

**CITY OF CHARLESTON, WEST VIRGINIA
FIREMEN'S PENSION AND RELIEF FUND
ACTUARIAL VALUATION REPORT
FOR THE YEAR BEGINNING JULY 1, 2011**



October 12, 2012

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, 2011**

Dear Mr. Gregoraci and Sgt. Payne:

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2011, 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 §8-22 Part III.

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, 2013
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2013
- The Fund's eligibility to provide supplemental benefits for the plan year beginning 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.

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), as effected by the passage of Senate Bill No. 544.

This valuation is based upon:

Plan Member Data – Data for active members and persons receiving benefits from the Fund as of June 30, 2011, 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, 2011, and assets held as of June 30, 2011, 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.

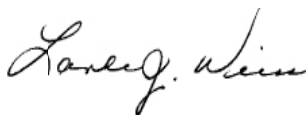
The signing actuaries are independent of the plan sponsor.

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
Senior Consultant



Lance Weiss, E.A., MAAA
Senior Consultant

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SECTION I

VALUATION RESULTS AS OF JULY 1, 2011

City of Charleston Firemen's Pension and Relief Fund

Actuarial Study as of July 1, 2011

Executive Summary

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2011, 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, 2013
- The Fund's eligibility to receive an allocation of the premium tax for the plan year ending June 30, 2013
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2013

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), and effected by the passage of Senate Bill No. 544.

The key features of the Conservation Method, effective for plan years beginning after April 1, 2011, is 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, 2011

The following table provides the Plan's funded status as of July 1, 2011:

Assets	\$8,463,553
Actuarial Liabilities	\$146,192,167
Unfunded Liabilities	\$137,728,614
Funded Ratio	5.79%

The following table provides the actual employer contributions, employee contributions, and premium tax allocation for plan year ending June 30, 2012. The premium tax allocation was based on the results of the July 1, 2010, actuarial valuation.

Plan year ending 2012	Benefit Payment Account	Accumulation Account
Employee Contributions	\$560,750	\$129,404
Premium Tax Allocations	\$1,251,055	\$471,212
Employer Contributions	\$4,473,000	\$0
Total	\$6,284,805	\$600,616

The following table provides the estimated employer contributions, employee contributions and premium tax allocation for plan year ending June 30, 2013. We have assumed 25.80% of the premium tax allocation of \$1,732,720 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 on the projection on page eight of the report.

Plan year ending 2013	Benefit Payment Account	Accumulation Account
Employee Contributions	\$589,973	\$136,148
Premium Tax Allocations	\$1,285,673	\$447,047
Employer Contributions	\$4,623,081	\$0
Total	\$6,498,727	\$583,195

City of Charleston Firemen's Pension and Relief Fund

Actuarial Study as of July 1, 2011

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 and Protection Fund or the 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 on 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, 2011 Actuarial Report from GRS is to be used by municipal pension plans to draw down the September 1, 2012 State Premium Tax Allocation which is allocated in Fiscal Year 2013. 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, 2011

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

The Supplemental benefits for plan year beginning July 1, 2013 will be based on the Consumer Price Index for calendar year 2012, and the projected results of the July 1, 2011 actuarial valuation.

Additional Remarks on the Valuation Results

Following are additional remarks on the valuation results as of July 1, 2011:

- 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 plan years beginning on and after July 1, 2011.
- The Fund experienced an approximate annualized return of 17.0% on the market value of assets during the plan year ending June 30, 2011, which compares to the expected annualized return of 5.0%. The difference in actual versus expected return produced an asset (gain)/loss of (\$872,005).
- An actuarial valuation is based on the expectation of certain events such as salary increases, retirement, disability, mortality, and termination. Demographic or liability experience (gains)/losses are generated when the actual occurrence of such events are different than the expectation. During the plan year ending June 30, 2011, the fund experienced a net liability (gain)/loss of (\$4,465,114).

Following are additional remarks on the actuarial valuation projections:

- Employer contributions are expected to increase from \$4,623,081 for the plan year ending June 30, 2013, to a high of \$10,744,659 for the plan year ending June 30, 2034.
- In 20 years, the funded ratio is projected to increase from 5.8% in 2011 to 24% in 2031, 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, 2011

Summary of Key Valuation Results

Schedule A

Valuation Date	July 1, 2010		July 1, 2011	
Valuation Interest Rate	5.00%		5.00%	
Cost-of-Living Adjustment	3.00%		3.00%	
Salary Increase	5.00%		5.00%	
Covered Payroll	\$9,441,334		\$9,214,083	
Average Pay	\$48,667		\$51,475	
Expected Benefit Payments	\$6,219,036		\$6,277,002	
1. Actuarial Accrued Liability	<u>No.</u>		<u>No.</u>	
(a) Actives	194	\$52,143,368	179	\$51,205,138
(b) Retirees	141	\$72,258,112	142	\$75,343,506
(c) Surviving Spouses	45	\$5,835,197	44	\$6,013,019
(d) Disabled Members	38	\$13,762,650	34	\$12,584,316
(e) Deferred Vested Members	3	\$1,744,672	2	\$1,046,188
(f) Total	421	\$145,743,999	401	\$146,192,167
2. Present Value of Future Normal Costs		\$36,683,497		\$35,856,739
3. Present Value of Benefits (1 + 2)		\$182,427,496		\$182,048,906
4. Market Value of Assets		\$7,247,179		\$8,463,553
5. Unfunded Actuarial Accrued Liability (1(f) - 4)		\$138,496,820		\$137,728,614
6. Funded Ratio (4 / 1(f))		4.97%		5.79%
7. Net Employer Normal Cost				
(a) Gross Normal Cost		\$3,799,188		\$3,792,939
(b) Employee Contribution Rate		8.00%		8.00%
(c) Expected Employee Contributions		\$755,307		\$737,127
(d) Net Employer Normal Cost (a - c)		\$3,043,881		\$3,055,812
(% of Compensation)		32.24%		33.16%
		FY 2012		FY 2013
8. Minimum Employer Contribution ^a		\$4,473,000		\$4,623,081
(% of Projected Compensation)		49%		48%
9. Estimated State Insurance Premium Tax Allocation ^a		\$1,722,267		\$1,732,720
(% of Projected Compensation)		19%		18%

