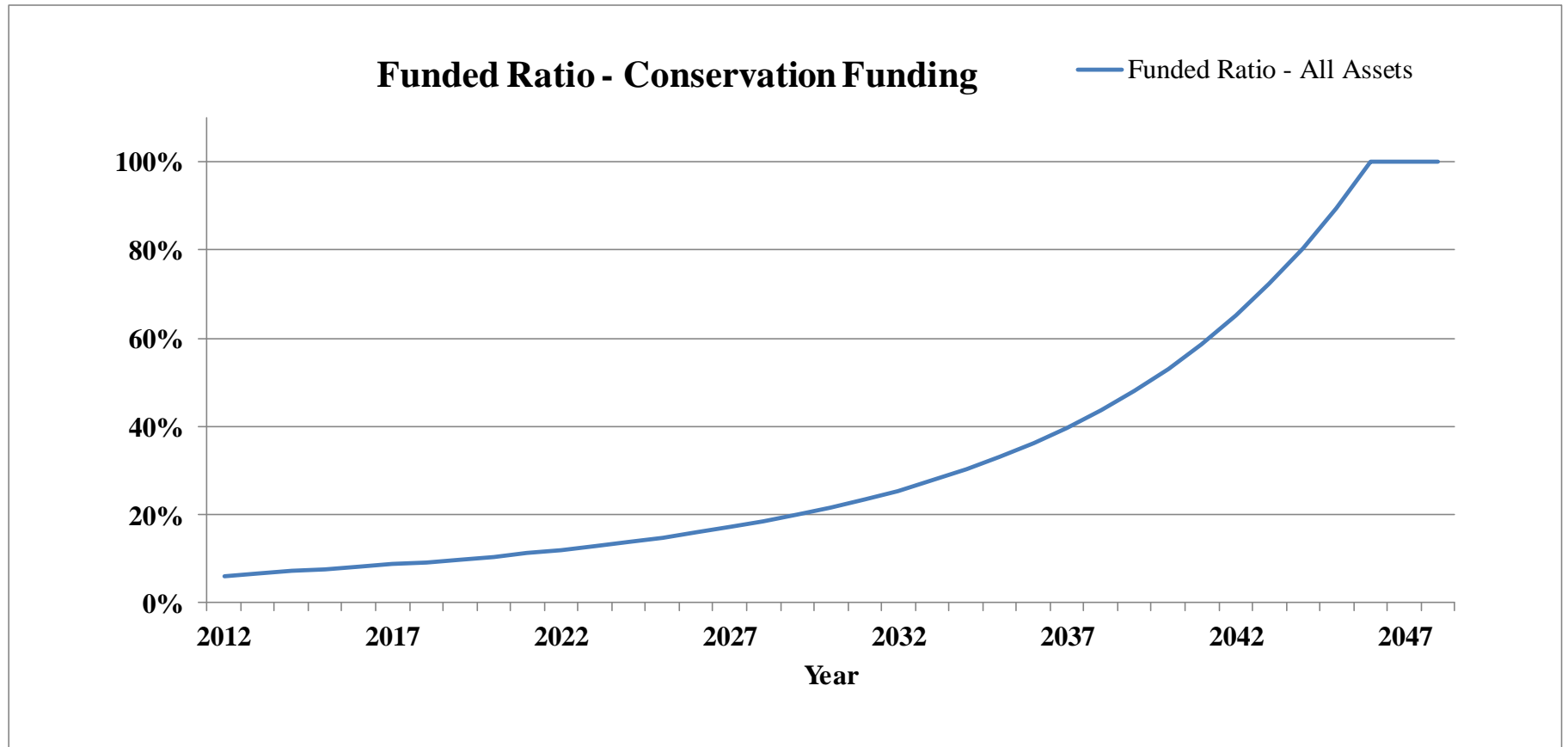
City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

