

FIREMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
ACTUARIAL VALUATION REPORT FOR THE YEAR ENDING
DECEMBER 31, 2012

May 16, 2013

Retirement Board of the
Firemen's Annuity and Benefit Fund of Chicago
20 South Clark Street, Suite 1400
Chicago, IL 60603

Actuarial Certification

Dear Members of the Board:

At your request, we have performed an actuarial valuation for the Firemen's Annuity and Benefit Fund of Chicago ("the Fund") as of December 31, 2012. This valuation has been performed to measure the funding status of the Fund and determine the actuarially required contribution for 2013. In addition, it includes disclosure information required under GASB Statement No. 25, Statement No. 27, Statement No. 43 and Statement No. 45. The assumptions and methods used were recommended by the actuary and approved by the Board and meet the parameters set for the disclosure presented in the financial section by Government Accounting Standards Board (GASB) Statement Nos. 25 and 43. These actuarial valuations of the Fund are performed annually.

We have provided supporting schedules for the actuarial section of the comprehensive annual financial report, including:

- Schedule of Active Member Data
- Retirements and Beneficiaries Added to and Removed from Rolls
- Solvency (Termination) Test
- Analysis of Financial Experience

We have also provided the following schedules in the financial sections of the report. We relied on information from the prior actuary for years before 1999.

- Schedule of Funding Progress
- Schedule of Employer Contributions

This valuation is based upon:

- a) **Data relative to the members of the Fund** – Data for active members and persons receiving benefits from the fund was provided by the Fund's staff. We have tested this data for reasonableness.

- b) **Asset Values** – The values of assets of the Fund were provided by the Fund's staff. The assets provided by the Fund are still in draft form pending finalization of alternative investment balances. The Fund and their auditor do not anticipate a material change in the asset value. The actuarial value of assets was used to develop actuarial results for the State-reporting basis, as well as for GASB Statement No. 25 and Statement No. 27. In each fiscal year, gains and losses will be phased in over a five year period.
- c) **Actuarial Method** – The actuarial method utilized by the Fund is the Entry-Age Actuarial Cost Method. The objective of this method is to amortize the costs of Fund benefits over the entire career of each member as a level percentage of compensation. Any Unfunded Actuarial Accrued Liability (UAAL) under this method is separately financed. All actuarial gains and losses under this method are reflected in the UAAL.
- d) **Actuarial Assumptions** – The actuarial assumptions remain unchanged from the prior valuation. The assumptions used are set forth in Appendix 4: Actuarial Methods and Assumptions of the Valuation Report.
- e) **Plan Provisions** – The liabilities reflect the plan provisions in effect as of December 31, 2012.

The funding objective is to provide employer and employee contributions sufficient to provide the benefits of the Fund when due. State Law currently constrains employer contributions to be 2.26 times the employee contribution level in the second prior fiscal year. Thus, with an administrative lag, the employer contribution is designed to match the employee contribution in a 2.26:1 relationship. The actuarial valuation of the Fund on the State reporting basis shows that a ratio of 6.5:1 is needed to finance the Fund.

The valuation results set forth in this report are based on the data and actuarial techniques described above, and upon the provisions of the Fund as of the valuation date. Based on these items, we certify these results to be true and correct.

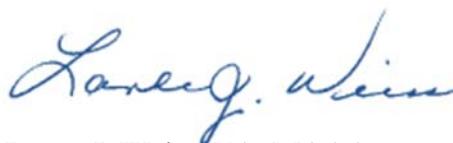
This report should not be relied on for any purpose other than the purpose stated.

To the best of our knowledge this report is complete and accurate and was conducted in accordance with standards of practice promulgated by the Actuarial Standards Board and in compliance with the City Ordinance. The actuarial assumptions used for the valuation produce results which, in the aggregate, are reasonable. This valuation was produced under the supervision of a member of the American Academy of Actuaries with significant experience in valuing public employee retirement systems. The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith and Company



Alex Rivera, FSA, EA, MAAA
Senior Consultant



Lance J. Weiss, EA, MAAA
Senior Consultant

ADDITIONAL DISCLOSURES REQUIRED BY ACTUARIAL STANDARDS OF PRACTICE

To the best of our knowledge, this actuarial statement is complete and accurate, fairly presents the actuarial position of the Fund as of December 31, 2012, and has been prepared in accordance with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with applicable statutes.

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.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contribution shortfalls (the difference between the actual contributions and the annual required contributions) remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this variance, with a view to funding the plan over time.

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SUMMARY OF VALUATION RESULTS

This report sets forth the results of the actuarial valuation of the Firemen's Annuity and Benefit Fund of Chicago ("Fund") as of December 31, 2012. The purposes of this valuation are:

1. To develop actuarially determined contributions for 2013.
2. To develop the annual required contributions (ARC) under GASB #25 and GASB #43.
3. To develop the annual pension cost under GASB #27 and the annual OPEB cost under GASB #45.
4. To review the funding status of the Fund.

The funding status, in basic terms, is a comparison of the fund's liabilities to assets expressed as either an unfunded liability or as a ratio of assets to liabilities. This comparison can be measured in various ways. Fund liabilities are dependent on the actuarial assumptions and actuarial cost method. Fund assets can be measured at market value, book value, or some variation to smooth the fluctuations that invariably occur from year to year.

For State reporting, as well as for Fund and City financial reports, the funding status is measured using liabilities under the Entry Age Normal funding method and the Actuarial (Market-Related) Value of Assets.

The Actuarial (Market-Related) Value of Assets is determined from market value with investment gains and losses smoothed over a five-year period. The actuarial assumptions used to determine the liabilities are the same in all three measures.

Comments on Results

For State reporting purposes, the minimum actuarially determined contribution for the year ending December 31, 2013, is \$338.4 million including estimated employee contributions of \$39.3 million. This is 80.8 percent of the total payroll for the Fund and a \$22.7 million increase over the minimum actuarial contribution for 2012.

The annual required contribution (ARC) under GASB #25 for the year ending December 31, 2013, is \$294.9 million, which is for pension benefits only. This amount is net of estimated employee contributions of \$39.3 million.

GASB #43 requires the calculation of a separate ARC for Other Postemployment Benefits (OPEB). The OPEB ARC for the fiscal year ending December 31, 2013, is \$4.2 million.

Because of the requirements of GASB #43, there are some differences between the calculation of the ARC for pension benefits and the ARC for OPEB. These differences are summarized below.

	<u>Pension ARC</u>	<u>OPEB ARC</u>
Investment Return	8.00% per year	4.50% per year
Assets	5-year smoothed market	No assets (Pay-as-you-go)

SUMMARY OF VALUATION RESULTS (CONT'D)

GASB #43 requires that the investment return assumption (or “discount rate”) used to value OPEB liabilities be based on the estimated long-term yield on the investments expected to be used to finance the payment of benefits. The investment return assumption of 4.50 percent reflects the fact that OPEB liabilities are considered to be funded on a pay-as-you-go basis. That is, the health insurance supplement is financed with current contributions, and no separate healthcare account exists to pay the health insurance supplement.

Effective with Fiscal Year Ending December 31, 2014, GASB #67 is replacing GASB #25 for pension plan financial reporting requirements. GASB #68 is replacing GASB #27 for employer financial reporting effective with fiscal year ending December 31, 2015. The discount rate used for GASB #67 and #68 reporting purposes will reflect a blended or average discount rate based on 8.00 percent for the projected benefits for all current members that can be paid from current assets and projected investment return, future employee contributions from current members, and future employer contributions attributable to current members, and a municipal bond rate (for example 4.00 percent) for the portion of the projected benefits after assets are depleted. We believe the liability based on the GASB blended rate will become the predominant liability that users will focus on.

Due to the potential blended discount rate and shorter amortization periods required under GASB #67 and #68, the liabilities and pension expense is expected to be much higher and more volatile than under the current standards. A measurement of the blended discount rate, liability and pension expense has not yet been performed.

Based on the Market-Related Value of Assets, the Unfunded Actuarial Liability increased from \$2.8 billion to \$3.07 billion during the year. The funded ratio decreased from 28.26 percent to 24.43 percent.

Based on the Market Value of Assets, the Unfunded Actuarial Liability increased from \$2.91 billion to \$3.03 billion, and the funded ratio decreased from 25.49 percent to 25.39 percent.

There were four major gain/loss items:

- The employer cost in excess of actual contributions generated a loss of approximately \$168.4 million.
- The partial recognition of investment gains and losses in plan years 2009 through 2012 due to the asset smoothing method resulted in an overall deferred loss of \$39 million, which will be recognized in subsequent valuations. The investment gain/loss on the actuarial value generated an overall loss of \$100 million.
- Pay increases less than expected resulted in a gain of \$34 million.
- Due to a class action lawsuit, the Lewis settlement created a loss of \$11.6 million.

A more thorough examination of these and other factors can be found in the Reconciliation of Unfunded Liability section and the gain/loss calculation of Table 3.

Public Act 96-1495, effective as of January 1, 2011, provides that the City finance plan benefits on an actuarial basis commencing with fiscal year 2015. The funding policy requires that future employer contributions, employee contributions and other fund income is sufficient to produce 90

SUMMARY OF VALUATION RESULTS (CONT'D)

percent funding by fiscal year end 2040. The projections are based on an open group, level percent of pay financing, and the projected unit credit cost method. The results contained in this valuation report do not include the projected funding requirements under the provisions of Public Act 96-1495 which will be provided in a separate letter.

A summary of the primary results of this valuation is shown on the following page.

SUMMARY OF VALUATION RESULTS (CONT'D)

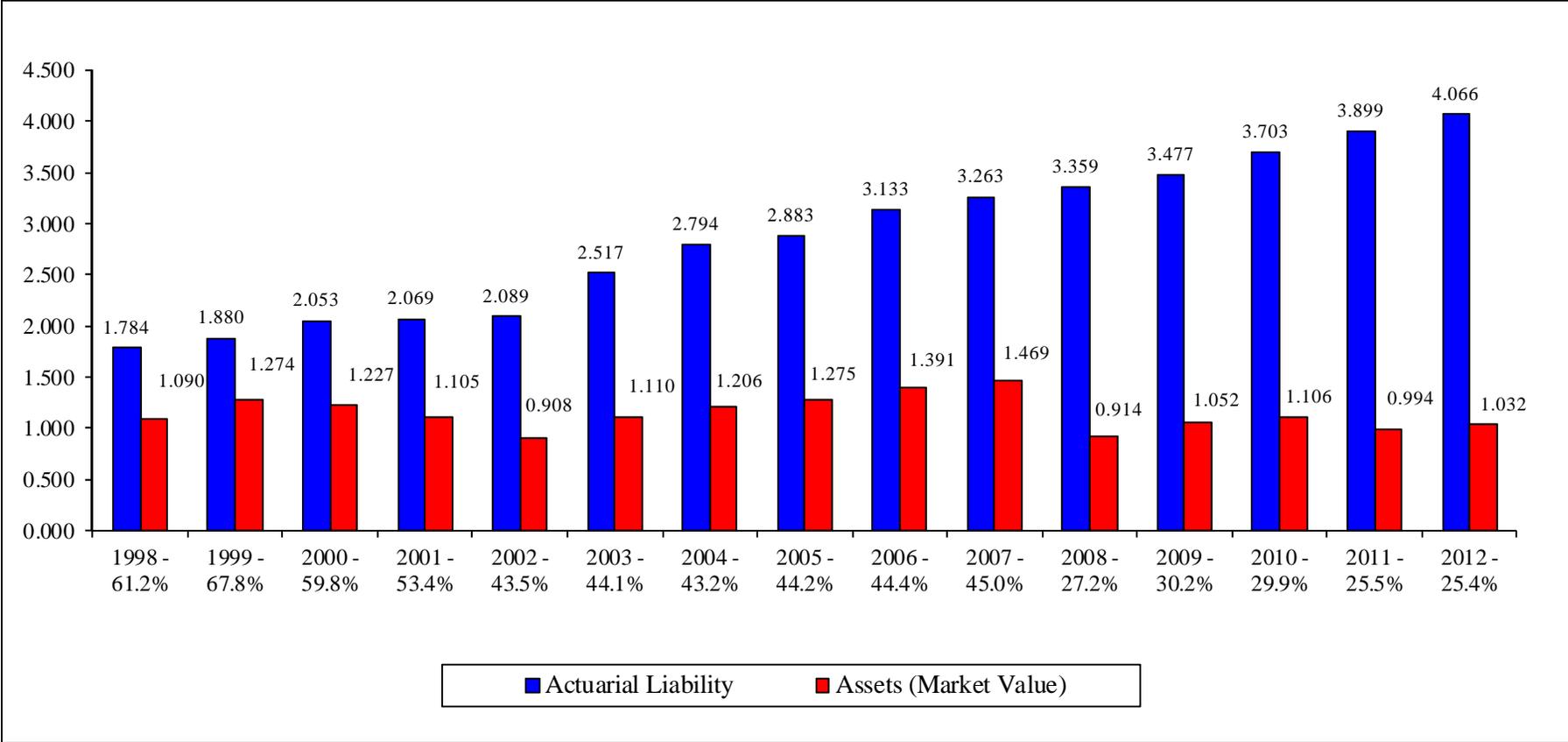
	December 31, 2011		December 31, 2012	
	\$ in Millions	% of Pay ¹	\$ in Millions	% of Pay ¹
Contribution Levels				
Minimum Actuarially Determined Contribution (State Reporting)	\$ 315.7	74.22 %	\$ 338.4	80.77 %
Annual Required Contribution ² (GASB 25 and 43)	275.8	64.83	299.1	71.39
Funding Status -- State/GASB #25 and #43				
Market-Related Value of Assets	\$ 1,101.7	259.00	\$ 993.3	237.08
Actuarial Liability	3,898.9	916.56	4,066.3	970.57
Funding Ratios	28.26%	N/A	24.43%	N/A
Funding Status -- Market Value				
Market Value of Assets	\$ 993.8	233.62	\$ 1,032.4	246.42
Actuarial Liability	3,898.9	916.56	4,066.3	970.57
Funding Ratios	25.49%	N/A	25.39%	N/A
Funding Status -- Book Value				
Book Value of Assets	\$ 966.8	227.27	\$ 931.2	222.27
Actuarial Liability	3,898.9	916.56	4,066.3	970.57
Funding Ratios	24.80%	N/A	22.90%	N/A

¹Payroll for 2011 was \$425.4 million and for 2012 was \$419 million.

²ARC is for the following fiscal year and equals the total ARC under GASB #25 and GASB #43. The 2013 ARC is \$294,877,895 for pension and \$4,213,697 for OPEB.

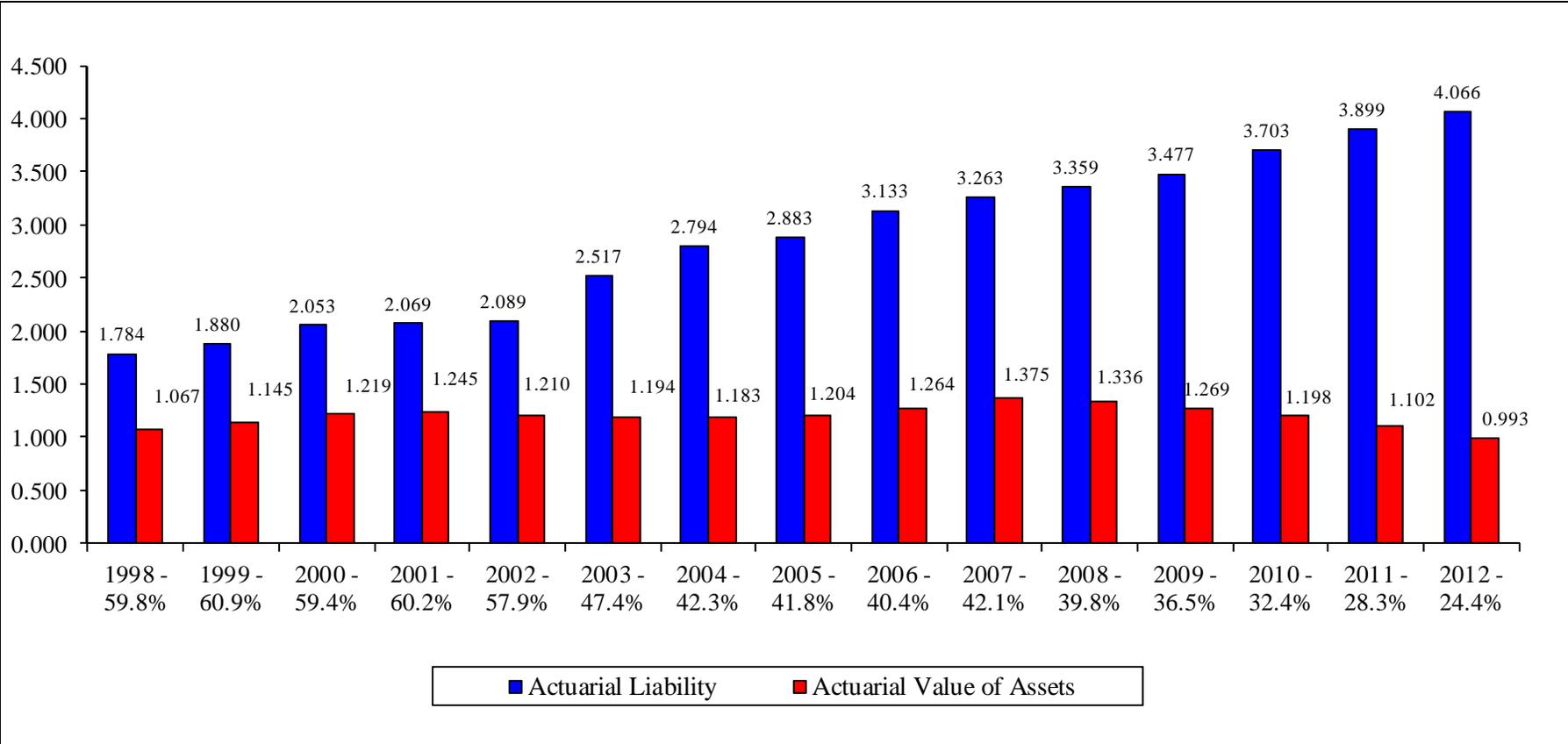
SUMMARY OF VALUATION RESULTS (CONT'D)

**COMPONENTS OF FUNDING RATIO
BASED ON MARKET VALUE
(\$ IN BILLIONS)**



SUMMARY OF VALUATION RESULTS (CONT'D)

**COMPONENTS OF FUNDING RATIO
GASB #25 AND #43 / STATE REPORTING
(\$ IN BILLIONS)**



SUMMARY OF VALUATION RESULTS (CONT'D)

Participants

The major characteristics of the data on the members of the Fund are summarized as follows:

	<u>December 31, 2011</u>	<u>December 31, 2012</u>
Active Participants¹		
Number	4,842	4,740
Average Age	45.9	46.1
Average Service	16.3	16.3
Average Annual Salary	\$87,853	\$88,389
Retirees		
Number	2,665	2,821
Average Age	70.9	70.4
Average Monthly Benefit	\$ 5,157	\$ 5,405
Survivors²		
Number	1,354	1,359
Average Age	77.2	77.3
Average Monthly Benefit	\$ 1,846	\$ 1,913

¹ Includes four participants on ordinary disability who continue to accrue benefit service as of December 31, 2011 and two participants on ordinary disability who continue to accrue benefit service as of December 31, 2012.