^a Actual Employer contribution and State Insurance Premium Tax Allocation for fiscal year end June 30, 2012.

**City of Charleston Firemen's Pension and Relief Fund
Actuarial Study as of July 1, 2011**

(Gain) / Loss Analysis

Schedule B

Experience (gain) loss for plan year ending June 30, 2011

1. (a) Liability as of 7/1/2010	\$145,743,999
(b) Gross Normal Cost due 7/1/2010	3,799,188
(c) Interest on (a) and (b) to 6/30/2011	7,477,159
(d) Benefit Payments with interest to 6/30/2011	6,363,065
(e) Effect of Assumption Changes	0
(f) Expected Liability at 7/1/2011 [(a) + (b) + (c) - (d) + (e)]	150,657,281
(g) Actual Liability at 7/1/2011	\$146,192,167
(h) Liability (Gain)/Loss [(g) - (f)]	(\$4,465,114)
2. (a) Market Value of Assets as of 7/1/2010	\$7,247,179
(b) Interest on (a) to 6/30/2011	362,359
(c) Contributions with interest to 6/30/2011	6,345,075
(d) Benefit Payments with interest to 6/30/2011	6,363,065
(e) Expected Assets at 6/30/2011 [(a) + (b) + (c) - (d)]	\$7,591,548
(f) Actual Assets at 7/1/2011	\$8,463,553
(g) Asset (Gain)/Loss [(e) - (f)]	(\$872,005)
3. Total (Gain)/Loss [1(h) + 2(g)]	(\$5,337,119)

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					
2011	179	222	\$7,247	\$6,208	\$12.8	\$3,562	\$771	\$1,858	\$6,190	\$1,247	\$8,464	\$146,192	\$137,729	5.79%
2012	169	223	8,464	6,269	15.9	4,473	690	1,722	6,885	438	9,502	150,940	141,438	6.30%
2013	160	226	9,502	6,483	16.2	4,623	726	1,733	7,082	490	10,575	155,662	145,087	6.79%
2014	150	230	10,575	6,701	16.5	4,885	720	1,682	7,286	543	11,687	160,331	148,644	7.29%
2015	139	233	11,687	6,961	16.8	5,131	705	1,717	7,553	599	12,860	164,853	151,993	7.80%
2016	129	237	12,860	7,241	17.2	5,402	684	1,752	7,839	657	14,098	169,193	155,095	8.33%
2017	120	241	14,098	7,537	17.6	5,675	665	1,805	8,145	719	15,408	173,339	157,932	8.89%
2018	110	244	15,408	7,847	18.0	5,960	647	1,859	8,466	785	16,794	177,260	160,466	9.47%
2019	102	247	16,794	8,168	18.5	6,259	624	1,915	8,797	855	18,260	180,919	162,660	10.09%
2020	91	252	18,260	8,574	19.0	6,642	600	1,972	9,214	928	19,809	184,187	164,378	10.75%
2021	81	257	19,809	9,047	19.6	7,103	562	2,031	9,696	1,006	21,445	186,922	165,477	11.47%
2022	72	261	21,445	9,491	20.2	7,538	518	2,092	10,148	1,088	23,170	189,114	165,944	12.25%
2023	62	265	23,170	9,928	20.7	7,961	478	2,155	10,595	1,174	24,990	190,738	165,748	13.10%
2024	54	268	24,990	10,357	21.2	8,379	433	2,220	11,032	1,266	26,909	191,772	164,863	14.03%
2025	48	268	26,909	10,686	21.6	8,692	393	2,286	11,371	1,362	28,935	192,344	163,409	15.04%
2026	41	270	28,935	11,010	22.0	8,985	369	2,355	11,709	1,463	31,075	192,440	161,365	16.15%
2027	35	272	31,075	11,386	22.4	9,343	328	2,426	12,096	1,571	33,333	191,944	158,611	17.37%
2028	30	271	33,333	11,685	22.7	9,620	288	2,498	12,406	1,684	35,715	190,931	155,216	18.71%
2029	25	271	35,715	11,928	23.0	9,832	258	2,573	12,663	1,803	38,231	189,452	151,221	20.18%
2030	19	271	38,231	12,198	23.2	10,071	226	2,650	12,948	1,929	40,886	187,430	146,544	21.81%
2031	15	270	40,886	12,469	23.5	10,316	186	2,730	13,232	2,063	43,688	184,830	141,142	23.64%
2032	11	268	43,688	12,678	23.6	10,492	151	2,812	13,455	2,203	46,645	181,719	135,074	25.67%
2033	8	266	46,645	12,865	23.8	10,641	122	2,896	13,659	2,351	49,766	178,110	128,344	27.94%
2034	6	262	49,766	13,008	23.9	10,745	91	2,983	13,818	2,508	53,061	174,044	120,983	30.49%
2035	4	258	53,061	13,049	23.9	10,738	68	3,073	13,878	2,673	56,539	169,644	113,105	33.33%
2036	3	253	56,539	13,031	23.8	10,663	54	3,165	13,882	2,847	60,213	164,980	104,767	36.50%
2037	2	248	60,213	12,981	23.6	10,553	41	3,260	13,854	3,032	64,093	160,083	95,990	40.04%
2038	1	242	64,093	12,910	23.4	10,417	31	3,357	13,806	3,226	68,192	154,966	86,774	44.00%
2039	1	236	68,192	12,805	23.2	10,247	20	3,458	13,725	3,432	72,519	149,660	77,140	48.46%
2040	1	230	72,519	12,653	22.9	10,022	13	3,562	13,597	3,649	77,090	144,220	67,130	53.45%
2041	0	224	77,090	12,471	22.6	9,765	8	3,669	13,442	3,878	81,916	138,676	56,760	59.07%
2042	0	217	81,916	12,259	22.2	9,473	5	3,779	13,257	4,120	87,011	133,062	46,051	65.39%
2043	0	210	87,011	12,023	21.7	9,155	3	3,892	13,050	4,375	92,391	127,403	35,011	72.52%
2044	0	203	92,391	11,771	21.3	8,816	2	4,009	12,827	4,645	98,071	121,715	23,644	80.57%
2045	0	196	98,071	11,502	20.8	8,458	1	4,129	12,588	4,930	104,067	116,016	11,950	89.70%
2046	0	189	104,067	11,219	20.3	8,011	0	4,253	12,264	5,229	110,321	110,321	0	100.00%
2047	0	182	110,321	10,920	19.7	8	0	0	18	5,246	104,646	104,646	0	100.00%

