

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



April 8, 2013

Board of Trustees Policemen's Annuity and Benefit Fund City of Chicago 221 North LaSalle Street, Suite 1626 Chicago, IL 60601

Subject: Actuarial Valuation Report for the Year Ending December 31, 2012

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Policemen's Annuity and Benefit Fund of Chicago ("the Fund") as of December 31, 2012. This valuation has been performed to measure the funded status of the Fund and to determine the contribution levels 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 GASB Statement No. 25 and GASB Statement No. 43. These actuarial valuations of the Fund are performed annually.

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

- Summary of Actuarial Valuation Methods and Assumptions
- Schedule of Active Member Data
- Retirements and Beneficiaries Added to and Removed from Rolls
- Prioritized Solvency (Termination) Test
- Development of Annual Required Contributions under GASB Statements No. 25 and No. 43
- Development of Actuarial Gains and Losses
- Summary of Basic Actuarial Values

We have also provided the following schedules in the financial section of the report.

- Schedule of Funding Progress
- Schedule of Employer Contributions
- Notes to Required Supplementary Information

This valuation is based upon:

**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.

**Asset Values** – The value of assets of the Fund was provided by the Fund's staff. Book values of assets are used to develop actuarial results for the state reporting basis. Actuarial value of assets are used for financial reporting under GASB Statement No. 25 and Statement No. 27. In each future fiscal year, gains and losses will be phased in over a five year period.

**Actuarial Method** – The actuarial method utilized by the Fund is the Entry-Age Normal 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 of 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.

**Actuarial Assumptions** – On February 26, 2013, the Board approved a change in the investment return assumption from 8.00 percent to 7.75 percent. All other 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.

**Plan Provisions** – The actuarial valuation is based on 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 twice 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 2:1 relationship. The most recent actuarial valuation of the Fund on the State reporting basis shows that an employer to employee contribution ratio of 6.73:1 is needed to meet the actuarially determined contribution requirement.

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

Respectfully yours,

Alex Rivera, F.S.A., E.A., M.A.A.A.

Senior Consultant

Lance Weiss, E.A., F.C.A, M.A.A.A

Laney when

Senior Consultant

## ADDITIONAL DISCLOSURES REQUIRED BY ACTUARIAL STANDARDS OF PRACTICE

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

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

The signing actuaries are independent of the plan sponsor.

## TABLE OF CONTENTS

Summary of Va	luation Results	1
Appendix 1	Results of Actuarial Valuation	
Table 1	Summary	11
Table 2	Summary of Basic Actuarial Values	14
Table 3	Development of Actuarially Determined Contribution for 2013 (State Basis)	15
Table 4	Development of Annual Required Contribution under GASB #25 and GASB #43 for 2013	16
Table 5	Development of Actuarial Gains and Losses for 2012	17
Table 6	History of Recommended Employer Multiples	18
Table 7	Ordinary Death Benefit Reserve	19
Table 8	Actuarial Accrued Liability Prioritized Solvency Test	20
Appendix 2	Assets of the Plan	21
Table 9	Reconciliation of Assets as of December 31, 2012	22
Table 10	Development of Actuarial (Market-Related) Value of Assets as of December 31, 2012	23
Appendix 3	Data Reflecting Plan Members	
Exhibit A	Summary of Changes in Active Participants for Fiscal Year Ending December 31, 2012	24
Exhibit B	Summary of Changes in Annuitants and Beneficiaries for Fiscal Year Ending December 31, 2012	25
Exhibit C	Total Lives and Annual Salaries Classified by Age and Years of Service as of December 31, 2012	
	Part I Active Male Participants	26
	Part II Active Female Participants	27
	Part III All Active Participants	28

## TABLE OF CONTENTS (CONT'D)

#### Appendix 3 (Cont'd)

Exhibit D	Showing Number of Refund Payments Made During Year for Fiscal Year Ending December 31, 2012					
	Part I	Male Employees	29			
	Part II	Female Employees	30			
Exhibit E	•	tics on Service Retirement Annuities Classified ecember 31, 2012	31			
Exhibit F	•	Showing Statistics on Widow's Annuities Classified by Age as of December 31, 2012				
Exhibit G	Showing Statis Ending Decem	tics on Miscellaneous Annuities for Fiscal Year ber 31, 2012	33			
Exhibit H	_	cipants Receiving Duty Disability Classified by h of Service as of December 31, 2012				
	Part I	Male	34			
	Part II	Female	35			
Exhibit I	_	sipants Receiving Ordinary Disability Classified ngth of Service as of December 31, 2012				
	Part I	Male	36			
	Part II	Female	37			
Exhibit J	•	cipants Receiving Occupational Disease sified by Age and Length of Service as of 2012				
	Part I	Male	38			
	Part II	Female	39			
Exhibit K	History of Ave	rage Annual Salaries	40			
Exhibit L	New Annuities	Granted During 2012	41			
Exhibit M	Retirees and Bo	eneficiaries by Type of Benefit	42			
Exhibit N	Average Employee Retirement Benefits Payable					