² Includes one parent annuitant.

Total participants receiving benefits under the Fund, including disability, widow, and children, increased 3.0 percent during 2012 from 4,478 to 4,613. Total expenditures for these benefits increased from \$221.5 million in 2011 to \$231.2 million during 2012, or 4.4 percent.

Changes in Provisions of the Fund

Public Act 97-0651, effective January 5, 2012, changes Fund Provisions. The provisions of Public Act 97-0651 are described in Appendix 6 of the report. The changes do not directly impact the liabilities of the Fund as of the valuation date.

Lewis Settlement

Due to the Lewis settlement, 105 members entered the Fund in March and April 2012 with service and pay as if they had been retroactively hired on June 1, 1999. In plan year 2012, the City made contributions of \$11.8 million for retroactive employee contributions with interest from the members' retroactive hire date in June 1999, through April of 2012. However, the actuarial accrued liabilities as of December 31, 2012 for the Lewis settlement group are approximately \$23.8 million, generating an overall loss of \$11.6 million.

Analysis of Actuarial Assumptions

Actuarial assumptions are used to project future demographic and economic expectations for purposes of valuing the liabilities of the plan. The assumptions should reflect current patterns. However, their primary orientation is the long-term outlook for each factor affecting the valuation.

SUMMARY OF VALUATION RESULTS (CONT'D)

Thus, while actual experience will fluctuate over the short run, actuarial assumptions are chosen in an attempt to model the future long-term experience.

There are two general types of actuarial assumptions:

1. Demographic Assumptions - reflect the flow of participants into and out of a retirement system, and
2. Economic Assumptions - reflect the effect of the economic climate on a retirement system.

Demographic assumptions can be readily studied over recent plan experience. Economic assumptions can be studied against recent experience; however, future experience is more likely to be a result of outside factors than of plan specifics. The most significant demographic assumptions are: active turnover, retirement, and post-retirement mortality. The most significant economic assumptions are: pay increases, investment return, and inflation. Other actuarial assumptions include: disability incidence, active mortality, and percent married.

Changes in Actuarial Assumptions & Methods

The valuation as of December 31, 2012, is based on the same assumptions and methods as the prior valuation. The assumptions used reflect the results of the experience study performed for the period from January 1, 2003, through December 31, 2010 and were first effective with the valuation as of December 31, 2011.

Asset Valuation Method

The method used to develop the Fund's Actuarial Value of Assets is as follows: In years when Fund assets earn above 8.0 percent (i.e., experience gain) or below 8.0 percent (i.e., experience loss) the gain (or loss) will be gradually recognized over five years. This approach both smoothes the Fund's level of actuarially determined contribution and insures the Fund's assets will track the market value of assets.

2012 Experience Analysis

Investment Return

The Fund had an investment gain in 2012 of \$59.6 million relative to the 8.0 percent expected rate of return on a market value basis. The loss on the Actuarial (Market-Related) Value of Assets relative to the 8.0 percent expected rate of return was \$100 million.

Pay Increase

The current salary increase assumption consists of a 4.25 percent base increase with an additional service-based increase. For the current continuing actives in both 2011 and 2012, the average salary increase was approximately 2.3 percent. This was 2.9 percentage points below our aggregate assumption of 5.2 percent resulting in an actuarial gain of approximately \$34 million, or 0.8 percent of total liabilities.

SUMMARY OF VALUATION RESULTS (CONT'D)

Other

The combination of retirements, disablements, and deaths resulted in a net actuarial loss of \$30.9 million. Gains and losses from all other sources, including new hires and data corrections, resulted in a net gain of \$0.9 million.

Conclusion

Overall, we believe the current set of assumptions is reasonable. Table 3 of Appendix 1 shows a more detailed development of the actuarial gains and losses for the plan years ending December 31, 2011, and December 31, 2012.

APPENDIX 1

RESULTS OF ACTUARIAL VALUATION

TABLE 1 SUMMARY

	<u>December 31, 2011</u>	<u>December 31, 2012</u>
<u>Assets</u>		
Market Value - Beginning of Year	\$ 1,106,078,177	\$ 993,773,549
<u>Income</u>		
Investment Income Net Expenses	\$ (22,433,671)	\$ 135,203,228
Employer Contributions	85,498,002	84,144,328
Employee Contributions	51,917,510	56,718,162
Miscellaneous	16,891	7,519
Subtotal	<u>\$ 114,998,732</u>	<u>\$ 276,073,237</u>
<u>Outgo (Refunds, Benefits, & Administration)</u>	<u>\$ 227,303,360</u>	<u>\$ 237,423,988</u>
Market Value - End of Year	\$ 993,773,549	\$ 1,032,422,798
Actuarial Value - End of Year	1,101,741,862	993,283,741
Book Value - End of Year	966,774,161	931,236,150
<u>Members</u>		
Active	4,842	4,740
Retirees	2,665	2,821
Survivors ²	1,354	1,359
Disabilities	370	348
Children	85	83
<u>Payroll Data</u>		
Valuation Payroll ¹	\$ 425,385,354	\$ 418,964,763
Average Salary	87,853	88,389

¹ The valuation payroll includes compensation for two ordinary disability participants. They continue to accrue benefit service and hence additional liability while on ordinary disability.

² Includes Widow, Compensation, and Parent Annuitants.

TABLE 1 (CONT'D)
SUMMARY

	<u>December 31,</u> <u>2011</u>	<u>December 31,</u> <u>2012</u>
<u>Actuarial Values</u>		
<u>Funding - State Basis</u>		
Actuarial Liability	\$3,898,899,224	\$4,066,343,811
Assets - Actuarial Value - Net	1,101,741,862	993,283,741
Unfunded Liability	2,797,157,362	3,073,060,070
Funded Ratio	28.26%	24.43%
Actuarially Required Total Contribution ¹	\$315,701,635	\$338,408,433
Deficiency in Required Contribution (est.)	187,289,833	189,560,042
Required Employer Contribution Multiple	7.47	6.52
<u>Termination Values</u>		
Liability	\$2,899,494,150	\$3,104,417,765
Deficiency	1,797,752,288	2,111,134,024
Quick Ratio	38.00%	32.00%
<u>GASB #25 and #43 Values</u>		
Actuarial Liability	\$3,898,899,224	\$4,066,343,811
Assets - Actuarial Value	1,101,741,862	993,283,741
Unfunded Liability	2,797,157,362	3,073,060,070
Funded Ratio	28.26%	24.43%
Annual Required Contribution (ARC) ²	275,781,387	299,091,592
<u>Market Values</u>		
Actuarial Liability	\$3,898,899,224	\$4,066,343,811
Assets - Market Value	993,773,549	1,032,422,798
Unfunded Liability	2,905,125,675	3,033,921,013
Funded Ratio	25.49%	25.39%

¹Includes projected employee contributions of \$39,920,248 for December 31, 2011, and \$39,316,841 for December 31, 2012.

²ARC is for the following fiscal year and equals the total ARC under GASB #25 and GASB #43. The 2013 ARC is \$294,877,895 for pension and \$4,213,697 for OPEB.

TABLE 2
DEVELOPMENT OF ANNUAL REQUIRED
CONTRIBUTION UNDER GASB #25 AND GASB #43 FOR 2013¹

	<u>Pension</u>	<u>Health Ins. Supplement</u>	<u>Total</u>
(1) Normal Cost	\$ 72,191,384	\$ 1,404,028	\$ 73,595,412
(2) Actuarial Accrued Liability (AAL)	\$ 4,020,137,920	\$ 46,205,891	\$ 4,066,343,811
(3) Unfunded AAL (UAAL)			
(a) Actuarial Value of Assets	\$ 993,283,741	\$ -	\$ 993,283,741
(b) UAAL [2-3(a)]	\$ 3,026,854,179	\$ 46,205,891	\$ 3,073,060,070
(4) Amortization (Level \$) Payable at Beginning of Year ²	\$ 248,951,563	\$ 2,714,499	\$ 251,666,062
(5) Actuarially Determined Contribution			
(a) Interest Adjustment for Semimonthly Payment	\$ 13,051,789	\$ 95,170	\$ 13,146,959
(b) Total Contribution [1+4+5(a)]; but not less than zero	\$ 334,194,736	\$ 4,213,697	\$ 338,408,433
(c) Total Contribution (Percent of Pay)	79.77%	1.00%	80.77%
(6) Estimated Member Contributions	\$ 39,316,841	\$ -	\$ 39,316,841
(7) Annual Required Contribution (ARC)			
(a) Annual Required Contribution [5(b)-6]	\$ 294,877,895	\$ 4,213,697	\$ 299,091,592
(b) Annual Required Contribution (Percent of Pay)	70.38%	1.01%	71.39%
(8) Estimated City Contribution (after 4% loss)	\$ 106,819,308	\$ 2,712,242 ³	\$ 109,531,550
(9) City Contribution Deficiency/(Excess)			
(a) in Dollars [(7(a)-8)]	\$ 188,058,587	\$ 1,501,455	\$ 189,560,042
(b) as a Percentage of Pay	44.89%	0.35%	45.24%
(10) Combined City/Member Contributions Deficiency/(Excess)			
(a) in Dollars [5(b)-6-8]	\$ 188,058,587	\$ 1,501,455	\$ 189,560,042
(b) as a Percentage of Pay	44.89%	0.35%	45.24%

¹ Pension liabilities were discounted at 8.0% per year, and OPEB liabilities were discounted at 4.5% per year.

² Pension and Healthcare UAAL are amortized over a 30-year period.

³ Represents expected health insurance supplemental benefits for 2013.

TABLE 2B
ACTIVE ACCRUED LIABILITY AND NORMAL COST BY TIER
AS OF DECEMBER 31, 2013

	<u>Tier 1 Members</u>	<u>Tier 2 Members</u>	<u>Total</u>
(1) Count	4,689	51	4,740
(2) Payroll	\$ 416,389,773	\$ 2,574,990	\$ 418,964,763
(3) Average Payroll	\$ 88,801	\$ 50,490	\$ 88,389
(4) Actuarial Accrued Liability (AAL) ¹	\$ 4,066,294,764	\$ 49,047	\$ 4,066,343,811
(5) Normal Cost	\$ 73,122,566	\$ 472,846	\$ 73,595,412
(6) Normal Cost as a Percent of Pay	17.6%	18.4%	17.6%
(7) Estimated Member Contributions	\$ 39,074,541	\$ 242,300	\$ 39,316,841
(8) Net Normal Cost	\$ 34,048,025	\$ 230,546	\$ 34,278,571
(9) Net Normal Cost as a Percent of Pay	8.2%	9.0%	8.2%

¹ The normal cost and liabilities for healthcare are based on a discount rate of 4.5%.

TABLE 3
RECONCILIATION OF UNFUNDED LIABILITY

	2011	2012
<u>(1) Unfunded Actuarial Accrued Liability - Beginning of Year</u>	\$2,505,134,046	\$2,797,157,362
(2) Gains (Losses) During the Year Attributable to:		
Employer Cost in Excess of Contributions	(137,833,108)	(168,392,809)
Gain (Loss) on Investment Return	(102,693,719)	(99,980,377)
Gain (Loss) from Salary Changes	43,535,222	34,030,459
Gain (Loss) from Demographic Assumptions	(14,434,661)	(30,886,665)
Gain (Loss) from Assumption Changes	(47,816,880)	-
Gain (Loss) from Programming Changes	(10,142,608)	-
Gain (Loss) from All Other Sources	(22,637,562)	924,343
Total Actuarial Gain (Loss) excluding Lewis Group	\$ (292,023,316)	\$ (264,305,049)
Gain (Loss) from Lewis Lawsuit	\$ -	\$ (11,597,659)
Total Actuarial Gain (Loss)	\$ (292,023,316)	\$ (275,902,708)
<u>(3) Unfunded Actuarial Accrued Liability - End of Year (1)-(2)</u>	\$2,797,157,362	\$3,073,060,070

TABLE 4
SUMMARY OF BASIC ACTUARIAL VALUES

	APV of Projected Benefits	Actuarial Accrued Liability (AAL)
<u>(1) Values for Active Members</u>	\$2,346,056,121	\$1,606,555,976
<u>(2) Values for Inactive Members</u>		
(a) Retired	1,893,192,333	1,893,192,333
(b) Spouse Annuitants	178,569,530	178,569,530
(c) Compensation Widows	62,063,098	62,063,098
(d) Ordinary Disability	509,062	509,062
(e) Occupational Disease Disability	103,712,965	103,712,965
(f) Duty Disability	197,924,905	197,924,905
(g) Inactive (Deferred Vested)	16,833,800	16,833,800
(h) Children	6,890,173	6,890,173
(i) Parent Annuitants	91,969	91,969
Total for Inactives	\$2,459,787,835	\$2,459,787,835
<u>(3) Grand Totals</u>	\$4,805,843,956	\$4,066,343,811
<u>(4) Normal Cost for Active Members</u>	\$ 73,595,412	
<u>(5) Actuarial Present Value of Future Compensation</u>	\$4,188,274,596	

TABLE 5
HISTORY OF RECOMMENDED EMPLOYER MULTIPLES

Year of Report	Statutory Multiple	Normal Cost Plus Interest	Normal Cost Plus Amortization ⁶	
			Level \$	Level % of Salary
1986 ¹	2.26	4.70	4.86	3.71
1987 ¹	2.26	4.39	4.54	3.47
1988	2.26	4.53	4.68	3.58
1989 ^{1,2}	2.26	4.39	4.52	3.41
1990 ^{1,2}	2.26	4.41	4.55	3.43
1991	2.26	4.55	4.69	3.53
1992 ²	2.26	4.75	4.89	3.69
1993 ²	2.26	4.89	5.03	3.81
1994 ^{1,2}	2.26	4.92	5.09	3.71
1995 ²	2.26	5.16	5.33	3.78
1996	2.26	5.02	5.19	3.78
1997 ^{1,2,3}	2.26	3.95	4.08	3.00
1998 ^{2,4}	2.26	4.31	4.22	2.91
1999	2.26	3.56	3.49	2.41
2000 ¹	2.26	4.39	4.30	2.99
2001 ⁴	2.26	4.61	4.44	3.12
2002	2.26	4.07	4.19	2.93
2003 ^{1,2}	2.26	4.90	5.08	3.18
2004 ^{2,5}	2.26	4.99	5.19	3.22
2005 ^{1,7}	2.26	4.35	4.54	3.09
2006	2.26	5.14	5.61	4.05
2007 ⁵	2.26	4.93	5.39	3.89
2008	2.26	5.24	5.72	4.13
2009	2.26	5.70	6.24	4.47
2010	2.26	6.35	6.94	4.98
2011 ¹	2.26	6.81	7.47	5.30
2012	2.26	5.94	6.52	4.60

¹ Change in actuarial assumptions.