City of Charleston Firemen's Pension and Relief Fund

Actuarial Projections (\$ in thousands)

Table 2

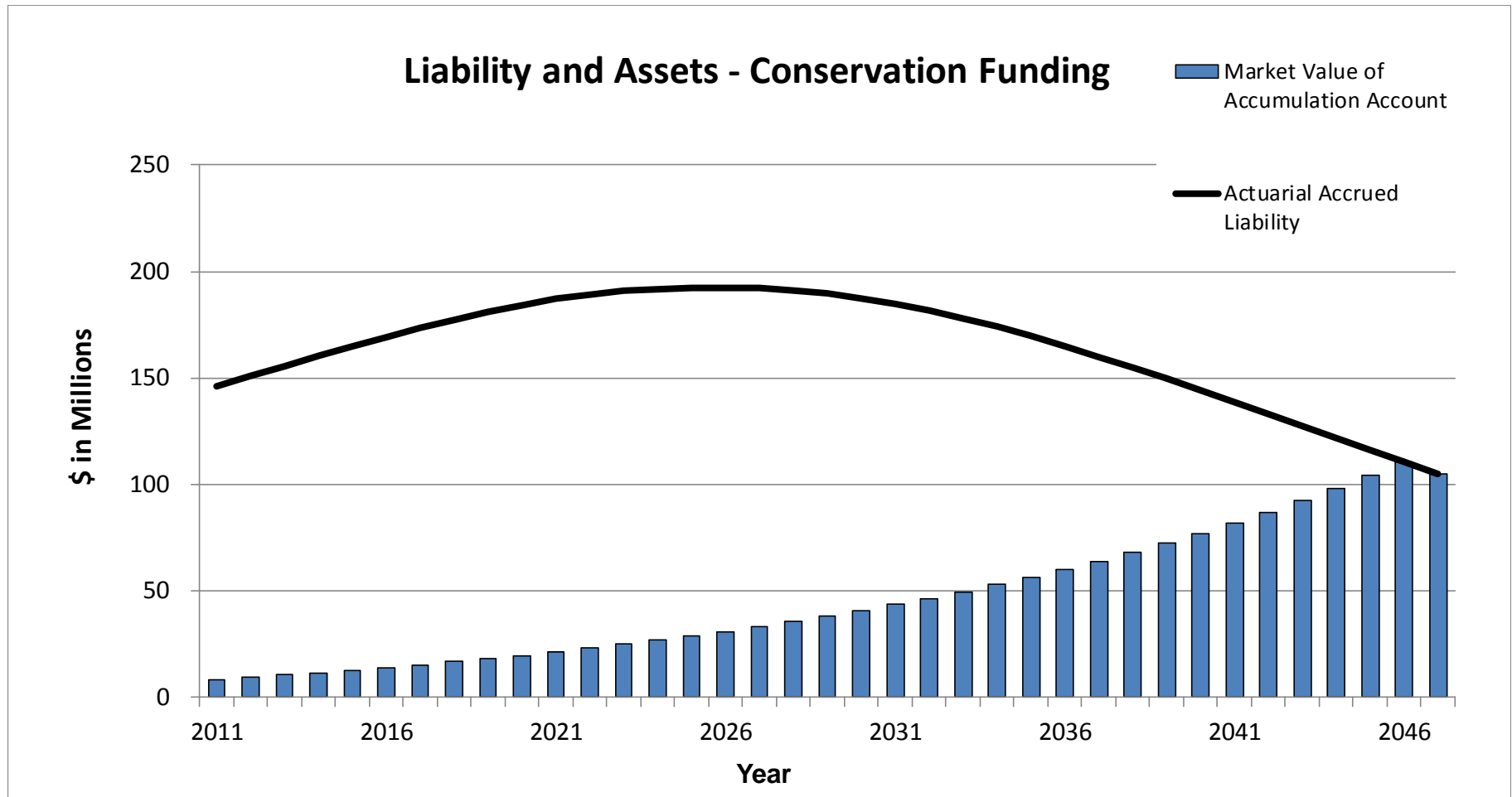
Plan Year End	Benefit Payment Account ^a							Accumulation Account ^b				
	Assets	Benefits		6.50% of Pay	74.2% of		Assets	1.50% of Pay	25.8% of		Assets	
30-Jun	(boy)	Payments	Expenses	Employer Contributions	Employee Contributions	Premium Tax Allocation	(eoy)	(boy)	Contributions	Allocation	Investment Income	(eoy)
2013	\$0	\$6,483	\$16.2	\$4,623	\$590	\$1,286	\$0	\$9,502	\$136	\$447	\$490	\$10,575
2014	0	6,701	16.5	4,885	585	1,248	0	10,575	135	434	543	11,687
2015	0	6,961	16.8	5,131	573	1,274	0	11,687	132	443	599	12,860
2016	0	7,241	17.2	5,402	556	1,300	0	12,860	128	452	657	14,098
2017	0	7,537	17.6	5,675	540	1,339	0	14,098	125	466	719	15,408
2018	0	7,847	18.0	5,960	525	1,379	0	15,408	121	480	785	16,794
2019	0	8,168	18.5	6,259	507	1,421	0	16,794	117	494	855	18,260
2020	0	8,574	19.0	6,642	488	1,463	0	18,260	113	509	928	19,809
2021	0	9,047	19.6	7,103	456	1,507	0	19,809	105	524	1,006	21,445
2022	0	9,491	20.2	7,538	421	1,552	0	21,445	97	540	1,088	23,170
2023	0	9,928	20.7	7,961	389	1,599	0	23,170	90	556	1,174	24,990
2024	0	10,357	21.2	8,379	352	1,647	0	24,990	81	573	1,266	26,909
2025	0	10,686	21.6	8,692	319	1,696	0	26,909	74	590	1,362	28,935
2026	0	11,010	22.0	8,985	300	1,747	0	28,935	69	608	1,463	31,075