Graph 1



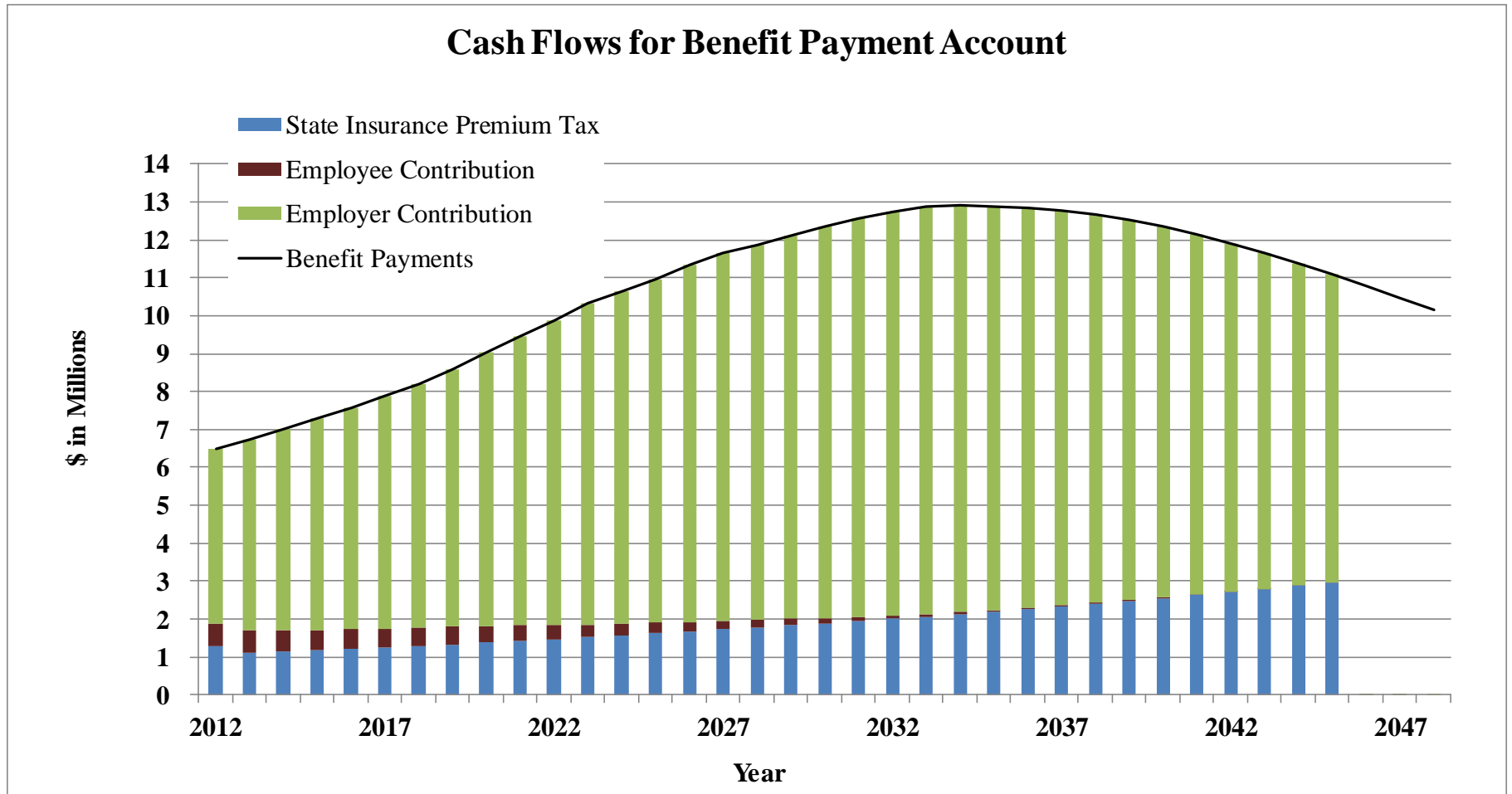
City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