² Change in benefits.

³ Change in asset valuation method to GASB.

⁴ Change in actuary.

⁵ To reflect long term funding requirements, we have excluded \$10,182,825 and \$3,229,938 from the 2003 and 2006 employee contributions in the calculation of the respective recommended multiples. This amount is employee contributions for the retroactive pay increases.

⁶ Prior to 2005, 40-year amortization used. In 2005, OPEB based on 30-year amortization and pension on 40-year amortization. In 2006, 30-year amortization used for both pension and OPEB.

⁷ There was a significant decrease in the multiple from 2004 to 2005. This change is primarily due to the significant increase in employee contributions.

TABLE 6
ORDINARY DEATH BENEFIT RESERVE

ASSETS

Fund Balance	\$ (14,403,025)
Present Values of Future Contributions:	
Contributions by Members at \$30.00 a Year	1,435,995
Annual City Contribution of \$142,000	1,433,975
Unfunded Liability	26,144,557
TOTAL ASSETS	\$ 14,611,502

LIABILITIES

Present Value of Future Death Benefits (3%, Plan Mortality Basis)	
Active Members	3,142,938
Retired Members	11,468,564
TOTAL LIABILITIES	\$ 14,611,502

Note: Benefits are also included in the accrued liability and valued using the actuarial assumptions.

TABLE 7
SUMMARY OF RESERVES

	<u>2011</u>	<u>2012</u>
Prior Service Annuity Reserve	\$ 1,546,305,851	\$ 1,725,238,142
City Contribution Reserve	754,343,760	762,458,771
Annuity Payment Reserve	748,377,216	840,330,236
Salary Deduction Reserve	622,803,838	629,088,540
Death Benefit Reserve	(13,367,531)	(14,403,025)
Ordinary Disability Reserve	242,722	301,100
Supplementary Payment Reserve	233,884	151,057
Gift Reserve	4,836,392	5,649,180
Reserve (Deficit)	<u>(2,670,002,583)</u>	<u>(2,916,391,203)</u>
Total Net Assets for Pension Benefits (Market Value)	\$ 993,773,549	\$ 1,032,422,798

TABLE 8
ACTUARIAL ACCRUED LIABILITY
PRIORITIZED SOLVENCY TEST

Valuation Date 12/31	(1)	(2)	(3)	Actuarial Value of Assets	Portion (%) of Present Value Covered by Assets		
	Active Member Contributions	Retirees and Beneficiaries	Active Members (ER Financed Portion)		(1)	(2)	(3)
1993 ^b	\$247,328,526	\$ 652,460,861	\$401,268,935	\$ 680,145,547	100.00%	66.34%	0.00%
1994	231,721,857	820,223,870	388,977,064	712,992,314	100.00%	58.68%	0.00%
1995 ^b	284,613,679	890,790,702	356,835,156	787,000,898	100.00%	56.40%	0.00%
1996	302,854,182	928,790,813	344,144,574	845,432,187	100.00%	58.42%	0.00%
1997 ^{a,b}	320,757,406	992,967,015	326,296,251	978,313,319	100.00%	66.22%	0.00%
1998 ^{b,c}	335,026,373	1,075,922,284	372,620,521	1,066,891,190	100.00%	68.02%	0.00%
1999	357,739,707	1,146,375,517	375,551,644	1,145,215,019	100.00%	68.69%	0.00%
2000 ^a	354,336,276	1,279,911,268	419,092,931	1,219,486,962	100.00%	67.59%	0.00%
2001 ^c	379,067,821	1,294,672,267	394,977,813	1,245,129,955	100.00%	66.89%	0.00%
2002	394,531,369	1,329,341,162	364,833,686	1,209,768,204	100.00%	61.33%	0.00%
2003 ^{a,b}	422,940,367	1,458,548,217	635,779,523	1,194,007,767	100.00%	52.87%	0.00%
2004 ^b	443,541,204	1,588,594,240	761,388,911	1,182,578,954	100.00%	46.52%	0.00%
2005 ^a	467,820,652	1,686,377,622	728,737,443	1,203,654,052	100.00%	43.63%	0.00%
2006	501,048,807	1,766,921,009	865,171,711	1,264,497,434	100.00%	43.21%	0.00%
2007	530,027,472	1,859,630,135	873,313,282	1,374,960,353	100.00%	45.44%	0.00%
2008	563,953,942	1,891,673,504	902,950,885	1,335,695,474	100.00%	40.80%	0.00%
2009	581,786,867	2,004,957,552	890,026,376	1,269,231,178	100.00%	34.29%	0.00%
2010	614,377,840	2,069,533,040	1,019,336,955	1,198,113,789	100.00%	28.21%	0.00%
2011 ^a	637,938,254	2,261,555,896	999,405,074	1,101,741,862	100.00%	20.51%	0.00%
2012	644,629,930	2,459,787,835	961,926,046	993,283,741	100.00%	14.17%	0.00%

^a Change in actuarial assumptions.

^b Change in benefits.

^c Change in actuary.

APPENDIX 2

ASSETS OF THE PLAN

ASSETS OF THE PLAN

The book value of the plan assets, net of accounts payable, decreased from \$967 million as of December 31, 2011, to \$931 million as of December 31, 2012. The market value of the plan assets increased from \$994 million as of December 31, 2011, to \$1,032 million as of December 31, 2012. Table 9 details the reconciliation of asset values during 2012 and Table 10 shows the development of the actuarial value of assets as of December 31, 2012.

TABLE 9
RECONCILIATION OF ASSET VALUES
AS OF DECEMBER 31, 2012

	Market Value	Book Value
1. Value of assets as of 12/31/2011	\$ 993,773,549	\$ 966,774,161
2. Income for plan year:		
a) Member contributions	\$ 56,718,162	\$ 56,718,162
b) City contributions	84,144,328	84,144,328
c) Investment income net of expenses	135,203,228	61,015,968
d) Miscellaneous revenue	7,519	7,519
e) Total income	\$ 276,073,237	\$ 201,885,977
3. Disbursements for plan year:		
a) Benefit payments		
i) Pension	\$ 228,585,731	\$ 228,585,731
ii) OPEB	2,622,445	2,622,445
iii) Total	231,208,176	231,208,176
b) Refunds	2,631,674	2,631,674
c) Administration	3,584,138	3,584,138
d) Total disbursements	\$ 237,423,988	\$ 237,423,988
4. Value of assets as of 12/31/2012	\$ 1,032,422,798	\$ 931,236,150
5. Approximate rate of return in 2012:		
a) Gross (Investment expense of \$6,311,832)	14.97%	7.33%
b) Net of investment expense	14.30%	6.64%

Method used for calculating approximate rate of return does not reflect specific timing of income and outflows. It is also based on total assets, not invested assets.

The assets provided by the Fund are still in draft form pending finalization of alternative investment balances. The Fund and their auditor do not anticipate a material change in the asset value.

TABLE 10
DEVELOPMENT OF ACTUARIAL (MARKET-RELATED)
VALUE OF ASSETS
AS OF DECEMBER 31, 2012

1. Expected Return on Market Value of Assets

- a) Market value of assets as of 12/31/2011 \$ 993,773,549
b) Actual income and disbursements in year ending 12/31/2012 weighted for timing

Item	Amount	Weight for Timing	Weighted Amount
i) Member contributions	\$ 56,718,162	50.0%	\$ 28,359,081
ii) City contributions	84,144,328	50.0%	42,072,164
iii) Miscellaneous revenue	7,519	50.0%	3,760
iv) Benefit payments	(231,208,176)	50.0%	(115,604,088)
v) Refunds	(2,631,674)	50.0%	(1,315,837)
vi) Administration	(3,584,138)	50.0%	(1,792,069)
vii) Total	\$ (96,553,979)		\$ (48,276,989)

- c) Market value of assets adjusted for actual income and disbursements [(a) + (b)(vii)] \$ 945,496,560
d) Assumed rate of return on plan assets for the year 8.00%
e) Expected return [(c) * (d)] \$ 75,639,725

2. Actual Return on Market Value of Assets for Year Ending 12/31/2012

- a) Market value of assets as of 12/31/2011 \$ 993,773,549
b) Income (less investment income) for year ending 12/31/2012 140,870,009
c) Disbursements paid in year ending 12/31/2012 237,423,988
d) Market value of assets as of 12/31/2012 1,032,422,798
e) Actual return [(d) + (c) - (b) - (a)] 135,203,228

3. Investment Gain/(Loss) for Year Ending 12/31/2012 [2(e) - 1(e)]

\$ 59,563,503

4. Actuarial Value of Assets as of 12/31/2012

- a) Market value of assets as of 12/31/2012 \$ 1,032,422,798
b) Deferred investment gains and (losses) for last 5 years

	Plan Year	Gain/(Loss)	Percent Deferred	Deferred Amount
i)	2008	\$ (598,802,772)	0.00%	\$ 0
ii)	2009	138,273,497	20.00%	27,654,699
iii)	2010	70,571,520	40.00%	28,228,608
iv)	2011	(107,325,087)	60.00%	(64,395,052)
v)	2012	59,563,503	80.00%	47,650,802
vi)	Total	\$ (437,719,339)		\$ 39,139,057

- c) Actuarial Value of Assets \$ 993,283,741

Note: Beginning with the December 31, 1998, valuation, the calculated value is determined by adjusting the market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last 5 years at the rate of 20% per year.

APPENDIX 3

DATA REFLECTING PLAN MEMBERS

EXHIBIT A
SUMMARY OF CHANGES IN ACTIVE PARTICIPANTS
FOR FISCAL YEAR ENDING DECEMBER 31, 2012

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Number of Participants at Beginning of Fiscal Year ¹	4,535	303	4,838
Increases:			
Participants Added During Year ²	135	21	156
Participants Returning From Inactive or Disability Status	11	3	14
Totals	4,681	327	5,008
Decreases:			
Terminations During Year	259	11	270
Number of Participants at End of Fiscal Year	4,422	316	4,738
Total Inactive Participants			60
<u>Terminations:</u>			
Withdrawal (With Refunds) ³	4	0	4
Withdrawal (Without Refunds)	13	1	14
Ordinary Disability Benefit	0	0	0
Occupational Disease Disability Benefit	9	3	12
Duty Disability Benefit	14	2	16
Retirements	211	5	216
Deaths (Occupational)	0	0	0
Deaths (Non-occupational)	8	0	8
Totals	259	11	270

¹Includes three active members reclassified as female.

²Includes 102 males and 3 females from the Lewis settlement with 13.5 years of service as of December 31, 2012.

³This total differs from the total of 9 shown in Exhibit D due to the fact that only 4 of the refunds were paid to participants who were considered to be active as of December 31, 2011.

EXHIBIT B
SUMMARY OF CHANGES IN ANNUITANTS AND BENEFICIARIES
FOR FISCAL YEAR ENDING DECEMBER 31, 2012

	<u>Number at Beginning of Year</u>	<u>Additions During Year</u>	<u>Terminations During Year</u>	<u>Number at End of Year</u>
Service Retirement Annuities	2,665	275	119	2,821
Widow Annuities	1,253	79	72	1,260
Children's Annuities	85	7	9	83
Parent Annuities	1	0	0	1
Ordinary Disability Benefit (Non-Occupational)	4	0	2	2
Occupational Disease Disability Benefit	121	13	18	116
Duty Disability Benefit (Occupational)	249	17	34	232
Widows' Compensation Annuities (Service Connected Death)	100	2	4	98
Totals	<u>4,478</u>	<u>393</u>	<u>258</u>	<u>4,613</u>

EXHIBIT C
PART I – TOTAL LIVES AND ANNUAL SALARIES OF ACTIVE MALE PARTICIPANTS
CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2012

AGE	Years of Service										Total	Annual Salary
	Under 1 year	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 and over			
Under 20											0	\$ 0
20 to 24											0	0
25 to 29	9	157	4								170	12,391,284
30 to 34	454,410	11,604,900	331,974								281	20,883,312
35 to 39	14	206	53	8							587	46,902,540
40 to 44	706,860	15,135,498	4,353,726	687,228							829	68,277,906
45 to 49	8	136	170	195	78						950	85,160,064
50 to 54	403,920	10,072,044	13,515,420	16,066,926	6,844,230						960	92,321,040
55 to 59	2	27	238	334	214	14					552	56,343,018
60 to 64	100,980	1,971,726	18,755,598	27,321,738	18,799,716	1,328,148					92	9,052,878
65 and over		1	163	195	200	255	136				1	112,206
W/O DOB		68,382	12,837,132	15,808,422	17,484,534	24,544,056	14,417,538				0	0
		1	64	90	163	294	217	129	2		0	0
		75,372	5,035,446	7,327,542	14,042,142	28,257,948	22,712,496	14,651,250	218,844		0	0
			17	20	52	115	100	226	22		0	0
			1,336,608	1,634,934	4,464,990	10,681,758	10,324,962	25,098,678	2,801,088		0	0
			3	6	10	13	23	33	4		0	0
			236,184	503,484	823,974	1,241,442	2,252,346	3,491,484	503,964		0	0
						1					0	0
						112,206					0	0
Total Active	33	528	712	848	717	692	476	388	28	4,422		
Annual Salary¹	\$1,666,170	\$38,927,922	\$56,402,088	\$69,350,274	\$62,459,586	\$66,165,558	\$49,707,342	\$43,241,412	\$3,523,896		\$ 391,444,248	

¹ The number of participants and annual salary listed includes information on active participants only. Hence, information on the 1 male ordinary disability participant, who continues to earn benefit service, is not included in this exhibit.

EXHIBIT C
PART II – TOTAL LIVES AND ANNUAL SALARIES OF ACTIVE FEMALE PARTICIPANTS
CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2012

AGE	Years of Service									Total	Annual Salary
	Under 1 year	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 and over		
Under 20										0	\$ 0
20 to 24										0	0
25 to 29	4	9								13	849,108
	201,960	647,148									
30 to 34	11	12	11	2						36	2,453,718
	555,390	858,192	871,884	168,252							
35 to 39	3	11	12	21						47	3,650,184
	151,470	820,716	957,156	1,720,842							
40 to 44		5	16	17	9	2				49	4,039,500
		362,190	1,257,588	1,429,320	802,530	187,872					
45 to 49			10	16	14	28	9			77	7,161,240
			783,924	1,380,348	1,241,094	2,689,716	1,066,158				
50 to 54			5	6	11	24	15	3		64	6,248,454
			384,396	556,446	958,026	2,295,054	1,712,304	342,228			
55 to 59			2	2	3	6	11	1	1	26	2,552,406
			150,744	173,028	259,506	579,246	1,113,480	147,438	128,964		
60 to 64						3		1		4	410,202
						283,800		126,402			
65 and over										0	0
W/O DOB										0	0
Total Active	18	37	56	64	37	63	35	5	1	316	
Annual Salary¹	\$908,820	\$2,688,246	\$4,405,692	\$5,428,236	\$3,261,156	\$6,035,688	\$3,891,942	\$616,068	\$128,964		\$ 27,364,812

¹ The number of participants and annual salary listed includes information on active participants only. Hence, information on the 1 female ordinary disability participant, who continues to earn benefit service, is not included in this exhibit.

EXHIBIT C
PART III – TOTAL LIVES AND ANNUAL SALARIES OF ALL ACTIVE PARTICIPANTS
CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2012

AGE	Years of Service									Total	Annual Salary
	Under 1 year	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 and over		
Under 20										0	\$ 0
20 to 24										0	0
25 to 29	13 656,370	166 12,252,048	4 331,974							183	13,240,392
30 to 34	25 1,262,250	218 15,993,690	64 5,225,610	10 855,480						317	23,337,030
35 to 39	11 555,390	147 10,892,760	182 14,472,576	216 17,787,768	78 6,844,230					634	50,552,724
40 to 44	2 100,980	32 2,333,916	254 20,013,186	351 28,751,058	223 19,602,246	16 1,516,020				878	72,317,406
45 to 49		1 68,382	173 13,621,056	211 17,188,770	214 18,725,628	283 27,233,772	145 15,483,696			1,027	92,321,304
50 to 54		1 75,372	69 5,419,842	96 7,883,988	174 15,000,168	318 30,553,002	232 24,424,800	132 14,993,478	2 218,844	1,024	98,569,494
55 to 59			19 1,487,352	22 1,807,962	55 4,724,496	121 11,261,004	111 11,438,442	227 25,246,116	23 2,930,052	578	58,895,424
60 to 64			3 236,184	6 503,484	10 823,974	16 1,525,242	23 2,252,346	34 3,617,886	4 503,964	96	9,463,080
65 and over						1 112,206				1	112,206
W/O DOB										0	0
Total Active	51	565	768	912	754	755	511	393	29	4,738	
Annual Salary¹	\$2,574,990	\$41,616,168	\$60,807,780	\$74,778,510	\$65,720,742	\$72,201,246	\$53,599,284	\$43,857,480	\$3,652,860		\$ 418,809,060

¹ The number of participants and annual salary listed includes information on active participants only. Hence, information on the 2 ordinary disability participants, who continue to earn benefit service, is not included in this exhibit.