2027	0	11,386	22.4	9,343	266	1,800	0	31,075	61	626	1,571	33,333
2028	0	11,685	22.7	9,620	234	1,854	0	33,333	54	645	1,684	35,715
2029	0	11,928	23.0	9,832	210	1,909	0	35,715	48	664	1,803	38,231
2030	0	12,198	23.2	10,071	184	1,967	0	38,231	42	684	1,929	40,886
2031	0	12,469	23.5	10,316	151	2,026	0	40,886	35	704	2,063	43,688
2032	0	12,678	23.6	10,492	123	2,086	0	43,688	28	725	2,203	46,645
2033	0	12,865	23.8	10,641	99	2,149	0	46,645	23	747	2,351	49,766
2034	0	13,008	23.9	10,745	74	2,213	0	49,766	17	770	2,508	53,061
2035	0	13,049	23.9	10,738	55	2,280	0	53,061	13	793	2,673	56,539
2036	0	13,031	23.8	10,663	44	2,348	0	56,539	10	817	2,847	60,213
2037	0	12,981	23.6	10,553	34	2,419	0	60,213	8	841	3,032	64,093
2038	0	12,910	23.4	10,417	25	2,491	0	64,093	6	866	3,226	68,192
2039	0	12,805	23.2	10,247	16	2,566	0	68,192	4	892	3,432	72,519
2040	0	12,653	22.9	10,022	11	2,643	0	72,519	2	919	3,649	77,090
2041	0	12,471	22.6	9,765	7	2,722	0	77,090	2	947	3,878	81,916
2042	0	12,259	22.2	9,473	4	2,804	0	81,916	1	975	4,120	87,011
2043	0	12,023	21.7	9,155	2	2,888	0	87,011	1	1,004	4,375	92,391
2044	0	11,771	21.3	8,816	1	2,975	0	92,391	0	1,034	4,645	98,071
2045	0	11,502	20.8	8,458	1	3,064	0	98,071	0	1,065	4,930	104,067
2046	0	11,219	20.3	8,011	0	3,156	0	104,067	0	1,097	5,230	110,321
2047	0	10,920	19.7	18	0	0	0	110,321	0	0	5,516	104,646

^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.