Graph 2



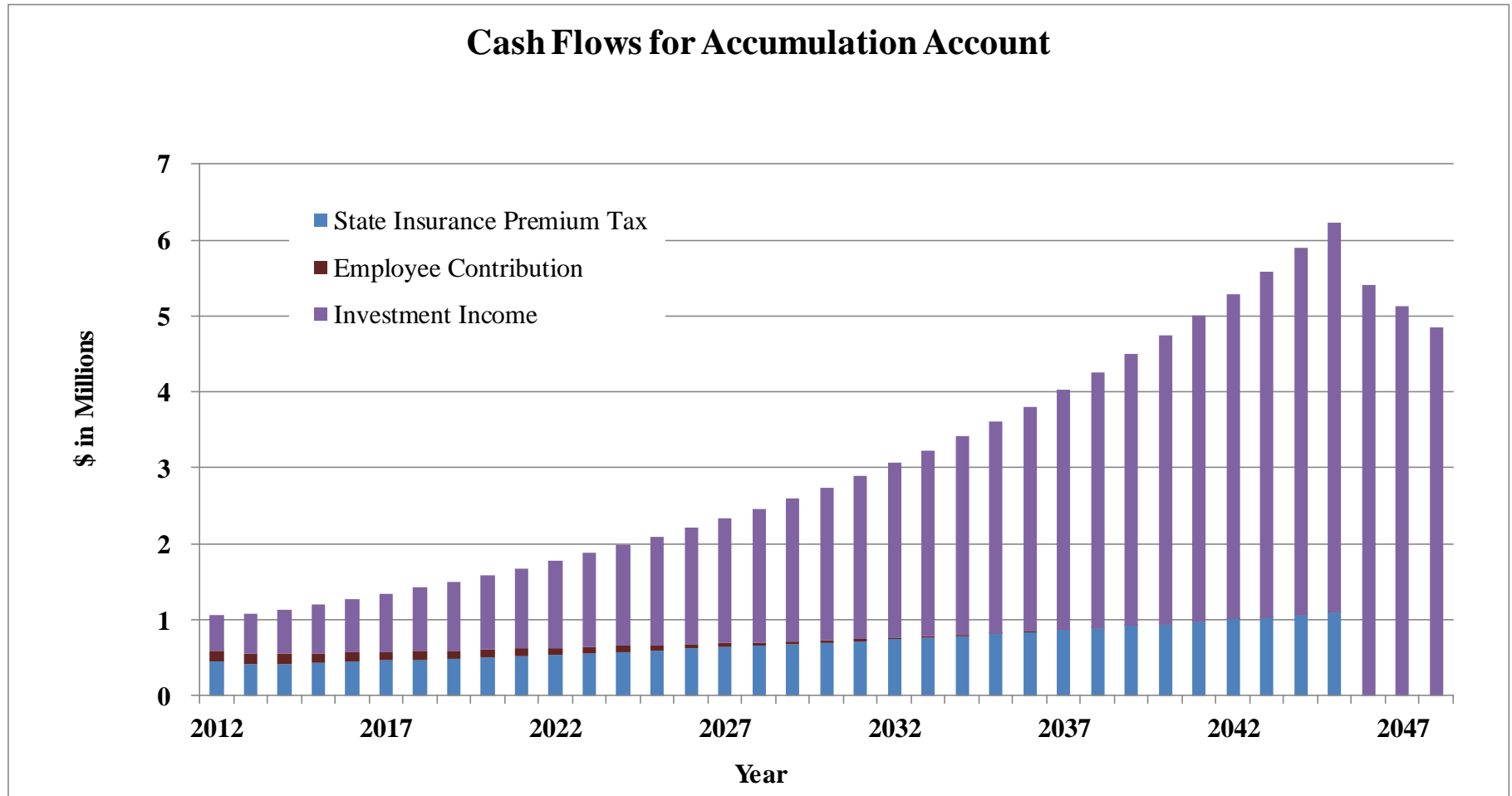
City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