EXHIBIT D - PART I
NUMBER OF REFUND PAYMENTS MADE
DURING YEAR TO MALE EMPLOYEES
FOR FISCAL YEAR ENDING DECEMBER 31, 2012 ¹

Age at Date of Refund	Length of Service at Date of Refund						Total
	Under 1 Year	Between 1 and 2	Between 2 and 3	Between 3 and 4	Between 4 and 5	5 and over	
Without Record							0
Under 20	2						2
20 to 24							0
25 to 29				1			1
30 to 34							0
35 to 39						2	2
40 to 44						2	2
45 to 49						1	1
50 to 54							0
55 to 59							0
60 & over							0
Totals	2	0	0	1	0	5	8

¹ Includes only the actual number of refunds paid or accrued during fiscal year reported.

**EXHIBIT D - PART II
NUMBER OF REFUND PAYMENTS MADE
DURING YEAR TO FEMALE EMPLOYEES
FOR FISCAL YEAR ENDING DECEMBER 31, 2012 ¹**

Age at Date of Refund	Length of Service at Date of Refund						Total
	Under 1 Year	Between 1 and 2	Between 2 and 3	Between 3 and 4	Between 4 and 5	5 and over	
Without Record							0
Under 20							0
20 to 24							0
25 to 29							0
30 to 34							0
35 to 39							0
40 to 44						1	1
45 to 49							0
50 to 54							0
55 to 59							0
60 & over							0
Totals	0	0	0	0	0	1	1

¹ Includes only the actual number of refunds paid or accrued during fiscal year reported.

EXHIBIT E
STATISTICS ON SERVICE RETIREMENT ANNUITIES
CLASSIFIED BY AGE AS OF DECEMBER 31, 2012

AGE	MALE		FEMALE		TOTAL	
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 50	2	\$ 12,595	0	\$ 0	2	\$ 12,595
50	2	103,058	1	10,259	3	113,317
51	8	415,690	1	53,514	9	469,204
52	8	349,242	0	0	8	349,242
53	12	785,795	2	62,835	14	848,630
54	31	1,722,626	2	101,317	33	1,823,943
55	51	3,547,963	1	93,238	52	3,641,201
56	64	4,361,289	5	391,573	69	4,752,862
57	59	4,151,096	5	258,997	64	4,410,093
58	105	8,155,190	6	275,794	111	8,430,984
59	107	7,703,874	1	70,628	108	7,774,502
60	108	7,608,862	3	163,747	111	7,772,609
61	93	6,826,196	1	5,700	94	6,831,896
62	89	6,339,407	3	182,768	92	6,522,175
63	95	6,715,559	3	185,186	98	6,900,745
64	76	5,273,551	0	0	76	5,273,551
65	98	7,245,827	3	209,665	101	7,455,492
66	108	7,999,465	1	49,362	109	8,048,827
67	76	5,397,480	1	60,965	77	5,458,445
68	72	4,943,927	2	95,844	74	5,039,771
69	94	6,632,501	1	60,457	95	6,692,958
70	130	9,493,816	2	102,971	132	9,596,787
71	116	8,073,653	0	0	116	8,073,653
72	118	7,609,257	0	0	118	7,609,257
73	70	4,693,464	1	84,681	71	4,778,145
74	68	4,340,162	0	0	68	4,340,162
75	55	3,369,227	1	52,929	56	3,422,156
76	95	5,985,486	0	0	95	5,985,486
77	70	4,430,867	0	0	70	4,430,867
78	64	4,370,744	0	0	64	4,370,744
79	69	4,195,131	0	0	69	4,195,131
80	69	4,273,911	0	0	69	4,273,911
81	91	5,052,987	0	0	91	5,052,987
82	75	3,947,298	0	0	75	3,947,298
83	64	3,142,159	0	0	64	3,142,159
84	50	2,434,738	0	0	50	2,434,738
85+	213	8,694,035	0	0	213	8,694,035
Totals	2,775	\$180,398,128	46	\$2,572,430	2,821	\$182,970,558

EXHIBIT F
STATISTICS ON WIDOW'S ANNUITIES
CLASSIFIED BY AGE AS OF DECEMBER 31, 2012

Age	No. ¹	Annual Payments	Age	No. ¹	Annual Payments
Under 30	0	\$ 0	58	11	\$ 303,182
30	0	0	59	9	214,678
31	0	0	60	9	251,792
32	0	0	61	7	180,190
33	0	0	62	19	387,389
34	0	0	63	7	155,122
35	1	20,275	64	14	312,960
36	0	0	65	21	491,807
37	0	0	66	21	516,283
38	1	20,888	67	17	410,189
39	1	25,183	68	21	502,224
40	0	0	69	29	710,761
41	1	13,675	70	32	816,157
42	0	0	71	33	797,756
43	0	0	72	27	700,579
44	0	0	73	38	841,332
45	2	39,566	74	45	1,117,154
46	3	54,237	75	34	758,034
47	1	24,884	76	50	1,020,780
48	7	175,939	77	43	894,471
49	6	108,243	78	39	839,238
50	6	123,820	79	50	1,006,229
51	9	193,493	80	55	1,055,241
52	2	38,978	81	52	934,704
53	5	127,380	82	64	1,122,577
54	9	167,002	83	60	1,014,512
55	9	186,584	84	46	728,934
56	9	203,138	85+	328	4,887,188
57	7	173,522			
			Total	1,260	\$24,668,270

¹Excludes Parent Annuitants and Compensation Annuitants.

EXHIBIT G
STATISTICS ON MISCELLANEOUS ANNUITIES
FOR FISCAL YEAR ENDING DECEMBER 31, 2012

	<u>No.</u>	<u>Annual Payments</u>
Children's Annuities	83	861,823
Widows' Compensation Annuities	98	6,518,222
Ordinary Disability Benefits	2	77,851
Occupational Disease Disability Benefits	116	7,081,494
Duty Disability Benefits	232	13,368,425
Parent Annuities	<u>1</u>	<u>13,567</u>
Totals	532	\$27,921,382

EXHIBIT H – PART I
MALE PARTICIPANTS RECEIVING DUTY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

ATTAINED AGE	Length of Service as of December 31, 2012												Total	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		No.	Annual Payments
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39					2	115,750							2	115,750
40 to 44			1	43,911	5	274,167	3	181,700					9	499,778
45 to 49			1	40,415	1	37,686	4	210,012	4	263,451	3	211,459	13	763,023
50 to 54			4	140,082	8	335,474	9	428,196	11	620,274	18	1,261,177	50	2,785,203
55 to 59			2	67,419	4	157,044	12	531,005	6	302,220	50	3,557,628	74	4,615,316
60 & over			1	35,874	6	235,566	6	242,292	5	245,175	28	1,896,139	46	2,655,046
Totals	0	\$ 0	9	\$ 327,701	26	\$ 1,155,687	34	\$ 1,593,205	26	\$ 1,431,120	99	\$ 6,926,403	194	\$ 11,434,116

EXHIBIT H – PART II
FEMALE PARTICIPANTS RECEIVING DUTY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

ATTAINED AGE	Length of Service as of December 31, 2012												Total	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		No.	Annual Payments
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44							1	57,620					1	57,620
45 to 49			1	35,874	1	49,587	3	162,539	2	117,765	1	84,090	8	449,855
50 to 54			2	75,312	2	90,282	2	106,041	4	221,102	2	174,547	12	667,284
55 to 59					3	122,508	5	202,589	2	127,525			10	452,622
60 & over					2	78,522	3	128,204			2	100,202	7	306,928
Totals	0	\$ 0	3	\$ 111,186	8	\$ 340,899	14	\$ 656,993	8	\$ 466,392	5	\$ 358,839	38	\$ 1,934,309

EXHIBIT I – PART I
MALE PARTICIPANTS RECEIVING ORDINARY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

ATTAINED AGE	Length of Service as of December 31, 2012												Total	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44													0	0
45 to 49									1	44,109			1	44,109
50 to 54													0	0
55 to 59													0	0
60 & over													0	0
Totals	0	\$ 0	0	\$ 0	0	\$ 0		\$ 0	1	\$ 44,109	0	\$ 0	1	\$ 44,109

EXHIBIT I – PART II
FEMALE PARTICIPANTS RECEIVING ORDINARY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

ATTAINED AGE	Length of Service as of December 31, 2012												Total	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													0	\$ 0
30 to 34					1	33,742							1	33,742
35 to 39													0	0
40 to 44													0	0
45 to 49													0	0
50 to 54													0	0
55 to 59													0	0
60 & over													0	0
Totals	0	\$ 0	0	\$ 0	1	\$ 33,742		\$ 0		\$ 0	0	\$ 0	1	\$ 33,742

EXHIBIT J – PART I
MALE PARTICIPANTS RECEIVING OCCUPATIONAL DISEASE DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

ATTAINED AGE	Length of Service as of December 31, 2012												Total	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44													0	0
45 to 49							3	157,526	1	59,910	1	50,723	5	268,159
50 to 54	3	230,488					2	79,184	3	146,965	10	625,405	18	1,082,042
55 to 59	5	378,167					4	169,316	2	98,341	45	2,812,791	56	3,458,615
60 & over	2	139,673							2	96,525	23	1,411,329	27	1,647,527
Totals	10	\$ 748,328	0	\$ 0	0	\$ 0	9	\$ 406,026	8	\$ 401,741	79	\$ 4,900,248	106	\$ 6,456,343

EXHIBIT J – PART II
FEMALE PARTICIPANTS RECEIVING OCCUPATIONAL DISEASE DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

ATTAINED AGE	Length of Service as of December 31, 2012												Total	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44													0	0
45 to 49							1	42,121					1	42,121
50 to 54	2	122,608									1	56,410	3	179,018
55 to 59	1	84,254									1	76,387	2	160,641
60 & over					1	42,446	1	42,580			2	158,345	4	243,371
Totals	3	\$ 206,862	0	\$ 0	1	\$ 42,446	2	\$ 84,701		\$ 0	4	\$ 291,142	10	\$ 625,151

EXHIBIT K
HISTORY OF AVERAGE ANNUAL SALARIES

Year End	Members in Service ¹	Current Year			Average		Actuarial Assumptions	CPI Chicago
		Increase	Salary	Increase	Salary	Increase		
1983	5,294	9.5 %	162,697,584	20.8 %	30,732	10.3 %	6.0%	4.0 %
1984	5,147	(2.8)%	160,434,312	(1.4)%	31,170	1.4 %	6.0%	3.8 %
1985	5,047	(1.9)%	157,426,898	(1.9)%	31,192	0.1 %	6.0%	3.8 %
1986	5,103	1.1 %	176,451,816	12.1 %	34,578	10.9 %	6.0%	2.1 %
1987	5,183	1.6 %	186,840,432	5.9 %	36,049	4.3 %	6.0%	4.1 %
1988	5,233	1.0 %	188,093,568	0.7 %	35,944	(0.3)%	6.0%	3.9 %
1989	5,231	0.0 %	194,241,480	3.3 %	37,133	3.3 %	6.0%	5.0 %
1990	5,337	2.0 %	211,869,720	9.1 %	39,698	6.9 %	6.0%	5.4 %
1991	5,323	(0.3)%	227,649,000	7.4 %	42,767	7.7 %	6.0%	4.0 %
1992	5,204	(2.2)%	223,578,000	(1.8)%	42,963	0.5 %	6.0%	3.0 %
1993	5,124	(1.5)%	221,600,136	(0.9)%	43,247	0.7 %	6.0%	3.0 %
1993 ²	4,710	(8.1)%	202,080,072	(8.8)%	42,904	(0.8)%	6.0%	3.0 %
1994	4,753	0.9 %	226,703,496	12.2 %	47,697	11.2 %	6.0%	2.2 %
1995	4,678	(1.6)%	228,604,584	0.8 %	48,868	2.5 %	6.0%	3.2 %
1996	4,806	2.7 %	233,033,832	1.9 %	48,488	(0.8)%	6.0%	2.7 %
1997	4,856	1.0 %	234,726,936	0.7 %	48,338	(0.3)%	5.0%	2.7 %
1998	4,783	(1.5)%	262,248,978	11.7 %	54,829	13.4 %	5.0%	1.5 %
1999	4,855	1.5 %	271,335,540	3.5 %	55,888	1.9 %	5.0%	2.6 %
2000	4,878	0.5 %	275,106,756	1.4 %	56,397	0.9 %	5.0%	4.0 %
2001	4,930	1.1 %	277,964,912	1.0 %	56,382	0.0 %	5.0%	0.8 %
2002	4,910	(0.4)%	277,053,144	(0.3)%	56,426	0.1 %	5.0%	2.5 %
2003	4,909	0.0 %	335,170,501	21.0 %	68,277	21.0 %	5.0%	1.7 %
2004	4,856	(1.1)%	334,423,753	(0.2)%	68,868	0.9 %	5.0%	2.2 %
2005	4,999	2.9 %	341,252,492	2.0 %	68,264	(0.9)%	5.0%	3.6 %
2006	5,078	1.6 %	387,442,074	13.5 %	76,298	11.8 %	5.0%	0.7 %
2007	4,938	(2.8)%	388,881,954	0.4 %	78,753	3.2 %	5.0%	4.7 %
2008	5,037	2.0 %	396,181,778	1.9 %	78,654	(0.1)%	5.0%	(0.6)%
2009	5,137	2.0 %	400,912,173	1.2 %	78,044	(0.8)%	5.0%	2.5 %
2010	5,052	(1.7)%	400,404,320	(0.1)%	79,257	1.6 %	5.0%	1.2 %
2011	4,842	(4.2)%	425,385,354	6.2 %	87,853	10.8 %	5.0%	2.1 %
2012 ³	4,740	(2.1)%	418,964,763	(1.5)%	88,389	0.6 %	5.0%	1.7 %
Average Increase (Decrease) for the last 5 years:		(0.8)%		1.5 %		2.4 %		1.4 %

¹ Includes those members who were on disability through 1993.

² Restated without disabilities for comparison. Percent increases (decreases) are based on change from with disabilities in 1993 to without disabilities in 1994.

³ Average annual increase in average salary 1983-2012, is about 3.6% compounded. The average annual increase in the Chicago CPI for the same period is about 2.8% compounded.

EXHIBIT L
NEW ANNUITIES GRANTED DURING 2012

	Annuitants	Widows/ Widowers of Deceased Employees²	Widows/ Widowers of Deceased Annuitants	Compensation Widows/ Widowers³
Number retired/deceased	275	7	72	2
Average age attained [Employee]	58.5	50.0	78.3	57.5
Average length of service	30.4	20.3	49.9	25.5
Average spouse age	56.6	50.8	74.1	56.3
Average annual salary [4 out of 10]	\$ 103,819	N/A	N/A	N/A
Average annual final salary	\$ 105,941	N/A	N/A	N/A
Total annual annuity	\$ 20,810,554	216,406	2,145,409	156,444
Average annual annuity	\$ 75,675	30,915	29,797	78,222
Total statutory liability	\$ 359,697,011	3,619,191	17,812,725	3,354,049
Average liability	\$ 1,307,989	517,027	247,399	1677024.5
Total investment [Employee-paid for tax purposes]	\$ 39,353,982	N/A	N/A	N/A
Average investment ¹	\$ 143,105	N/A	N/A	N/A
Liability/cost	9.14	N/A	N/A	N/A
Liability/final pay	12.35	N/A	N/A	N/A

¹ Based on previously taxed contributions.

² Not including compensation or supplemental.

³ Does not include transfers from supplemental widows.

EXHIBIT M
RETIREES AND BENEFICIARIES BY TYPE OF BENEFIT

Years	ANNUITANTS						DISABILITY			Widow/ Widower Comp.	Total
	Employee	Disability Pensioner	Spouse	Supplemental Widow(er)	Child	Parent	Ordinary	Duty	Occup.		
1983	1,786	3	1,241	84	122	2	12	187	196	42	3,675
1984	1,813	3	1,228	79	129	2	6	199	198	44	3,701
1985	1,884	2	1,224	77	129	2	6	211	191	49	3,775
1986	2,025	1	1,233	75	126	2	5	226	158	56	3,907
1987	2,080	1	1,236	87	121	2	7	233	143	46	3,956
1988	2,180	1	1,245	83	115	2	9	216	117	43	4,011
1989	2,235	1	1,237	68	108	1	8	235	122	55	4,070
1990	2,242	0	1,248	67	106	1	11	253	133	51	4,112
1991	2,226	0	1,264	65	121	1	14	267	143	49	4,150
1992	2,261	0	1,277	68	113	1	11	286	147	40	4,204
1993	2,257	0	1,291	69	114	1	10	274	140	35	4,191
1994	2,207	0	1,316	66	114	2	6	284	142	36	4,173
1995	2,248	0	1,332	62	110	1	8	297	144	40	4,242
1996	2,257	0	1,328	61	110	1	8	292	169	44	4,270
1997	2,235	0	1,348	60	111	1	11	296	194	46	4,302
1998	2,251	0	1,360	56	125	2	8	295	197	49	4,343
1999	2,351	0	1,450	56	139	2	5	295	203	49	4,550
2000	2,538	0	1,440	51	132	2	6	257	139	49	4,614
2001 ¹	2,422	0	1,330	0	116	2	2	262	147	89	4,370
2002	2,411	0	1,330	0	121	1	2	257	144	85	4,351
2003	2,412	0	1,322	0	119	1	3	249	121	82	4,309
2004	2,441	0	1,352	0	114	1	7	244	113	81	4,353
2005	2,442	0	1,330	0	111	1	7	254	107	105	4,357
2006	2,459	0	1,322	0	110	1	6	257	113	114	4,382
2007	2,488	0	1,300	0	105	1	4	266	114	113	4,391
2008	2,471	0	1,306	0	98	1	4	269	124	108	4,381
2009	2,556	0	1,292	0	89	1	4	262	121	107	4,432
2010	2,577	0	1,261	0	83	1	4	259	124	100	4,409
2011	2,665	0	1,253	0	85	1	4	249	121	100	4,478
2012	2,821	0	1,260	0	83	1	2	232	116	98	4,613

¹ In 2001 all Supplemental Widows were moved into the Compensation Widows Group.