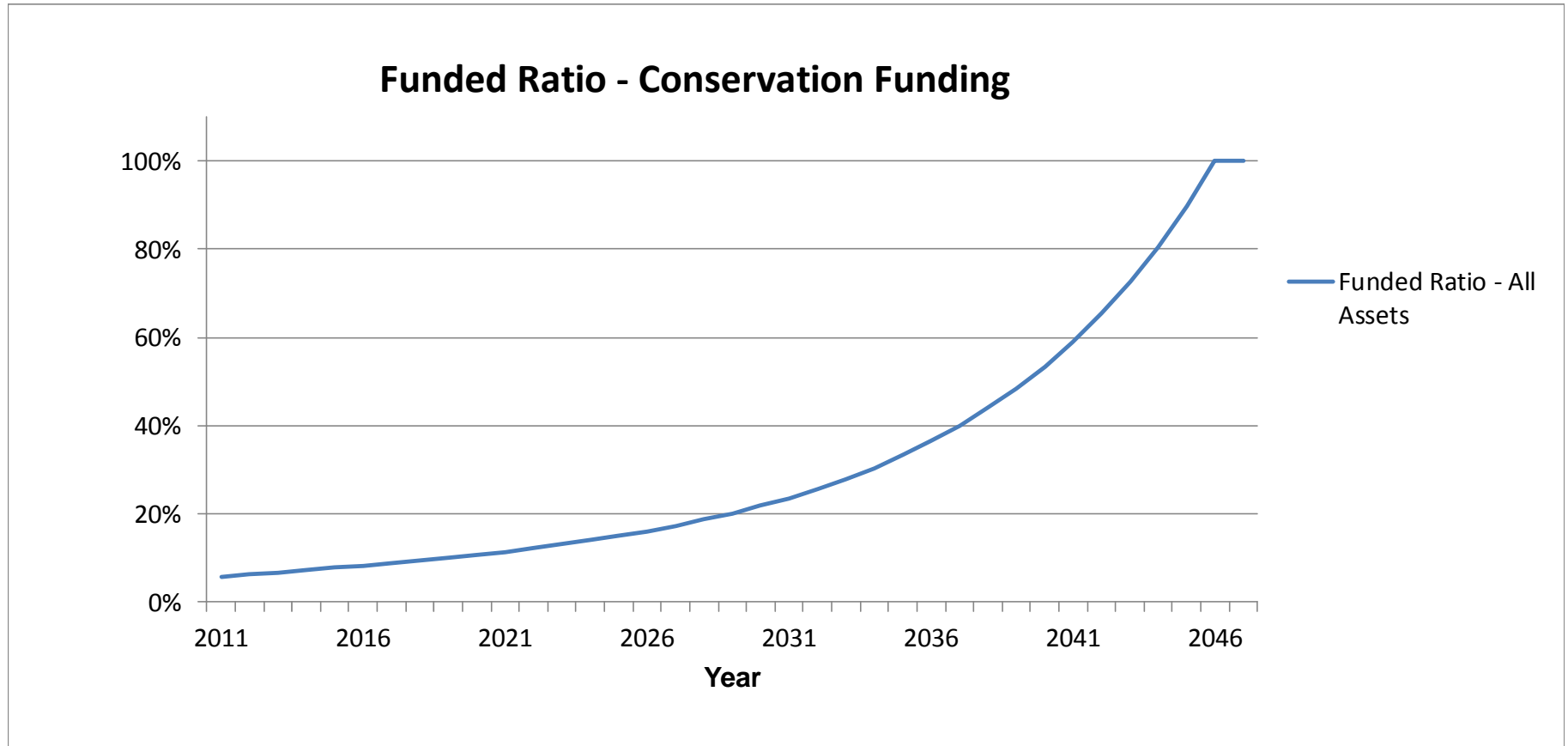
City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