Graph 3



City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

Graph 4



SECTION III

GASB 25/27 INFORMATION

City of Charleston Firemen's Pension and Relief Fund
GASB 25/27 Information

Funding Progress and Employer Contributions

Schedule C

Valuation Date	July 1, 2011	July 1, 2012
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	29 Years, Level % of Pay	28 Years, Level % of Pay
 Schedule of Funding Progress		
Actuarial Valuation Date	July 1, 2011	July 1, 2012
1. Market Value of Assets	\$8,463,553	\$9,314,344
2. Actuarial Accrued Liability	\$146,192,167	\$151,065,177
3. Unfunded Actuarial Accrued Liability (2 - 1)	\$137,728,614	\$141,750,833
4. Funded Ratio (1/2)	6%	6%
5. Covered Payroll	\$9,214,083	\$8,867,736
6. UAAL as Percentage of Covered Payroll (3/5)	1495%	1599%
 Schedule of Employer Contributions		
	FY 2012	FY 2013
1. Annual Required Contribution		
(a) Employer Normal Cost	\$3,055,812	\$2,901,038
(b) Amortization of Unfunded Actuarial Accrued Liability	\$5,412,757	\$5,743,496
(c) Annual Required Contribution (ARC) (a + b)	\$8,468,569	\$8,644,534
2. Employer Contribution	\$4,505,745	\$4,622,501 ^b
3. Premium Tax Allocation	\$1,722,267	\$1,732,720
4. Percentage of ARC Contributed [(2 + 3)/1(c)]	74%	74%

^a Suggested Amortization for GASB accounting purposes.

^b Estimated Employer and State Insurance Premium Tax Allocation contributions.

City of Charleston Firemen's Pension and Relief Fund GASB 25/27 Information

Annual Pension Cost and Contributions

Schedule D

Valuation Date	July 1, 2011	July 1, 2012
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	29 Years, Level % of Pay	28 Years, Level % of Pay
Annual Pension Cost and Contributions		
Fiscal Year End	June 30, 2012	June 30, 2013
1. Annual Pension Cost for FYE June 30		
(a) Annual Required Contribution (ARC) for FYE June 30	\$8,468,569	\$8,644,534
(b) Interest on Net Pension Obligation (NPO) as of July 1 of FY	\$1,907,364	\$2,039,800
(c) Adjustment to ARC	(\$1,499,194)	(\$1,652,982)
(d) Annual Pension Cost (a + b + c)	\$8,876,739	\$9,031,352
2. Net Pension Obligation as of FYE June 30		
(a) NPO as of July 1 of FY ^c	\$38,147,270	\$40,795,997
(b) Annual Pension Cost for FY	\$8,876,739	\$9,031,352
(c) Employer Contribution	\$4,505,745	\$4,622,501 ^b
(d) Premium Tax Allocations	\$1,722,267	\$1,732,720
(e) NPO as of FYE (a + b - c - d)	\$40,795,997	\$43,472,128
Pension Cost Summary		
Fiscal Year End	June 30, 2012	June 30, 2013
1. Annual Pension Cost	\$8,876,739	\$9,031,352
2. Employer Contribution	\$4,505,745	\$4,622,501 ^b
3. Premium Tax Allocation	\$1,722,267	\$1,732,720
4. Percentage of Annual Pension Cost Contributed [(2 + 3)/ 1]	70%	70%
5. Net Pension Obligation (estimated)	\$40,795,997	\$43,472,128

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

^b Estimated employer contribution for fiscal year end June 30, 2013.

^c NPO as of July 1, 2012 as disclosed in the City's Financial Statement for fiscal year end June 30, 2012.