EXHIBIT N
AVERAGE EMPLOYEE RETIREMENT BENEFITS PAYABLE

Years Ended	Average Annual Benefit	Average Current Age of Retirees	Average Annual Benefit at Retirement Current Year	Average Age at Retirement Current Year	Average Years of Service at Retirement Current Year
1983	\$ 11,749	68	\$ 19,351	60.8	30.2
1984	13,012	68	21,401	59.4	30.5
1985	14,243	68	22,897	59.1	30.4
1986	15,635	68	24,826	58.6	29.8
1987	16,833	68	26,342	59.1	30.4
1988	18,476	68	28,166	61.4	31.1
1989	19,732	68	29,967	60.4	31.1
1990	20,853	68	30,038	60.3	30.9
1991	21,942	69	30,983	60.0	31.4
1992	23,503	69	32,758	59.9	31.3
1993	25,031	69	34,267	61.6	31.7
1994	26,262	70	34,391	59.8	31.2
1995	27,935	70	38,872	60.3	32.1
1996	29,304	70	40,406	60.4	32.0
1997	30,787	70	41,543	59.8	31.6
1998	32,503	71	43,905	60.1	32.1
1999	34,067	71	44,001	60.4	31.4
2000	36,458	71	48,534	63.5	34.2
2001	38,048	71	45,768	60.2	30.9
2002	40,052	71	45,346	59.7	30.8
2003	42,131	71	50,943	60.2	31.7
2004	45,675	71	59,608	60.0	32.1
2005	47,917	71	59,117	59.2	31.4
2006	50,171	71	61,172	57.7	30.1
2007	52,446	71	64,076	58.1	30.0
2008	54,492	71	61,577	57.4	29.6
2009	57,023	71	67,310	57.8	30.3
2010	59,133	71	67,386	59.0	29.7
2011	61,879	71	70,893	58.5	29.4
2012	64,860	70	75,675	58.5	30.4

EXHIBIT O – PART I
HISTORY OF ANNUITIES 1983-2012
EMPLOYEE ANNUITANTS (MALE AND FEMALE)

Year End	Number of Annuitants	Total Annuities	Average Annuities
1983	1,789	\$ 21,018,158	\$ 11,749
1984	1,816	23,648,174	13,022
1985	1,886	26,863,056	14,243
1986	2,026	31,676,856	15,635
1987	2,081	35,030,176	16,833
1988	2,181	40,296,025	18,476
1989	2,235	44,101,893	19,732
1990	2,242	46,752,084	20,853
1991	2,226	48,843,715	21,942
1992	2,261	53,140,074	23,503
1993	2,257	56,495,862	25,031
1994	2,207	57,960,522	26,262
1995	2,248	62,797,419	27,935
1996	2,257	66,139,690	29,304
1997	2,235	68,808,890	30,787
1998	2,251	73,163,601	32,503
1999	2,351	80,090,897	34,067
2000	2,538	92,529,624	36,458
2001	2,422	92,152,832	38,048
2002	2,411	96,565,842	40,052
2003	2,412	101,620,962	42,131
2004	2,441	111,491,737	45,675
2005	2,442	117,014,053	47,917
2006	2,459	123,371,713	50,171
2007	2,488	130,485,435	52,446
2008	2,471	134,649,295	54,492
2009	2,556	145,751,375	57,023
2010	2,577	152,385,721	59,133
2011	2,665	164,908,801	61,879
2012	2,821	182,970,558	64,860

EXHIBIT O – PART II
HISTORY OF ANNUITIES 1983-2012
WIDOW/WIDOWER ANNUITANTS
(INCLUDING PARENT BUT NOT COMPENSATION ANNUITANTS)

Year End	Number of Annuitants	Total Annuities	Average Annuities
1983	1,327	\$ 5,220,709	\$ 3,934
1984	1,309	5,203,409	3,975
1985	1,303	5,328,940	4,090
1986	1,310	5,843,911	4,461
1987	1,325	6,273,158	4,734
1988	1,330	6,617,019	4,975
1989	1,319	7,743,932	5,871
1990	1,316	8,031,199	6,103
1991	1,330	9,316,132	7,005
1992	1,346	10,774,709	8,005
1993	1,361	12,121,722	8,906
1994	1,384	13,680,765	9,885
1995	1,395	14,495,633	10,391
1996	1,389	14,709,232	10,590
1997	1,409	15,397,832	10,928
1998	1,418	15,969,975	11,262
1999	1,508	18,136,173	12,027
2000	1,493	18,352,906	12,293
2001	1,332	16,516,021	12,399
2002	1,331	17,006,519	12,777
2003	1,323	17,490,584	13,220
2004	1,353	19,297,527	14,263
2005	1,331	20,481,794	15,388
2006	1,323	21,123,202	15,966
2007	1,301	21,290,764	16,365
2008	1,307	22,164,269	16,958
2009	1,293	22,652,897	17,520
2010	1,262	22,832,364	18,092
2011	1,254	23,449,616	18,700
2012	1,261	24,681,837	19,573

EXHIBIT P
HISTORY OF RETIREES AND BENEFICIARIES
ADDED TO AND REMOVED FROM BENEFIT PAYROLL

Yr.	Added to Payroll		Removed from Payroll		Payroll End of Year		Average Annual Benefits	Increase to Avg. Benefits
	No.	Annual Benefits.	No.	Annual Benefits	No.	Annual Benefits		
Employee Annuitants (Male and Female)								
1998	122	\$5,356,352	106	\$2,446,381	2,251	\$73,163,601	\$32,503	5.6%
1999	118	5,192,157	18	245,975	2,351	80,090,897	34,067	4.8
2000	265	12,861,578	78	2,413,778	2,538	92,529,624	36,458	7.0
2001	114	5,171,784	230	5,548,576	2,422	92,152,832	38,048	4.4
2002	107	4,851,988	118	438,978	2,411	96,565,842	40,052	5.3
2003	134	6,826,357	133	1,771,237	2,412	101,620,962	42,131	5.2
2004	147	14,053,559	118	4,182,784	2,441	111,491,737	45,675	8.4
2005	126	10,248,119	125	4,725,803	2,442	117,014,053	47,917	4.9
2006	123	10,689,546	106	4,331,886	2,459	123,371,713	50,171	4.7
2007	126	11,168,192	97	4,054,470	2,488	130,485,435	52,446	4.5
2008	109	9,696,869	126	5,533,009	2,471	134,649,295	54,492	3.9
2009	185	15,610,755	100	4,508,675	2,556	145,751,375	57,023	4.6
2010	117	11,242,038	96	4,607,692	2,577	152,385,721	59,133	3.7
2011	197	18,074,820	109	5,551,740	2,665	164,908,801	61,879	4.6
2012	275	24,560,716	119	6,498,959	2,821	182,970,558	64,860	4.8
Widow/Widower Annuitants (Not Including Compensation)								
1998	86	\$1,188,236	73	\$778,838	1,418	\$15,969,975	\$11,262	3.1%
1999	90	1,268,687	0	0	1,508	18,136,173	12,027	6.8
2000	70	1,204,364	85	987,631	1,493	18,352,906	12,293	2.2
2001	127	1,865,460	288	3,702,345	1,332	16,516,021	12,399	0.9
2002	73	1,316,617	74	826,119	1,331	17,006,519	12,777	3.0
2003	87	1,475,058	95	990,993	1,323	17,490,584	13,220	3.5
2004	92	2,595,350	62	788,407	1,353	19,297,527	14,263	7.9
2005	94	2,596,899	116	1,412,632	1,331	20,481,794	15,388	7.9
2006	84	1,964,568	92	1,323,160	1,323	21,123,202	15,966	3.8
2007 ¹	59	1,341,091	81	1,173,529	1,301	21,290,764	16,365	2.5
2008 ¹	77	1,796,751	71	923,246	1,307	22,164,269	16,958	3.6
2009 ¹	66	1,605,852	80	1,117,224	1,293	22,652,897	17,520	3.3
2010 ¹	55	1,404,275	86	1,224,808	1,262	22,832,364	18,092	3.3
2011 ¹	62	1,661,849	70	1,044,597	1,254	23,449,616	18,700	3.4
2012 ¹	79	2,361,949	72	1,129,728	1,261	24,681,837	19,573	4.7

¹ Including Parent Annuitants but not Compensation Annuitants.

EXHIBIT Q
NUMBER OF RETIREES AND BENEFICIARIES RECEIVING HEALTHCARE
BENEFITS BY STATUS

Year	Number of		
	Employee	Beneficiary ¹	Total
2008	2,133	1,017	3,150
2009	2,159	1,031	3,190
2010	2,148	1,006	3,154
2011	2,149	1,004	3,153
2012	2,133	1,002	3,135

¹ Includes children.

APPENDIX 4

ACTUARIAL METHODS AND ASSUMPTIONS AS OF
DECEMBER 31, 2012

ACTUARIAL METHODS AND ASSUMPTIONS AS OF DECEMBER 31, 2012

I. ACTUARIAL COST METHOD

An Actuarial Cost Method is a set of techniques used by the actuary to develop contribution levels under a retirement plan. The Actuarial Cost Method used in this valuation for all purposes is the Entry Age Actuarial Cost Method. Under this Method, a Normal Cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination.

To the extent that current assets and future Normal Costs do not support participants' expected future benefits, an Unfunded Actuarial Accrued liability ("UAAL") develops. The UAAL is generally amortized over a defined period of time (e.g., 30 years). The total contribution developed under this method is the sum of the Normal Cost and the payment toward the UAAL.

II. CURRENT ACTUARIAL ASSUMPTIONS

The current actuarial assumptions were adopted and became effective for the December 31, 2011 valuation, and were based on an experience study for the period January 1, 2003, to December 31, 2010.

A. *Demographic Assumptions*

Mortality:	RP-2000 Combined Healthy Mortality Table, sex distinct. The mortality table used is a static table and provides an estimated margin of 15 percent for future mortality improvements as of the experience study performed as of December 31, 2011.
Disabled Mortality:	RP-2000 Combined Healthy Mortality Table, sex distinct, set forward six years.
Pre-Retirement Mortality	Pre-retirement mortality is 80 percent of the post-retirement rates.
Rates of Disability:	Rate at which members are assumed to become disabled under the provisions of the Fund. The rates assumed are as follows:

<u>Attained Age</u>	<u>Rates</u>
20-24	0.0008
25-29	0.0010
30-34	0.0020
35-39	0.0020
40-44	0.0028
45-49	0.0054
50-54	0.0140
55-59	0.0265
60-63	0.0300

Of the participants who become disabled, 50 percent are assumed to be duty disability, 45 percent are assumed to be occupational disease disability, and 5 percent are assumed to be ordinary disability.

**ACTUARIAL METHODS AND ASSUMPTIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

Rate of Retirement: The tables below show the assumed rates of retirement.

For members hired before January 1, 2011:

Attained Age	Firefighters Rates	Paramedic Rates
50	0.02	0.03
51	0.03	0.03
52	0.03	0.04
53	0.04	0.05
54	0.04	0.06
55	0.05	0.07
56	0.06	0.07
57	0.07	0.07
58	0.07	0.07
59	0.07	0.07
60	0.25	0.20
61	0.30	0.20
62	0.45	0.30
63	1.00	0.30
64		0.40
65		1.00

For members hired on or after January 1, 2011:

Attained Age	Firefighters Rates	Paramedic Rates
50	0.01	0.01
51	0.01	0.01
52	0.01	0.01
53	0.01	0.01
54	0.01	0.01
55	0.07	0.07
56	0.07	0.07
57	0.07	0.07
58	0.07	0.07
59	0.07	0.07
60	0.25	0.20
61	0.30	0.20
62	0.45	0.30
63	1.00	0.30
64		0.40
65		1.00

**ACTUARIAL METHODS AND ASSUMPTIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

Rate of Termination: The following sample rates exemplify the table:

<u>Years of Service</u>	<u>Rate</u>
1	0.020
5	0.006
10	0.006
15	0.005
20	0.005
25	0.005
30	0.000

B. Economic Assumptions

Investment Return Rate: 8.00 percent per annum for pensions and 4.50 percent for OPEB.
OPEB rate effective as of December 31, 2005.

General Inflation: 3.00 percent per annum

Future Salary Increases: Assumed rates of individual salary increase at 4.25 percent per
year, plus an additional percentage based on the following
service scale:

<u>Years of Service</u>	<u>Rates</u>
0	21.25%
1	5.25%
2	5.25%
3	5.00%
4	5.00%
5-9	0.00%
10	3.50%
11-14	0.00%
15	3.50%
16-19	0.00%
20	4.00%
21-24	0.00%
25	3.20%
26-29	0.00%
30	1.50%
Over 30	0.00%

**ACTUARIAL METHODS AND ASSUMPTIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

Asset Value: For State reporting, the actuarial value of assets is smoothed by using a five-year average market value.

For GASB #25 and #27, the actuarial value of assets is smoothed by using a five-year average market value.

C. Other Assumptions

Marital Status: It is assumed that 85 percent of members have an eligible spouse. The male spouse is assumed to be four years older than the female spouse. No assumption is made about other dependents.

Group Health Insurance: It is assumed for valuation purposes that the current health insurance supplement will continue for life for all employee annuitants (and their future widows). The amount of the Fund-paid health insurance after June 30, 2008 is \$95.00 per month for each annuitant (employees and widows) not qualified to receive Medicare benefits and \$65.00 if qualified. It is assumed that all annuitants age 65 and over will be eligible for Medicare and all annuitants less than age 65 will not be eligible for Medicare. Future widows of retirees are assumed to be eligible for Medicare at age 65, as well as widow annuitants that are currently receiving a health insurance supplement.

Only retirees, beneficiaries and children who the Fund has indicated have Fund paid insurance are valued with this benefit.

Required Ultimate Multiple: The actuarial requirements (adjusted for tax levy loss) less expected employee contributions divided by the actual employee contributions made in the second prior year.

Loss in Tax Levy: 4 percent overall loss on tax levy is assumed.

APPENDIX 5

SUMMARY OF PROVISIONS OF THE FUND AS OF
DECEMBER 31, 2012

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012**

PARTICIPANTS

Person employed by the City of Chicago in its fire service as firefighter, fire paramedic, fire engineer, marine engineer, or fire pilot, whose duty it is to participate in the work of controlling and extinguishing fire at the location of any such fire, whether or not he is assigned to fire service other than the actual extinguishing of fire.

SERVICE

In computing service, the following periods shall be counted:

All periods of active service, vacation, leave of absence with whole or part pay, military service, periods of disability for which he receives disability benefit, and leave of absence without pay to perform the duties of a member of the General Assembly prior to January 9, 1997. It is computed on a day to day basis. Employees may purchase the 1980-strike time and periods of suspension less than one year. Employees may purchase, with 4 percent interest, periods of employment of the Chicago Fire Department from 1970 until the employee entered this fund.

RETIREMENT ANNUITY

Eligibility

For participants that first became members before January 1, 2011, attainment of age 50 with at least 10 years of service.

For participants that first became members on or after January 1, 2011, attainment of age 55 with at least 10 years of service. Participants may retire at attainment of age 50 with 10 years of service with a reduced benefit.

Mandatory

Retirement is mandatory for a participant who has attained age 63, except for emergency medical technicians.

Accumulation Annuity

At age 50 or more, with 10 or more years of service, the employee is entitled to an annuity based on the sums accumulated for age and service annuity plus 1/10 of the sum accumulated from the contributions by the City for the age and service annuity for each completed year of service after the first 10 years. At age 50 or more with 20 or more years or at age 63, the employee is entitled to an annuity based on all sums accumulated to his or her credit. The maximum is 75 percent of highest salary.

Minimum Formula Annuity

If the employee has 20 or more years of service (the annuity will begin no earlier than age 50), he or she is entitled to the following annuity: 50 percent plus 2.5 percent of the final average salary for each year or fraction of service over twenty years. Maximum is 75 percent of the final average salary.