Graph 1



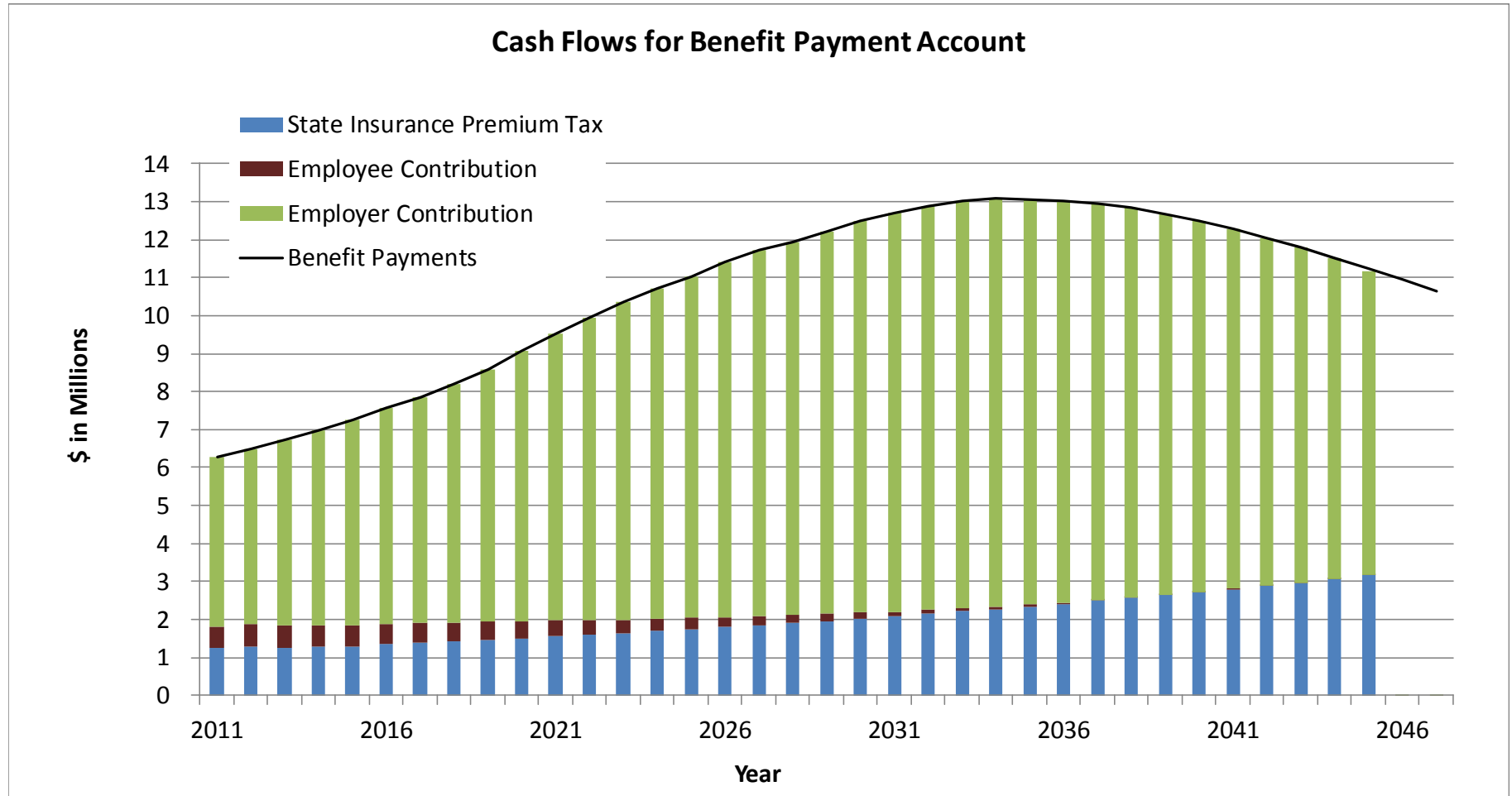
City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

Graph 2



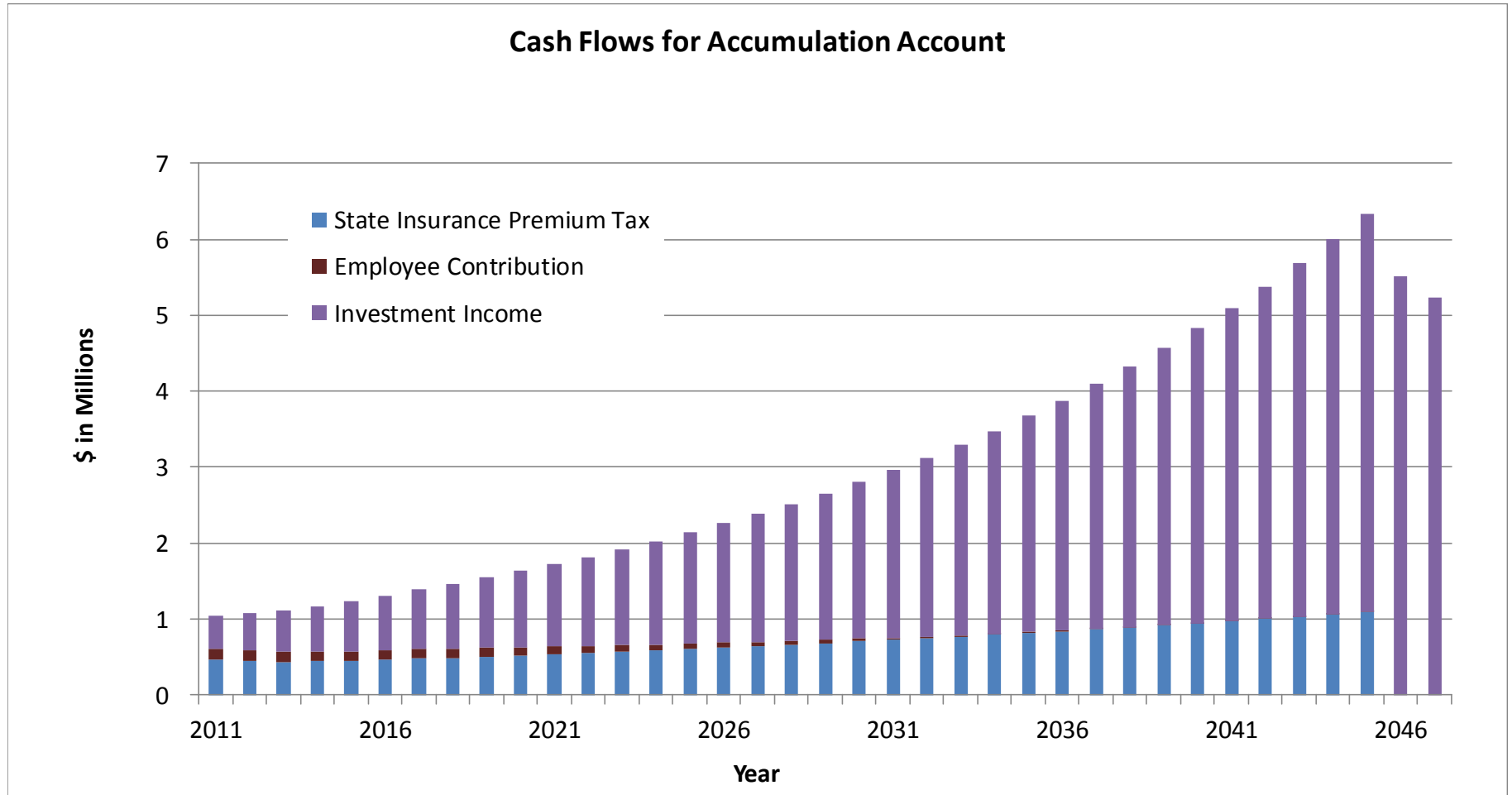
City of Charleston Firemen's Pension and Relief Fund Actuarial Projections