SECTION IV

VALUATION DATA AS OF JULY 1, 2012

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2012

Reconciliation of Assets

Schedule E

Plan Year Ending	June 30, 2011	June 30, 2012
A. Market Value of Assets Beginning of Year	\$7,247,179	\$8,463,553
1. Revenue During Fiscal Year		
(a) Employee Contribution	\$770,873	\$690,127
(b) Governmental Contribution		
(i) From Local Government	\$3,561,911	\$4,505,745
(ii) From State Government	\$1,857,533	\$1,722,267
(iii) Total	\$5,419,444	\$6,228,012
(c) Earnings on Investments		
(i) Net Appreciation (Depreciation)	\$1,118,919	\$53,021
(ii) Interest	\$20,989	\$39,938
(iii) Dividends	\$114,899	\$127,943
(iv) Net Realized Gain (Loss) on Sale/Exchange	\$27,870	\$0
(v) Other	\$0	\$0
(vi) Investment Expense	(\$35,918)	(\$40,487)
(vii) Total	\$1,246,759	\$180,415
(d) Other Revenue	\$0	\$0
(e) Receivable Contribution ^a	\$0	\$0
(f) Total Revenue (sum of (a) through (e))	\$7,437,076	\$7,098,554
2. Expenditures During Fiscal Year		
(a) Benefits Paid	\$6,055,225	\$6,201,250
(b) Withdrawals	\$152,643	\$39,511
(c) Administrative Expenses	\$12,834	\$7,002
(d) Total Expenditures (sum of (a) through (c))	\$6,220,702	\$6,247,763
B. Market Value of Assets End of Year [A + 1(f) - 2(d)]	\$8,463,553	\$9,314,344
C. Approximate Return on Assets	17.0%	2.0%

^a Receivable contributions for each respective plan year ending.

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2012

Assets Held by Category

Schedule F

Plan Year Ending	June 30, 2011		June 30, 2012	
1. Cash and Short-term Investments	\$623,567	7%	\$1,846,174	20%
2. Government Securities				
(a) Treasury Notes and Bonds	\$2,594,529		\$1,470,477	
(b) State and Municipal Bonds	\$0		\$0	
(c) Total Government Securities	\$2,594,529	31%	\$1,470,477	16%
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	\$5,244,936		\$5,853,773	
(b) Mutual Fund Shares (Stocks)	\$0		\$0	
(c) Total Corporate Stocks	\$5,244,936	62%	\$5,853,773	63%
5. Other	\$521	0%	\$398	0%
6. Receivable Contribution ^a	\$0	0%	\$143,522	1%
Total Market Value of Assets [sum of (1) through (6)]	\$8,463,553		\$9,314,344	

^a Receivable contributions for each respective plan year ending.

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2012

Summary of Participant Activity

Schedule G

	Actives	Retirees	Disabled	Deferred Vested	Spouses and Beneficiaries	Totals
Total Participants July 1, 2011:	179	142	34	2	44	401
New Actives:						0
Returned to Actives Status:						0
Data Corrections/Other Changes:						0
Vested Terminations:						0
Non-Vested Terminations:	(3)					(3)
Disabled:	(1)		1			0
Retirements:	(3)	3				0
Deaths with Beneficiary:						0
Deaths w/o Beneficiary:		(4)			(2)	(6)
Expired Annuity or Stop Payment:						0
Net Changes:	(7)	(1)	1	0	(2)	(9)
Total Participants June 30, 2012:	172	141	35	2	42	392

**City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2012**

Distribution of Active Employees by Age and Length of Service

Schedule H

Attained Age	Years of Service to Valuation Date									Totals	Valuation Payroll
	Less than 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35		
Under 20											\$ 0
20-24		4								4	192,787
25-29		6	8							14	657,029
30-34		11	11	3						25	1,167,479
35-39		4	10	12	8					34	1,743,122
40-44		1	9	13	23	8				54	2,825,384
45-49			1	4	16	5	2			28	1,492,292
50-54					4	5	2			11	687,160
55-59					1	1				2	102,483
60-64											0
65-69											0
Over 70											0
Totals	0	26	39	32	52	19	4	0	0	172	\$ 8,867,736
Averages _____											
Age: 40.1 years											
Service: 12.2 years											
Annual Pay: \$51,557											