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

Retirement at Age 63 with Less than 20 Years Service¹

An employee who reaches compulsory retirement age with less than 20 years but greater than 10 years of service shall be entitled to a minimum annuity equal to 30 percent of final average salary for the first 10 years of service plus an additional 2 percent for each year in excess of 10, not to exceed 50 percent of final average salary.

Minimum Annuity

The minimum monthly annuity is \$1,050 if the firefighter retired at age 50 or over with at least 20 years of service.

For participants that first became members on or after January 1, 2011, the member is entitled to an annuity based on an accrual rate of 2.5 percent of the final average salary for each fraction of service. Maximum is 75 percent of the final average salary. Final average salary is calculated using salary from the eight highest consecutive years within the last 10 years of service prior to retirement. Pensionable salary is limited to \$106,800 in 2011, increased by the lesser of 3 percent and one-half of the annual unadjusted percentage increase in the Consumer Price Index-U (but not less than zero) as measured in the preceding 12-month period ending with the September preceding the November 1, which is the date that the new amount will be calculated and made available to the pension funds.

For participants that first became members on or after January 1, 2011, who retire after age 50 but before age 55 is attained, the member is entitled to an annuity based on an accrual rate of 2.5 percent of the final average salary for each fraction of service, reduced by one half of one percent per month for retirement prior to age 55, subject to a maximum benefit of 75 percent.

Automatic Increase in Annuity

If an employee qualifies for a minimum formula annuity, 1.5 percent of the original annuity, starting on the first of the month one year after retirement or the first of the month following attainment of age 60 (age 55 if born before January 1, 1955, effective January 16, 2004), whichever is later, with a maximum of 30 percent (20 years). Such increases shall be 3 percent for firefighters born before January 1, 1955, (effective January 16, 2004), and such firefighters shall not be subject to the 30 percent maximum increase.

For participants that first became members on or after January 1, 2011, increases are equal to the lesser of 3.00 percent and 50 percent of CPI-U of the original benefit, commencing at age 60.

WIDOW/WIDOWER ANNUITY

Payable until remarriage if widow/widower remarries before age 60, except Compensation and Supplemental Annuities. If the annuity is suspended because the widow/widower remarries before age 60, annuity payments will be resumed if the subsequent marriage ends. Any widow/widower's annuity, which was suspended on account of remarriage prior to December 31, 1989, will be resumed, if subsequent marriage ends, the later of July 14, 1995, or when the marriage ended. Beginning January 16, 2004, widows retain their rights to benefits after remarriage at any age.

¹ Between January 1994 and December 2000, benefits have been administered as if there were no compulsory retirement age. Beginning December 2000 benefits have been administered as if age 63 is the compulsory retirement age for non-EMT participants and there is no compulsory retirement age for EMT participants.

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

Benefits are not available to a widow of a fireman who received a refund of contributions for widow's benefits, unless the refund is repaid with 4 percent interest per year.

Death in Service (Non-Duty)

- (1) If the firefighter dies with at least 1.5 years of service, 30 percent of the salary attached to the rank of a first class firefighter in the classified career service at the time of the firefighter's death; or,
- (2) 50 percent of the annuity the deceased firefighter would have received if he had retired just prior to the date of death; or,
- (3) Money purchase based on the total salary deductions and City contributions for age and service annuity and widow/widower's annuity.
- (4) The widow of an active fireman with 10 or more years of service will receive no less than 50 percent of the benefit that the active fireman would have received had they attained age 50 and 20 years of service.

Death In Service (Duty Related)

Compensation Annuity²

The annuity paid to the spouse equals 75 percent of the firefighter's salary attached to his civil service position at the time of his death. This amount increases as the salary of the position increases. This benefit is payable until the year in which the firefighter would have reached the compulsory retirement age.

Death In Service (Duty Disability)

Compensation Annuity

The annuity paid to the spouse of a member who dies in receipt of duty disability benefits equals 75 percent of the firefighter's salary attached to his civil service position at the time of his death. This amount increases as the salary of the position increases.

Death after Retirement

- (1) If the firefighter dies after retirement, the annuity is 50 percent of the retirement annuity that the deceased firefighter was receiving at the time of his or her death; or,
- (2) money purchase based on the sums accumulated for the spouse annuity plus 10 percent of the accumulated City contributions for each year of service from 10 to 20 years, and full accumulated City contributions after 20 years of service.

Maximum Annuity

No maximum dollar amount.

Minimum Annuity

The minimum monthly annuity for any widow/widower is \$1,000.

² Between January 1994 and December 2000, benefits have been administered as if there were no compulsory retirement age. Beginning December 2000 benefits have been administered as if age 63 is the compulsory retirement age for non-EMT participants and there is no compulsory retirement age for EMT participants.

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

For participants that first became members on or after January 1, 2011, widow benefits are equal to 66-2/3 percent of the firemen's earned annuity at the date of death. Automatic increases to the annuity are equal to the lesser of 3.00 percent and 50 percent of CPI-U, commencing when the survivor reaches age 60, and applied to the original granted retirement annuity.

CHILD ANNUITY

Upon the death of the firefighter, unmarried children less than age 18 (except where child is so physically or mentally handicapped as to be unable to support himself) are eligible to receive an annuity. The amount of annuity payable for a child is 10 percent of the current annual maximum salary of a first class firefighter while a widow/widower survives; 15 percent when no widow/widower survives.

FAMILY MAXIMUM

The total annuities for widow/widower and children cannot exceed 60 percent for non-duty death, or 100 percent for duty death, of the current maximum annual salary of a first class firefighter.

PARENT ANNUITY

Parent's annuity is provided for each surviving parent of a firefighter who dies prior to separation from service, or while out of service with at least 20 years; provided there is no widow/widower or child and that the deceased firefighter was contributing to their support. The benefit is an amount equal to 18 percent of the current annual salary attached to the classified position held by the firefighter at the time of death.

DISABILITIES

Duty Disability Benefit³

Injury incurred in the performance of duty. The amount of the benefit is 75 percent of salary at the time the disability is allowed payable to employee's compulsory retirement age plus \$30 per month for each unmarried child less than age 18 (except where the child is so physically or mentally handicapped as to be unable to support him/herself), but the total amount of child benefits shall not exceed 25 percent of salary. Effective January 1, 1994, the minimum benefit, if the employee has been on disability at least 10 years, is 50 percent of current salary at the rank held by the employee when he was removed from the Department payroll. Salary deductions are contributed by the City. There are no age or service requirements for retirement on money purchase annuity and receiving full contributions.

Occupational Disease Disability³

A firefighter who has 10 or more years of service and is unable to perform his or her duties by reason of heart disease, tuberculosis, or any disease of the lungs or respiratory tract, resulting solely from his or her service as a firefighter. Occupational disease also includes disabling cancer of the type which may be caused by exposure to heat, radiation or a known carcinogen as defined by the International Agency for Research on Cancer. The amount of the benefit is 65 percent of salary at the time of the employee's removal from the Department payroll payable to compulsory retirement

³ Between January 1994 and December 2000, benefits have been administered as if there were no compulsory retirement age. Beginning December 2000 benefits have been administered as if age 63 is the compulsory retirement age for non-EMT participants and there is no compulsory retirement age for EMT participants.

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

age plus \$30 a month for each unmarried child less than age 18 (except where the child is so physically or mentally handicapped as to be unable to support him/ herself), but the total amount of child's benefits shall not exceed 25 percent of salary. Effective January 1, 1994 the minimum benefit, if the employee has been on disability at least 10 years, is 50 percent of current salary at the rank held by the employee when he or she was removed from Department payroll. Salary deductions are contributed by the City. There are no age or service requirements for retirement on money purchase annuity and receiving full contributions.

Ordinary Disability Benefit

Cause other than the performance of an act of duty, payable after 30 days for a period equal to 50 percent of total service (not including any previous O.D. time), but not to exceed 5 years. The disability benefit is 50 percent of salary at time of disability less pension deductions. When the disabled firefighter becomes eligible for the minimum formula annuity, the disability benefit shall cease, and he or she shall thereafter receive an annuity; however, there are no age or service requirements to retire on money purchase from disability prior to qualification for the minimum formula annuity if the disability then terminates.

DEATH BENEFIT

In active service, on an authorized leave of absence, if death occurs within 60 days of receipt of salary, receiving duty or ordinary disability benefit, occurring within 60 days of termination of such benefit, or occurring on retirement while in receipt of annuity and separation was effective after age 50 and application was made within 60 days from separation; payable to written beneficiaries or, if none, to estate.

<u>Age</u>	<u>Death in Service After July 1, 1983</u>	<u>Death After Retirement After July 1, 1983</u>
49 and under	\$12,000	\$6,000
50	11,600	6,000
51	11,200	6,000
52	10,800	6,000
53	10,400	6,000
54	10,000	6,000
55	9,600	6,000
56	9,200	6,000
57	8,800	6,000
58	8,400	6,000
59	8,000	6,000
60	7,600	6,000
61	7,200	6,000
62	6,800	6,000
63	6,400	6,000
64 and over	6,000	6,000

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

GROUP HEALTH HOSPITAL AND SURGICAL INSURANCE PREMIUMS

The pension fund shall provide payments in the amount of \$95 per month for non-Medicare eligible city annuitants and \$65 per month for Medicare eligible city annuitants from July 1, 2008, through June 30, 2013.

REFUNDS

To Firefighters

Of entire amount (excluding ordinary disability pension deductions) with interest at 4 percent if entered before June 30, 1953, and 3 percent otherwise, before age 50, or before age 57 and less than 10 years service. A firefighter who receives a refund and who subsequently reenters the service shall not receive, nor his or her widow/widower or parents, any annuity benefit or pension unless the refund is repaid with 4 percent interest. Repayment must be made within two years after reentry.

FOR WIDOW/WIDOWER ANNUITY

If the Firefighter is not married when he retires on annuity, he or she will receive a refund of all his or her contributions, with interest, for spouse's annuity.

REFUNDS OF REMAINING AMOUNTS

If amounts contributed by a Firefighter (with interest) are not paid out to him or her, in the form of a refund or annuity, or his or her widow/widower in the form of annuity, the remaining amounts (with interest) shall be paid out to his or her heirs, or to administrator of estate, for burial expense. If there are children under age 18, amount necessary to pay children annuities will not be refunded. There will be no refund paid to a widow/widower whose annuity is suspended because of remarriage.

DEDUCTIONS AND CONTRIBUTIONS

	<u>Deductions</u>	<u>City Contributions¹</u>
Employee	7.125%	8.500%
Spouse	1.500%	2.000%
Ordinary Disability	0.125%	0.000%
Annuity Increase	<u>0.375%</u>	<u>0.000%</u>
	9.125%	10.500%

¹ Credited to participant's Accumulation Annuity and Widow's Annuity accounts

The city shall levy a tax annually at a rate on the dollar of the assessed valuation of all taxable property that will produce an amount not to exceed the total amount of contributions by the firefighters to the Fund made in the calendar year two years prior multiplied by 2.26 for 1982 and each year thereafter, plus \$142,000 for the Ordinary Death Benefit.

DEATH BENEFIT

Employees contribute \$2.50 per month at the same time and with the same frequency as other deductions (with each payment of salary).

**SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2012 (CONT'D)**

TAX SHELTER OF EMPLOYEE SALARY DEDUCTIONS

Beginning January 1, 1982, employee contributions were designated for income tax purposes to be made by the employer. The W-2 salary is therefore reduced by the amount of contribution. For pension purposes the salary remains unchanged. Income tax will be paid when a refund or annuity is received. For the purpose of benefits, refunds or financing, these contributions will be treated as employee contributions.

COMPULSORY RETIREMENT AGE

Effective January 1, 1994, the federal law (ADEA) allowing compulsory retirement at age 63 lapsed. As such, duty disability and occupational disease disability benefits and widow/widower compensation benefits may be “open ended”, i.e., without limiting age.

Effective December 2000 the City of Chicago enacted a compulsory retirement age of 63 for non-EMT participants. As such, all disability benefits for non-EMT participants cease at age 63 and become payable as retiree benefits.

COMPENSATION WIDOWS

Beginning January 1, 2001, mandatory retirement will have no impact on Widow benefits. Therefore, effective with the December 31, 2001, valuation, all Supplemental Widows have been re-classified as Compensation Widows. The classification of Supplemental Widows has been discontinued.

**SALARY CAP AND COLA DEVELOPMENT FOR MEMBERS HIRED ON OR AFTER
JANUARY 1, 2011**

Year Ending	CPI-U	½ CPI-U	COLA	Maximum Annual Pensionable Earnings
2011			3.00%	\$ 106,800.00
2012	3.90%	1.95%	1.95%	\$ 108,882.60
2013	2.00%	1.00%	1.00%	\$ 109,971.43

APPENDIX 6

LEGISLATIVE CHANGES 1968 THROUGH 2012

LEGISLATIVE CHANGES 1968 THROUGH 2012

1968 to 1979 Sessions

- Compensation widow/widower annuities changed from \$300 to 75 percent of salary;
- Supplemental widow/widower annuities became 40 percent of salary;
- 5-year average salary became 4 years;
- Minimum employee annuities increased from \$200 in stages;
- Minimum widow/widower annuities increased from \$100 in stages;
- Children's annuities changed from \$40/\$60 to 10%/15% of salary of first class firefighter;
- Parent annuities increased to 18 percent of salary of first class firefighter;
- Lump sum benefits were increases; and
- The deduction from salary increased from 1 percent to 1.5 percent of salary for the spouse annuity.

1979 Session

SB 854

Recall of elective members of the Board of Trustees.

HB 291

Authorizes investment in Time Deposits of Certificate of Deposit.

HB 2012

Employer may pick up, under IRS Code Section 414(h), the employee contributions for all compensation earned after December 31, 1980, by a reduction in the cash salary, an offset to a future salary increase, or by a combination of both.

1980 Session

Transfer of credit to the General Assembly System.

HB 3635

Reversed all changes made by HB 2012 and put the pick up section as a new paragraph. They are treated as employee contributions for all purposes including refunds and determination of the tax levy.

1981 Session

SB 21

Actuarial Reporting Standards.

SB 851

Authorizes investments in conventional mortgage pass-through securities.

SB 879

Financial statement required by Department of Insurance within 6 months and actuarial statement within 9 months. \$100 penalty per day if late.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

HB 291

Increase minimum survivor's annuity from \$200 to \$250.

Spring 1982 Session

SB 740

3 percent post-retirement increase for employees born before January 1, 1930. All increases begin at age 60 instead of age 63 effective July 1, 1982.

SB 1127

Group health hospital and surgical insurance premium \$55 for annuitant not qualified to receive Medicare; \$21 if annuitant is qualified, effective January 1, 1983.

SB 1579

Expanded fiduciary standards, prohibited transactions, civil action may be brought by Attorney General or by a participant. List of permitted investments moved to general section of the statute.

HB 2361

Election by mail ballot.

Spring 1983 Session

SB 22

Delegation of investment authority restrictions.

SB 1147

Minimum reporting and actuarial information for 1984.

HB 366, SB 288

Changes fiduciary standards: party in interest definition; reasonable care of co-fiduciary; eliminates civil action.

HB 377

Cancer as occupational disability.

HB 380

Paramedics as members July 1, 1983.

HB 455

Bill of Rights.

HB 483

Temporary position defined.

HB 514

10 percent prudent person investment category.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

HB 755

Change in lump sum death benefit: \$6,000 if retired, \$12,000 if active and under age 50, reduced by \$400 each year age 50 or older.

HB 758

Vote by mail.

50/20 2 percent minimum annuity formula (52/22 in 1984; 51/21 in 1985; 50/20 in 1986 and after).

30 percent salary of first class firefighter; widow/widower of active employee with 1.5 years of service effective June 30, 1984.

50 percent of retirement pension being paid (includes increases); widow/widower of retiree effective June 30, 1984.

City Ordinance

Change in lump sum death benefit: \$6,000 if retired, \$12,000 if active and under age 50, reduced by \$400 each year age 50 or older.

Changes compulsory retirement from 63 to 70.

1984 Session

Direct deposit.

Illinois Public Employees' Pension Laws Commission abolished.

1985 Session

HB 164

Occupational disability benefits from 50 percent to 65 percent of salary for new disabilities.

Survivors' annuity for death in service 50 percent of the firefighter's annuity as if the deceased firefighter had retired just prior to the date of death.

Removes alcoholism and venereal disease prohibition against paying ordinary disability.

Removes adoption before age 50 requirement for child's benefit.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

1986 Session

HB 2630

Removes the age 18 limitation for handicapped children of duty and occupational disease disability recipients.

Provides for waiver of annual physical examination for disability recipients if firefighter is permanently disabled and unable to ever return to service.

1987 Session

None.

1988 Session—City Ordinance

Compulsory retirement changed to age 63.

1989 Session

HB 332

\$325 minimum widow/widower annuity effective January 1, 1988.