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, 2010	July 1, 2011
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	30 Years, Level % of Pay	29 Years, Level % of Pay
 Schedule of Funding Progress		
Actuarial Valuation Date	July 1, 2010	July 1, 2011
1. Market Value of Assets	\$7,247,179	\$8,463,553
2. Actuarial Accrued Liability	\$145,743,999	\$146,192,167
3. Unfunded Actuarial Accrued Liability (2 - 1)	\$138,496,820	\$137,728,614
4. Funded Ratio (1/2)	5%	6%
5. Covered Payroll	\$9,441,334	\$9,214,083
6. UAAL as Percentage of Covered Payroll (3/5)	1467%	1495%
 Schedule of Employer Contributions		
	FY 2011	FY 2012
1. Annual Required Contribution		
(a) Employer Normal Cost	\$3,043,881	\$3,055,812
(b) Amortization of Unfunded Actuarial Accrued Liability	\$5,285,563	\$5,412,757
(c) Annual Required Contribution (ARC) (a + b)	\$8,329,444	\$8,468,569
2. Employer Contribution ^b	\$3,561,911	\$4,473,000
3. Premium Tax Allocation ^b	\$1,857,533	\$1,722,267
4. Percentage of ARC Contributed [(2 + 3)/1(c)]	65%	73%

^a Suggested Amortization for GASB accounting purposes.

^b Actual 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, 2010	July 1, 2011
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	30 Years, Level % of Pay	29 Years, Level % of Pay
Annual Pension Cost and Contributions		
Fiscal Year End	June 30, 2011	June 30, 2012
1. Annual Pension Cost for FYE June 30		
(a) Annual Required Contribution (ARC) for FYE June 30	\$8,329,444	\$8,468,569
(b) Interest on Net Pension Obligation (NPO) as of July 1 of FY	\$1,741,254	\$1,907,364
(c) Adjustment to ARC	(\$1,329,057)	(\$1,499,194)
(d) Annual Pension Cost (a + b + c)	\$8,741,641	\$8,876,739
2. Net Pension Obligation as of FYE June 30		
(a) NPO as of July 1 of FY ^b	\$34,825,073	\$38,147,270
(b) Annual Pension Cost for FY	\$8,741,641	\$8,876,739
(c) Employer Contribution ^c	\$3,561,911	\$4,473,000
(d) Premium Tax Allocations ^c	\$1,857,533	\$1,722,267
(e) NPO as of FYE (a + b - c - d)	\$38,147,270	\$40,828,742
Pension Cost Summary		
Fiscal Year End	June 30, 2011	June 30, 2012
1. Annual Pension Cost	\$8,741,641	\$8,876,739
2. Employer Contribution ^c	\$3,561,911	\$4,473,000
3. Premium Tax Allocation ^c	\$1,857,533	\$1,722,267
4. Percentage of Annual Pension Cost Contributed [(2 + 3)/ 1]	62%	70%
5. Net Pension Obligation (estimated)	\$38,147,270	\$40,828,742

^a Suggested Amortization for GASB accounting purposes.

^b NPO as of July 1, 2011 as disclosed in the City's Financial Statement for fiscal year end June 30, 2011.

^c Actual Employer and State Insurance Premium Tax Allocation contribution.