**City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2012**

Participants Summary

Schedule I

Active Participants	July 1, 2011	July 1, 2012
Number of Actives	179	172
Total Annual Pay	\$9,214,083	\$8,867,736
Average Age	39.2	40.1
Average Service	11.3	12.2

Inactive Participants	July 1, 2011		July 1, 2012	
Type	No.	Annual Benefit	No.	Annual Benefit
Retirees	142	\$4,775,115	141	\$4,900,420
Surviving Spouses	44	\$545,062	42	\$543,854
Disabled Members	34	\$788,467	35	\$833,930
Deferred Vested Members	2	\$54,897	2	\$54,897

SECTION V

ACTUARIAL ASSUMPTIONS AND METHODS

City of Charleston Firemen's Pension and Relief Fund
Actuarial Assumptions and Methods
Used in the Valuation as of July 1, 2012

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, 2012	
Assets	\$9,314,344
Liabilities using a 6.0% discount rate	\$131,211,484
Funded Ratio	7.1%
Expected Benefit Payments	\$6,457,736
Liquidity Ratio	1.44
Equity Exposure	62.8%
Projected Funded Ratio after 15 years	22.0%

Discount Rate

5.00%

City of Charleston Firemen's Pension and Relief Fund
Actuarial Assumptions and Methods
Used in the Valuation as of July 1, 2012

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, 2014.
- (4) The total available premium tax allocation, net of expenses, as of September 1, 2013, includes a Base Allocation of \$8,709,689, an Excess Allocation of \$7,167,752, and an Expired Premium Tax Allocation of \$136,417.
- (5) For the plan year ending June 30, 2013, all Pension and Relief Funds reported a total of 1,710 eligible active members, and 2,113 eligible retired members. The City of Charleston Firemen's Pension and Relief Fund reported 159 eligible active members, and 227 eligible retired members, based on the average number of plan participants for the 12 month period ending June 30, 2013. The Fund is eligible to receive a premium tax allocation of \$1,544,507 for the fiscal year ending June 30, 2014.
- (6) The total premium tax allocation was assumed to increase by 2% in calendar years ending 2014, and 2015, and 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, 2012

General Inflation	3.00%										
Expected Salary Increase	<p>General Inflation: 3.00% <i>plus</i></p> <p>Wage Inflation: 1.00% <i>plus</i></p> <p>Service Based Increase:</p> <table style="margin-left: 40px;"> <thead> <tr> <th style="text-align: center;"><u>Years of Service</u></th> <th style="text-align: center;"><u>Increase</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">9.0%</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">4.5%</td> </tr> <tr> <td style="text-align: center;">3 - 4</td> <td style="text-align: center;">2.0%</td> </tr> <tr> <td style="text-align: center;">after 4 years of service</td> <td style="text-align: center;">1.0%</td> </tr> </tbody> </table>	<u>Years of Service</u>	<u>Increase</u>	1	9.0%	2	4.5%	3 - 4	2.0%	after 4 years of service	1.0%
<u>Years of Service</u>	<u>Increase</u>										
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.										
Cost Method	<p>Entry-Age Normal Level-Percentage-of-Pay</p> <p>30 – Year Closed Level-Percentage-of-Pay Amortization (from July 1, 2010) for GASB 25/27 Accounting.</p>										
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, 2012

Turnover	Sample Rates –	
	<u>Age</u>	<u>Rates</u>
	25	10%
	35	4%
	45	2%
Retirement	50	0%
	<u>Age</u>	<u>Rates</u>
	50-51	45%
	52-54	30%
	55	45%
Mortality	56	35%
	57	55%
	58	100%
	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 –	
	<u>Age</u>	<u>Rates^a</u>
	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

City of Charleston Firemen's Pension and Relief Fund

Summary of Principal Plan Provisions

Actuarial Valuation as of July 1, 2012

Employee Eligibility—All compensated employees of the Fire Department hired before July 1, 2010 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.

City of Charleston Firemen's Pension and Relief Fund

Summary of Principal Plan Provisions

Actuarial Valuation as of July 1, 2012

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 cut 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.