SB 95

Changed the amount of fund paid health insurance “supplement” from January 1, 1988, until December 31, 1992, to \$65 per month for each annuitant not qualified to receive Medicare benefits (and \$35 if qualified) and from January 1, 1993, until December 31, 1997, the amounts are \$75 and \$45, respectively. Widow/widowers will now be eligible for supplement. The City will be required to pay 50 percent of the aggregate cost of health care claims for the retired group under all health care plans offered by the City. A procedure was established for the City to determine, with the help of an independent actuary, the aggregate cost of claims and premiums for each calendar year from 1989 through 1998 for the retired group.

\$475 minimum employee annuity effective January 1, 1990.

Compensation and Supplemental annuitants may remarry after 1989 without loss of benefits.

Employee refunds must be repaid at 4 percent before the later of 2 years after the date of reentry or January 1, 1992.

3 percent postretirement increase beginning January 1, 1990, for employees born after December 31, 1929, and before January 1, 1940.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

Employee may purchase periods of suspension (not to exceed a total of 1 year of service) and 1980 strike time (not to exceed 23 days). Paramedic who transferred from the pension fund established under Article 8 of this Code to this Fund by operation of Public Act 83-780 may purchase Article 8 service at 4 percent annual compound interest rate prior to January 1, 1992, if the employee received a refund from the Article 8 fund.

1990 Session

SB 136

Amends Chapter 120, Paragraph 671 of the Revenue Act to provide for a separate listing on the tax bill of the dollar amount of tax due from the person assessed, which is allocable to a tax levied under the Illinois Pension Code, or any other tax levied by a municipality or township for public pension or retirement purposes. Effective January 1, 1990.

SB 1951

Signed January 14, 1991. Service credit will be given for any periods prior to January 14, 1993 that an active firefighter who is a member of the General Assembly is absent to perform his legislative duties. No payment is required for this service credit. The current salary of the rank would be used for average salary for annuity purposes.

Any firefighter who had service as a paramedic in the Municipal Fund and received a refund of contributions could receive credit for the service in the Fire Fund by making written application to the Board by January 1, 1992, and paying for the service.

Beginning December 31, 1990, any firefighter with at least 20 years of service may withdraw from the service at any age and receive an annuity calculated under Section 6-128 beginning at age 50 if under that age at withdrawal.

Beginning January 1, 1990, the minimum widow/widower annuity is \$400 per month for all those receiving a widow/widower annuity on January 14, 1991 and for future widow/widowers of employees who retired at age 50 or over with at least 20 years of service.

If a widow/widower remarries after December 31, 1989, after attaining age 60, the annuity will continue without interruption. If the annuity is suspended because of remarriage before attaining age 60, annuity payments will be resumed if the subsequent marriage ends.

If any widow/widower receives a widow/widower annuity from the Fire Fund and after December 31, 1989, marries a firefighter in the Fund, his/her first widow/widower annuity will be canceled if she accepts any payment of a second widow/widower's annuity after he dies.

Beginning January 14, 1991, any city officer can transfer his Fire service to the Municipal Fund.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

1991 Session

None.

1992 Session

HB 969

Approved March 26, 1992. Beginning January 1992, the minimum retirement annuity (requires retirement at age 50 or over with at least 20 years of service) was increased to \$650 per month and the minimum widow/widower annuity was increased to \$500 for those receiving annuity and those who will be eligible in the future (requires retirement or death in service at age 50 or over with at least 20 years of service).

SB 1650

Approved January 25, 1993.

The minimum retirement annuity (requires retirement at age 50 with at least 20 years of service) was increased to \$750 per month on January 1, 1993, and \$850 per month on January 1, 1994.

The minimum widow/widower annuity (requires retirement or death in service at age 50 or over with at least 20 years of service) was increased to \$600 per month on January 1, 1993, and \$700 per month on January 1, 1994, for those eligible present and future widow/widowers.

Service credit will be given for any periods in General Assembly prior to January 9, 1997 (instead of January 14, 1993).

The annuitant may waive all or any portion of his annuity.

1993 Session

SB 358

Approved January 10, 1994. Beginning January 1, 1994, minimum Duty and Occupational Disease Disabilities have been established, if the employee has been on the disability for 10 years: 50 percent of current salary of rank at removal from Department payroll.

ADEA

Effective January 1, 1994, the federal law (ADEA) allowing compulsory retirement at age 63 lapsed. As such, duty disability and occupational disease disability benefits and widow/widower compensation benefits may be "open ended"; i.e., without limiting age.

1994 Session

None.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

1995 Session

SB 114

Approved July 14, 1995.

The minimum widow/widower annuity was increased to \$700 per month for anyone entitled to receive a widow/widower annuity.

A widow/widower's annuity that was previously terminated because of remarriage before December 31, 1989, will be resumed upon proper application if the subsequent marriage has ended.

Employees have until 2 years after the date of reentry or January 1, 2000, to repay a refund.

For employee annuitants born before January 1, 1945, the 3 percent postretirement increase begins at age 55.

The provisions relating to purchase of credit for certain periods of service as a paramedic or other fire department employee were changed.

The City is authorized to substitute funds obtained from borrowings and other sources for a portion of its authorized tax levy for pension purposes.

The amount of earnings that may be taken into account by any retirement system is limited to the maximum dollar limitation specified in Section 401(a)(17) of the Internal Revenue Code, except for persons who became participants before 1996.

The Fund is authorized to make certain involuntary distributions required by Section 401(a)(9) of the Internal Revenue Code.

SB 424

Approved July 7, 1995.

The Pension Laws Commission was created as a legislative support services agency.

1996 Session

SBJPA

On August 20, 1996 the Small Business Job Protection Act was signed by President Clinton.

Treatment of governmental plans under Code Section 415:

Rule limiting annual benefit to 100 percent of the average of the highest 3-year compensation no longer applies.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

Excess benefit plans are permitted to provide participants with benefits in excess of the Code Section 415 limits.

Early retirement reduction does not apply to certain survivor and disability benefits.

The definition of compensation now includes elective deferrals.

Taxation of distributions:

\$5,000 death benefit exclusion was repealed for deaths after August 20, 1996.

Five-year averaging for lump sum distributions was repealed effective January 1, 2000.

Annuity payments will be taxed according to a simplified general rule, which uses investment and age as of annuity starting date for annuities, which start on or after November 19, 1996.

1997 Session

HB 313

Signed June 27, 1997.

Coverage in the City group health insurance is extended through June 30, 2002, with some modification in plans offered. Pension fund supplement remains \$45 and \$75 for Medicare eligible and non-Medicare eligible annuitants respectively.

1998 Union Contract Cost of Living Increases

The following salary increases are scheduled:

1.5 percent effective July 1, 1995.

1.5 percent effective January 1, 1996.

1.5 percent effective July 1, 1996.

3.5 percent effective January 1, 1997.

3.75 percent effective January 1, 1998.

2.25 percent effective January 1, 1999.

1998 Session

The minimum widow/widower annuity (requires retirement or death in service at age fifty or over with at least twenty years of service) was increased to \$800 per month on January 1, 1999, for those eligible present and future widow/widowers.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

1999 Session

None.

2000 Session

In 2000 the City of Chicago enacted mandatory retirement for all firefighters, except for emergency medical technicians, upon attainment of age 63.

2001 Session

None.

2002 Session

HB 5168

Effective June 28, 2002

The pension fund subsidy for retiree health insurance was extended through June 30, 2003 (other than child annuitants). The subsidy is \$75 per month if the annuitant is not eligible for Medicare and \$45 per month if the annuitant is eligible for Medicare.

2003 Session

SB 1701

Effective July 1, 2003.

The healthcare benefits were increased to \$85 per month for non-Medicare eligible participants and \$55 per month for Medicare eligible participants for the period from July 1, 2003, through June 30, 2008. Thereafter, the benefits are increased from \$85 to \$95 and \$55 to \$65 for the period July 1, 2008, to June 30, 2013.

The healthcare benefits referred to above are not and shall not be construed to be pension or retirement benefits for the purposes of Section 5 of Article XIII of the Illinois Constitution of 1970.

2004 Session

PA 93-0654

Effective January 16, 2004

Changes to the definition of salary used for benefit calculation

- For members born before 1955, who hold an exempt position above career service rank, salary means the actual salary attached to the exempt rank position.
- Salary as an ambulance commander shall be included. Employee contributions must be made retroactively before January 1, 2006. Beneficiaries may also make the contributions.
- Additional compensation for being licensed as an EMT shall be included.
- Duty availability pay shall be included. Employee contributions must be made retroactively before January 1, 2006. Beneficiaries may also make the contributions.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

PA 93-0654(continued)

An employee who reaches the compulsory retirement age with greater than 10 years of service, but less than 20 is now entitled to an annuity of 30 percent of average salary for the first 10 years of service plus an additional two percent for each year in excess of 10, not to exceed 50 percent.

The minimum annuity formula accrual rate for service after 20 years was increased from 2.0 percent to 2.5 percent with total benefits limited to 75 percent of final average pay.

The minimum benefit for retirements at age 50 with 20 years of service was increased to \$950 per month during 2004 and \$1,050 per month thereafter.

The minimum widow annuity was increased to \$900 per month during 2004 and \$1,000 per month thereafter.

The widow of an active fireman with 10 or more years of service will receive no less than 50 percent of the benefit the active firemen would have received had he attained age 50 and 20 years of service.

A widow who was married to a deceased fireman before the fireman began to receive a retirement annuity and for at least one year preceding the fireman's death is entitled to a widow's benefit. Any refunded contributions must be repaid with four percent interest.

A widow's benefit will continue following remarriage. Those annuities previously terminated will resume.

Members born prior to January 1, 1955, are entitled to a three percent simple COLA commencing at the later of age 55 or the first anniversary of retirement. Members born on or after January 1, 1955, are entitled to a 1.5 percent COLA commencing at the later of age 60 or the first anniversary of retirement limited to 30 percent. Previously the cutoff date was January 1, 1945.

Former city contributions for paramedics will be transferred to this fund with 11 percent interest and credited to the individual fireman if he or she pays for prior service as a paramedic in full.

Bertucci court opinion

Effective June 29, 2004

For members who die while receiving duty disability payments, the widow's benefit is now 75 percent of the member's salary attached to his civil service position. The benefit increases as the salary attached to this position increases. Previously the widow's benefit was 50 percent of the member's benefit.

PA 93-0917 (HB 378)

Effective August 12, 2004

Changes the widow eligibility conditions by expanding widow benefits that were previously limited by marriage conditions after withdrawal or disability. Benefits cannot be reinstated or granted earlier than January 16, 2004.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

PA 93-0917(continued)

A fireman who accumulated service under the Municipal Employees' Annuity and Benefit Fund of Chicago, who terminated and received a refund, may purchase such service credit until January 1, 2005. Those firemen that retired after January 16, 2004, but before the effective date of this act may still purchase service before January 1, 2005, and have their benefit recalculated. Employer contributions with interest, for such service, will be transferred from the Municipal Employees' Annuity and Benefit Fund to the Firemen's Annuity and Benefit Fund.

2005 Session

SB 23

Approved June 27, 2005

Prohibits the investment or deposit from the retirement system or pension fund to certain entities doing business in or with the government of the Republic of the Sudan. Fund managing companies must certify that, as required under Section 1-110.5 of the pension code, they have not loaned to, invested in, or otherwise transferred any of the pension fund assets to a forbidden entity.

2006 Session

None.

2007 Session

PA 95-0279

Beginning January 1, 2008, removes restriction that a child be born or legally adopted before withdrawal from service for a child's annuity. Removes restriction requiring that adoption proceedings must have been initiated one year prior to the fireman's death.

2008 Session

None.

2009 Session

PA 95-1036

Effective February 17, 2009

Allows a terminally ill fireman to apply for disability while still an active member.

PA 96-0006

Effective April 3, 2009

The Illinois Governmental Ethics Act.

PA 96-260

Effective August 11, 2009

A fireman may purchase up to 24 months of service credit attributed to service in the armed forces of the United States prior to employment as a firefighter by making contributions to the Fund equal

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

to (i) employee contributions during the period served, (ii) employer normal costs during the period served, and (iii) compound interest at the actuarially assumed rate from date of membership in the Fund until date of payment.

PA 96-727

Effective August 25, 2009

Extends the repayment of refund for reinstated service to January 1, 2011, with interest calculated at the actuarially assumed rate.

Allows a fireman to transfer eligible service with the Article 8 Fund – the Municipal Employees' Annuity and Benefit Fund of Chicago. The fireman is required to pay to the Fund an amount equal to (i) employee contributions during the period served, (ii) employer normal costs during the period served, and (iii) compound interest at the actuarially assumed rate from date of membership in the Fund until date of payment. This amount is offset by contributions transferred from the Article 8 Fund. Written application must be made by January 1, 2010.

Allows a fireman who was an employee of the Chicago Fire Department but did not participate in the pension fund to establish this service with the Fund. The fireman is required to pay to the Fund an amount equal to (i) employee contributions during the period served, (ii) employer normal costs during the period served, and (iii) compound interest at the actuarially assumed rate from date of membership in the Fund until date of payment. Written application must be made by January 1, 2010.

Allows a fireman to transfer up to 10 years of eligible service with an Article 4 Fund – “Downstate Fund”. The fireman is required to pay to the Fund an amount such that the transfer results in no additional unfunded actuarial accrued liability for the Fund based on the assumptions and methods used in the most recent actuarial valuation. Contributions transferred from the Downstate Fund are used to offset the required payment from the fireman.

Allows the Fund to recover damages from a third party responsible for the death or disability payable from the Fund.

PA 96-753

Effective August 25, 2009.

Encourages the public pension funds, and any State entity investing on behalf of the public pension funds, to promote the economy of Illinois through the use of economic opportunity investments.

Instructs the fund's investment advisors to utilize investment strategies designed to ensure that all securities transactions are executed in such a manner that the total explicit and implicit costs and total proceeds in every transaction are the most favorable under the circumstances.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

2010 Session

PA 96-1466

Effective August 20, 2010.

Members entering the Fund after on or after January 1, 2011 shall not be given service credit in this Fund for any period of time in which the member was in receipt of retirement benefits from any annuity and benefit funds in operation in the city.

PA 96-1495 (HB 3538)

Effective January 1, 2011.

Changes the financing for the Fund. Assets are marked to market at March 30, 2011. For fiscal years after March 30, 2011, actuarial value of assets is used based on five-year smoothing. The City levies a new tax starting in FY2015. Each year, employer contributions combined with member contributions and other fund revenue must be equal to the amount that is sufficient to produce 90% funding by the end of fiscal year 2040. The projections are based on an open group projection and level percent of pay financing and actuarial liabilities are based on the projected unit credit cost method. If the City does not make the statutorily required contributions, then the State, starting in FY 2016, could withhold State grants to the City, and directly deposit the withheld funds into the FABF. The withheld funds are limited to 33 percent of total State grants to the City in FY 2016, 67 percent in FY 2017, and 100 percent on and after FY 2018.

Changes benefits for members hired on or after January 1, 2011. For these employees the minimum retirement eligibility is at age 55 with 10 years of service with the annuity based on an accrual rate of 2.5 percent, subject to a maximum of 75 percent. Employees may retire at age 50 with 10 years of service with the annuity based on accrual rate of 2.5 percent, reduced by one half of one percent per month for retirement prior to age 55, subject to a maximum of 75 percent. The final average salary is based on 96 consecutive months within the last 120 months. Annual salary is capped at \$106,800, indexed annually at the lesser of 3.0 percent and fifty percent of CPI-U. COLA is equal to the lesser of 3.0 percent and 50 percent of CPI-U, commencing at age 60, with no 30% cap, applied to the original granted retirement annuity. Widow benefits are 66-2/3 percent of the firemen's earned annuity at the date of death. Widow COLA is equal to the lesser of 3.0 percent and 50 percent of CPI-U, commencing when the survivor reached age 60, and applied to the original granted retirement annuity.

2011 Session

P.A. 97-530 (SB 1672)

Effective August 23, 2011

Requires all pension funds and retirement systems subject to the Code to comply with the federal Heroes Earnings Assistance and Relief Tax Act of 2008.

P.A. 97-609 (SB 1831)

Effective August 26, 2011

Applies to those members hired on or after January 1, 2012.

Provides that if a new hire is receiving a retirement annuity or pension and accepts a contractual position to provide services to a governmental entity from which he or she has retired, then that person's annuity or pension will be suspended during that contractual service.

LEGISLATIVE CHANGES 1968 THROUGH 2012 (CONT'D)

Makes it a Class A misdemeanor for a pensioner who is seeking contractual employment to fail to notify certain persons about his or her retirement status before accepting an employment contract.

P.A. 97-504 (HB 1670)

Approved August 23, 2011

Amends the Open Meetings Act.

Requires each elected or appointed member of a public body subject to this Act who is such a member on the effective date of the amendatory Act to successfully complete the electronic training curriculum developed and administered by the Public Access Counselor.

Requires those members to complete the training not later than one year after the effective date of the amendatory Act.

Requires each elected or appointed member of a public body subject to the Act who becomes such a member after the effective date of the amendatory Act to successfully complete the electronic training curriculum developed and administered by the Public Access Counselor.