SECTION IV

VALUATION DATA AS OF JULY 1, 2011

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2011

Reconciliation of Assets

Schedule E

Plan Year Ending	June 30, 2010	June 30, 2011
A. Market Value of Assets Beginning of Year	\$6,539,893	\$7,247,179
1. Revenue During Fiscal Year		
(a) Employee Contribution	\$760,311	\$770,873
(b) Governmental Contribution		
(i) From Local Government	\$3,298,066	\$3,561,911
(ii) From State Government	\$1,751,284	\$1,857,533
(iii) Total	\$5,049,350	\$5,419,444
(c) Earnings on Investments		
(i) Net Appreciation (Depreciation)	\$736,965	\$1,118,919
(ii) Interest	\$43,577	\$20,989
(iii) Dividends	\$101,647	\$114,899
(iv) Net Realized Gain (Loss) on Sale/Exchange	(\$38,067)	\$27,870
(v) Other	\$120	\$0
(vi) Investment Expense	(\$37,953)	(\$35,918)
(vii) Total	\$806,289	\$1,246,759
(d) Other Revenue	\$0	\$0
(e) Receivable Contribution ^a	\$0	\$0
(f) Total Revenue (sum of (a) through (e))	\$6,615,950	\$7,437,076
2. Expenditures During Fiscal Year		
(a) Benefits Paid	\$5,886,177	\$6,055,225
(b) Withdrawals	\$11,646	\$152,643
(c) Administrative Expenses	\$10,841	\$12,834
(d) Total Expenditures (sum of (a) through (c))	\$5,908,664	\$6,220,702
B. Market Value of Assets End of Year [A + 1(f) - 2(d)]	\$7,247,179	\$8,463,553
C. Approximate Return on Assets	12.2%	17.0%

^a Receivable contributions for each respective plan year ending.

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2011

Assets Held by Category

Schedule F

Plan Year Ending	June 30, 2010		June 30, 2011 ^b	
1. Cash and Short-term Investments	\$1,050,593	15%	\$623,567	7%
2. Government Securities				
(a) Treasury Notes and Bonds	\$1,816,214		\$2,594,529	
(b) State and Municipal Bonds	\$0		\$0	
(c) Total Government Securities	\$1,816,214	25%	\$2,594,529	31%
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	\$4,378,161		\$5,244,936	
(b) Mutual Fund Shares (Stocks)	\$0		\$0	
(c) Total Corporate Stocks	\$4,378,161	60%	\$5,244,936	62%
5. Other	\$2,211	0%	\$521	0%
6. Receivable Contribution ^a	\$0	0%	\$0	0%
Total Market Value of Assets [sum of (1) through (6)]	\$7,247,179		\$8,463,553	

^a Receivable contributions for each respective plan year ending.

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2011

Summary of Participant Activity

Schedule G

	Actives	Retirees	Disabled	Deferred Vested	Spouses and Beneficiaries	Totals
Total Participants July 1, 2010:	194	141	38	3	45	421
New Actives:						0
Returned to Actives Status:						0
Data Corrections/Other Changes:						0
Vested Terminations:						0
Non-Vested Terminations:	(7)					(7)
Disabled:						0
Retirements:	(8)	11	(2)	(1)		0
Deaths with Beneficiary:		(5)			5	0
Deaths w/o Beneficiary:		(5)	(2)		(5)	(12)
Expired Annuity or Stop Payment:					(1)	(1)
Net Changes:	(15)	1	(4)	(1)	(1)	(20)
Total Participants June 30, 2011:	179	142	34	2	44	401

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2011

Distribution of Active Employees by Age and Length of Service

Schedule H

Attained	<u>Years of Service to Valuation Date</u>									Valuation	
Age	Less than 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35	Totals	Payroll
Under 20										5	\$ 0
20-24		5								5	227,534
25-29		11	5	1						17	827,813
30-34		12	16	2						30	1,416,241
35-39		6	12	15	5					38	1,912,327
40-44			10	11	21	9				51	2,691,926
45-49				4	12	10				26	1,466,570
50-54					5	6				11	643,779
55-59						1				1	27,893
60-64											0
65-69											0
Over 70											0
Totals	0	34	43	33	43	26	0	0	0	179	\$ 9,214,083
Averages _____											
Age: 39.2 years											
Service: 11.3 years											
Annual Pay: \$51,475											

City of Charleston Firemen's Pension and Relief Fund
Valuation Data as of July 1, 2011

Participants Summary

Schedule I

Active Participants	July 1, 2010	July 1, 2011
Number of Actives	194	179
Total Annual Pay	\$9,441,334	\$9,214,083
Average Age	38.6	39.2
Average Service	11.1	11.3

Inactive Participants	July 1, 2010		July 1, 2011	
Type	No.	Annual Benefit	No.	Annual Benefit
Retirees	141	\$4,604,060	142	\$4,775,115
Surviving Spouses	45	\$529,975	44	\$545,062
Disabled Members	38	\$856,564	34	\$788,467
Deferred Vested Members	3	\$93,784	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, 2011

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, 2011	
Assets	\$8,463,553
Liabilities using a 6.0% discount rate	\$128,070,000
Funded ratio	6.6%
Expected Benefit Payments	\$6,277,002
Liquidity Ratio	1.35
Equity Exposure	62.0%
Projected Funded Ratio after 15 years	19.8%

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, 2011

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 the Base Allocation and 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, 2013.
- (4) The total available premium tax allocation, net of expenses, as of September 1, 2012, includes a Base Allocation of \$8,709,689, an Excess Allocation of \$7,937,104, and an Expired Premium Tax Allocation of \$509,127.
- (5) For the plan year ending June 30, 2012, all Pension and Relief Funds reported a total of 1,709 eligible active members, and 2,102 eligible retired members. The City of Charleston Firemen’s Pension and Relief Fund reported 169 eligible active members, and 223 eligible retired members, based on the average number of plan participants for the 12 month period ending June 30, 2012.
- (6) The total premium tax allocation was assumed to increase by 0% in calendar years ending 2012, and 2013, 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, 2011

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, 2011

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, 2011

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, 2011

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 is 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.