Requires those members to complete the training not later than the 90th day after the date the member either (i) takes the oath of office, if the member is required to take an oath of office to assume the person's duties as a member of the public body or (ii) otherwise assumes responsibilities as a member of the public body, if the member is not required to take an oath of office to assume the person's duties as a member of the governmental body.

Requires each member who successfully completes the curriculum to file a copy of the certificate of completion with the public body.

Provides that the failure of one or more members of a public body to complete the training required by this Section does not affect the validity of an action taken by the public body.

Provides that an elected or appointed member of a public body subject to this Act who has successfully completed the required training and filed a copy of the certificate of completion with the public body is not required to subsequently complete that training.

2012 Session

P.A. 97-0651

Approved and effective January 5, 2012.

Requires any reasonable suspicion of fraud against the Fund to be reported to the State's Attorney for investigation.

Changes provisions for Union Leaves of Absence.

APPENDIX 7

ADDITIONAL EXHIBITS – GASB DISCLOSURES

EXHIBIT A-1

GASB NOS. 25, 27, 43 AND 45 DISCLOSURES

In an effort to enhance the understandability and usefulness of the pension information that is included in the financial reports of pension plans for state and local governments, the Governmental Accounting Standards Board (GASB) has issued Statement No. 25 – Financial Reporting for Defined Benefit Pension Plans and Statement No. 27 – Accounting for Pensions by State and Local Governmental Employers. Under GASB #25 and #27, systems select one actuarial method from several acceptable alternatives, and report all information on this one basis. GASB has issued Statement No. 43 – Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans and Statement No. 45 – Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions. GASB #43 and #45 pertain to postretirement benefits other than pensions and are similar to GASB #25 and #27.

This report includes the following exhibits with information required to be reported under GASB #25, #27, #43 and #45.

GASB has released GASB #67 and GASB #68 which replace Statements #25 and #27 and significantly change the calculations of the unfunded liability, annual pension expense, and employer's balance sheet liability. However, GASB #67 is first effective with fiscal year ending December 31, 2014, and GASB #68 is first effective with fiscal year ending December 31, 2015. Therefore, the information presented in this report is based on the current GASB #25 and #27 requirements. **This information is presented in draft form for review. Please let us know if there are any changes so that we may maintain consistency with the financial statements.**

Exhibit A-2: Schedule of Funding Progress for GASB #25

This exhibit shows a six-year history of funding progress. The funding progress is a comparison of Actuarial Value of Assets with the Actuarial Accrued Liability (AAL), and a comparison of the unfunded AAL (UAAL) with compensation.

Exhibit A-3: Schedule of Employer Contributions for GASB #25

This exhibit shows the Annual Required Contribution (ARC) as computed under GASB #25 and the percent of this amount actually received. This exhibit includes a 17-year history.

Exhibits A-4: Supplementary Information for GASB #25 and #27

This exhibit has certain information required in the notes to the Fund financial reports.

Exhibit A-5: Annual Pension Cost and Contributions Made for GASB #27

This exhibit shows the components of annual pension cost (ARC, interest on the Net Pension Obligation (NPO), and the adjustment to the ARC), increase or decrease in the NPO, and the NPO at the end of the year. The exhibit also includes the dollar amount of contributions made.

Exhibit A-6: Pension Cost Summary for GASB #27

This exhibit shows a 16-year summary of annual pension cost, percentage of annual pension cost contributed that year and NPO at the end of the year.

EXHIBIT A-1
GASB NOS. 25, 27, 43 AND 45 DISCLOSURES (CONT'D)

Exhibit A-7: Development of Net Pension Obligation (NPO) at January 1, 1997 for GASB #27

This exhibit documents the calculation of the pension liability at transition in accordance with GASB #27.

Exhibit A-8: Schedule of Funding Progress for GASB #43

This exhibit shows a six-year history of funding progress. The funding progress is a comparison of Actuarial Value of Assets with the Actuarial Accrued Liability (AAL), and a comparison of the unfunded AAL (UAAL) with compensation.

Exhibit A-9: Schedule of Employer Contributions for GASB #43

This exhibit shows the Annual Required Contribution (ARC) as computed under GASB #43 and the percent of this amount actually received. This exhibit includes a six-year history.

Exhibit A-10: Supplementary Information for GASB #43 and #45

This exhibit has certain information required in the notes to the Fund and City financial reports.

Exhibit A-11: History of Annual OPEB Cost and Contributions Made for GASB #45

This exhibit shows a summary of annual OPEB cost, percentage of annual OPEB cost contributed that year and NOO at the end of the year.

Exhibit A-12: OPEB Cost Summary for GASB #45

This exhibit shows the components of annual OPEB cost (ARC, interest on the Net OPEB Obligation (NOO), and the adjustment to the ARC), increase or decrease in the NOO, and the NOO at the end of the year for year 2012. The exhibit also includes the dollar amount of City contributions made to pay current year health insurance supplement benefits.

EXHIBIT A-2
SCHEDULE OF FUNDING PROGRESS
FOR GASB #25

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age ¹ (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2012	\$ 993,283,741	\$ 4,020,137,920	\$ 3,026,854,179	24.71 %	\$ 418,964,763	722.46 %
12/31/2011	1,101,741,862	3,851,918,889	2,750,177,027	28.60	425,385,354	646.51
12/31/2010	1,198,113,789	3,655,025,957	2,456,912,168	32.78	400,404,320	613.61
12/31/2009	1,269,231,178	3,428,838,267	2,159,607,089	37.02	400,912,173	538.67
12/31/2008	1,335,695,474	3,311,268,993	1,975,573,519	40.34	396,181,778	498.65
12/31/2007	1,374,960,353	3,215,874,182	1,840,913,829	42.76	389,124,547	473.09

¹ Actuarial accrued liability excludes OPEB benefits on and after December 31, 2006.

EXHIBIT A-3
SCHEDULE OF EMPLOYER CONTRIBUTIONS
FOR GASB #25

For Year Ending December 31	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2013	\$294,877,895	TBD	TBD
2012	271,505,718	\$ 81,521,883	30.03%
2011	250,056,273	82,869,839	33.14%
2010	218,388,037	80,947,311	37.07%
2009	203,866,919	89,211,671	43.76%
2008	189,940,561	81,257,754	42.78%
2007	188,201,379	72,022,810	38.27%
2006 ¹	160,246,525	76,763,308	47.90%
2005	161,696,388	90,128,915	55.74%
2004	134,762,334	55,532,454	41.21%
2003	111,079,054	60,234,206	54.23%
2002	105,106,367	59,452,787	56.56%
2001	104,014,168	60,399,909	58.07%
2000	90,530,458	65,928,675	72.82%
1999	87,959,556	53,410,352	60.72%
1998	78,020,603	48,397,527	62.03%
1997	86,981,231	54,921,536	63.14%

¹ Starting with fiscal year 2006, GASB #25 disclosure includes pension benefits only. The retiree healthcare supplement is recognized under GASB #43 disclosure. For fiscal year 2013, the pension GASB #25 ARC is \$294,877,895 and the OPEB GASB #43 ARC is \$4,213,697.

EXHIBIT A-4
SUPPLEMENTARY INFORMATION FOR
GASB #25 AND #27

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	December 31, 2012
Actuarial Cost Method	Entry Age
Actuarial Value of Assets	5-year smoothed market
Amortization Method	Level dollar
Remaining Amortization Period	30 years
Actuarial Assumptions:	
Pension Investment Rate of Return	8.0%
OPEB Investment Rate of Return	4.5%
Projected Salary Increases	4.25% per year, plus an additional percentage related to service and promotion
Post-retirement Increases	1.5% simple interest for 20 years for members born in or after 1955 3% simple interest for life for members born before 1955

Actuarial Accrued Liability (AAL)

	2011 ¹	2012 ¹
Payable to Retirees and Beneficiaries	\$ 2,234,050,634	\$ 2,432,836,725
Current Employees:		
Accumulated Employee Contributions Including Statutory Interest	637,938,254	644,629,930
Payable to Vested and Non-Vested Employees	979,930,001	942,671,265
Total Actuarial Accrued Liability	\$ 3,851,918,889	\$ 4,020,137,920
Net Plan Actuarial Assets	1,101,741,862	993,283,741
Unfunded AAL (assets in excess of AAL)	\$ 2,750,177,027	\$ 3,026,854,179
Percent Funded	28.60%	24.71%
Unfunded AAL as Percent of Payroll	646.51%	722.46%
Payroll	\$ 425,385,354	\$ 418,964,763

¹Excludes liabilities for retiree healthcare subsidy.

EXHIBIT A-5
ANNUAL PENSION COST AND CONTRIBUTIONS
MADE FOR GASB #27

Contribution rates	
City	Proceeds from a tax levy not more than an amount equal to the total amount of contributions by the employees to the Fund made in the calendar year two years prior to the year for which the annual applicable tax is levied, multiplied by 2.26.
Plan members	9.125%
Annual Pension Cost FY 2012	
Annual Required Contribution (ARC)	\$ 271,505,718
Interest on Net Pension Obligation	120,807,105
Adjustment to ARC	<u>(124,201,216)</u>
Total	\$ 268,111,607
Contributions Made FY 2012	\$ 81,521,883
Net Pension Obligation (NPO) FYE 2012	
NPO, Beginning of Year	\$ 1,510,088,812
Increase/(Decrease) in NPO	<u>186,589,724</u>
NPO, End of Year	\$ 1,696,678,536

**EXHIBIT A-6
PENSION COST SUMMARY
FOR GASB #27**

Year Ended December 31	Annual Pension Cost	% of Annual Pension Cost Contributed	Net Pension Obligation
2012	\$268,111,607	30.41%	\$1,696,678,536
2011	247,031,134	33.55%	1,510,088,812
2010	215,665,695	37.53%	1,345,927,517
2009	201,396,727	44.30%	1,211,209,132
2008	187,709,633	43.29%	1,099,024,077
2007	186,227,139	38.67%	992,572,198
2006	166,575,057	47.41%	878,367,869
2005	163,383,756	55.16%	790,764,195
2004	136,259,855	40.75%	717,509,354
2003	112,453,771	53.56%	636,781,953
2002	106,370,746	55.89%	584,562,388
2001	105,173,254	57.43%	537,644,429
2000	91,629,104	71.95%	492,871,084
1999	88,974,566	60.03%	467,170,655
1998	78,963,730	61.29%	431,606,441
1997	86,732,136	63.37%	401,040,238

EXHIBIT A-7
DEVELOPMENT OF NET PENSION OBLIGATION (NPO) AT JANUARY 1, 1997 FOR GASB #27

Year Ending December 31:	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Assumptions and Method										
Interest Rate	7.5%	7.5%	7.5%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Amortization Period (years)	40	40	40	40	40	40	40	40	40	40
Cost Method	EAN	EAN	EAN	EAN	EAN	EAN	EAN	EAN	EAN	EAN
Annual Pension Cost										
Actuarially Determined Contribution (ADC)										
Normal Cost	\$44,023,556	\$44,652,516	\$45,746,453	\$43,184,329	\$47,236,555	\$51,515,900	\$52,304,610	\$53,235,963	\$48,144,514	\$49,878,875
40 Year Amortization	39,898,154	39,352,208	40,223,713	42,067,968	46,890,387	51,539,966	50,994,199	50,104,234	58,739,960	60,136,652
Total ADC	\$83,921,710	\$84,004,724	\$85,970,166	\$85,252,297	\$94,126,942	\$103,055,866	\$103,298,809	\$103,340,197	\$106,884,474	\$110,015,527
Interest on NPO	-	2,769,886	5,550,082	8,059,065	10,439,561	13,342,202	16,836,891	20,063,899	23,224,933	26,163,631
Adjustment to ADC	-	(2,827,639)	(5,596,880)	(8,127,020)	(10,527,588)	(13,454,705)	(16,978,861)	(20,233,079)	(23,420,768)	(26,384,245)
Annual Pension Cost	\$83,921,710	\$83,946,971	\$85,923,368	\$85,184,342	\$94,038,915	\$102,943,363	\$103,156,839	\$103,171,017	\$106,688,639	\$109,794,913
Contributions for Year										
Employer Contributions	\$29,562,500	\$34,339,139	\$37,016,865	\$36,478,751	\$36,504,134	\$38,448,497	\$42,036,863	\$42,727,953	\$41,616,542	\$43,527,172
Employee Contributions	17,427,400	17,163,621	17,544,210	18,949,395	21,251,755	20,811,264	20,782,382	20,930,122	28,338,382	24,045,799
Total Contributions	\$46,989,900	\$51,502,760	\$54,561,075	\$55,428,146	\$57,755,889	\$59,259,761	\$62,819,245	\$63,658,075	\$69,954,924	\$67,572,971
Net Pension Obligations (NPO)										
NPO at Beginning of Year	\$0	\$36,931,810	\$69,376,021	\$100,738,313	\$130,494,509	\$166,777,535	\$210,461,137	\$250,798,731	\$290,311,673	\$327,045,388
Annual Pension Cost	83,921,710	83,946,971	85,923,368	85,184,342	94,038,915	102,943,363	103,156,839	103,171,017	106,688,639	109,794,913
Total Contributions	(46,989,900)	(51,502,760)	(54,561,075)	(55,428,146)	(57,755,889)	(59,259,761)	(62,819,245)	(63,658,075)	(69,954,924)	(67,572,971)
NPO at End of Year	\$36,931,810	\$69,376,021	\$100,738,313	\$130,494,509	\$166,777,535	\$210,461,137	\$250,798,731	\$290,311,673	\$327,045,388	\$369,267,330

EXHIBIT A-8
SCHEDULE OF FUNDING PROGRESS
FOR GASB #43

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2012	\$ 0	\$ 46,205,891	\$ 46,205,891	0.00 %	\$ 418,964,763	11.03 %
12/31/2011	0	46,980,335	46,980,335	0.00 %	425,385,354	11.04
12/31/2010	0	48,221,878	48,221,878	0.00 %	400,404,320	12.04
12/31/2009	0	47,932,528	47,932,528	0.00 %	400,912,173	11.96
12/31/2008	0	47,309,338	47,309,338	0.00 %	396,181,778	11.94
12/31/2007	0	47,096,707	47,096,707	0.00 %	389,124,547	12.10

EXHIBIT A-9
SCHEDULE OF EMPLOYER CONTRIBUTIONS
FOR GASB #43

For Year Ending December 31	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2013	\$ 4,213,697	TBD	TBD
2012	4,275,669	\$ 2,622,445	61.33%
2011	4,469,292	2,628,163	58.80%
2010	4,427,729	2,644,290	59.72%
2009	4,370,229	2,645,135	60.53%
2008	4,307,852	2,486,950	57.73%

EXHIBIT A-10
SUPPLEMENTARY INFORMATION FOR
GASB #43 AND GASB #45

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	December 31, 2012
Actuarial Cost Method	Entry Age
Actuarial Value of Assets	No assets (Pay-as-you-go)
Amortization Method	Level dollar
Remaining Amortization Period	30 years
Actuarial Assumptions:	
Healthcare Investment Rate of Return	4.5%
OPEB Investment Rate of Return	4.5%
Projected Salary Increases	4.25% per year, plus an additional percentage related to service and promotion
Healthcare Cost Trend Rate	0.0% ¹

Actuarial Accrued Liability (AAL)

	2011	2012
Payable to Retirees and Beneficiaries	\$ 27,505,262	\$ 26,951,110
Current Employees:		
Accumulated Employee Contributions Including Statutory Interest	-	-
Payable to Vested and Non-Vested Employees	19,475,073	19,254,781
Total Actuarial Accrued Liability	\$ 46,980,335	\$ 46,205,891
Net Plan Actuarial Assets	-	-
Unfunded AAL (assets in excess of AAL)	\$ 46,980,335	\$ 46,205,891
Percent Funded	0.00%	0.00%
Unfunded AAL as Percent of Payroll	11.04%	11.03%
Payroll	\$ 425,385,354	\$ 418,964,763

¹ Trend not applicable - fixed dollar subsidy.

EXHIBIT A-11
HISTORY OF ANNUAL OPEB COST AND CONTRIBUTIONS
MADE FOR GASB #45

Year Ended December 31	Annual OPEB Cost	% of Annual OPEB Cost Contributed	Net OPEB Obligation
2012	\$ 4,154,005	63.13%	\$ 10,381,147
2011	4,371,598	60.12%	8,849,587
2010	4,353,533	60.74%	7,106,152
2009	4,319,046	61.24%	5,396,909

EXHIBIT A-12
OPEB COST SUMMARY FOR GASB #45

Contribution Rates	
City	Pay-as-you-go
Plan Members	None
Annual OPEB Cost for 2012	
Annual Required Contribution (ARC)	\$ 4,275,669
Interest on Net OPEB Obligation	398,231
Adjustment to ARC	(519,895)
Total	<u>\$ 4,154,005</u>
Contributions Made in 2012	\$ 2,622,445
Net OPEB Obligation (NOO):	
NOO at 12/31/2011	\$ 8,849,587
Increase/(Decrease) in NOO	<u>1,531,560</u>
NOO at 12/31/2012	\$ 10,381,147