## TABLE OF CONTENTS (CONT'D)

#### Appendix 3 (Cont'd)

Exhibit O	History of Ann	nuities						
	Part I Emplo	oyee Annuitants (Male and Female)	44					
	Part II Spous Widows)	e Annuitants (not including compensation	45					
Exhibit P		Counts of Retirees and Beneficiaries with Healthcare Coverage Subsidies						
Exhibit Q	Schedule of Ro Monthly Bene	etired Members by Types of Benefit and fit Levels	47					
Exhibit R	Schedule of A Granted during	verage Benefit Payments for New Annuities g 2012	48					
Exhibit S	•	History of Retirees and Beneficiaries Added to and Removed from Benefit Payroll						
Appendix 4	Actuarial Methods and Assumptions as of December 31, 2012							
	Actuarial Meth	nods and Assumptions as of December 31, 2012	50					
Appendix 5	Summary of l	Provisions of the Fund as of December 31, 2012						
	Summary of P December 31,	rincipal Eligibility and Benefit Provisions as of 2012	54					
Appendix 6	Legislative Cl	nanges 1979 through 2012	61					
Appendix 7	Additional Ex	chibits — GASB Disclosures						
	Exhibit A-1	GASB #25, #27, #43, and #45 Disclosures	74					
	Exhibit A-2	Schedule of Funding Progress for GASB #25	76					
	Exhibit A-3	Schedule of Employer Contributions for GASB #25	77					
	Exhibit A-4	Supplementary Information for GASB #25/27	78					

## TABLE OF CONTENTS (CONT'D)

### Appendix 7 (Cont'd)

Exhibit A-5	Annual Pension Cost and Contributions Made for GASB #27	79
Exhibit A-6	Pension Cost Summary for GASB #27	80
Exhibit A-7	Development of Net Pension Obligation (NPO) for GASB #27	81
Exhibit A-8	Schedule of Funding Progress for GASB #43	84
Exhibit A-9	Schedule of Employer Contributions for GASB #43	85
Exhibit A-10	Supplementary Information for GASB #43	86
Exhibit A-11	Annual OPEB Cost And Contributions Made For GASB #45 for 2012	87
Exhibit A-12	OPEB Cost Summary for GASB #45	88

This report sets forth the results of the actuarial valuation of the Policemen's Annuity and Benefit Fund of the City 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 and OPEB costs under GASB #27 and GASB #45.
- 4. To review the funded status of the Fund.

The funded status, in basic terms, is a comparison of Fund liabilities to Fund assets expressed as either 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.

Funded status is measured differently for reporting to the State and for Fund and City financial reports. The following chart shows how funded status is determined for each purpose.

PURPOSE	ACTUARIAL METHOD	ASSET VALUE
State reporting	Entry Age Normal	Cost
Fund and City reporting after 1996 (GASB #25, #27, #43, and #45)	Entry Age Normal	Actuarial (Market-Related) Value of Assets

Under the Entry-Age Normal Actuarial Cost Method, each participant's benefits are assumed to be funded by annual installments, equal to a level percentage of compensation, payable from date of participation to assumed retirement. The total "Normal Cost" is the sum of the current year's annual installments determined for all active participants. The "Actuarial Accrued Liability" is the excess of the discounted value of projected benefits for all participants (both active and retired) over the discounted value of Normal Costs determined for future years of service.

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 actuarially determined contribution for the year ending December 31, 2013, is \$728.6 million (71.8 percent of covered payroll), or \$635.1 million (62.6 percent) after expected employee contributions are subtracted. The 2013 actuarially determined contribution of \$728.6 million compares with \$689.5 million for 2012.

The annual required contribution (ARC) under GASB #25 for the year ending December 31, 2013, is \$474.2 million, which is 46.7 percent of payroll. This amount compares with an ARC of \$431.0 million or 41.7 percent of payroll for the year ending December 31, 2012. These amounts are for pension benefits only and are net of employee contributions of \$93.5 million for fiscal year 2013 and \$95.3 million for fiscal year 2012.

GASB #43 requires the calculation of a separate ARC for Other Postemployment Benefits (OPEB). The ARC for fiscal year 2013 is based on this actuarial valuation as of December 31, 2012. The OPEB ARC for the fiscal year ending December 31, 2013, is \$10.4 million, which is 1.0 percent of payroll. This amount compares with an OPEB ARC of \$10.5 million or 1.0 percent of payroll for the year ending December 31, 2012.

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.

	Pension ARC	OPEB ARC
Investment Return	7.75% per year	4.5% per year
Assets	5-year smoothed market	No assets (Pay-as-you-go)

GASB #43 requires the investment return assumption (or "discount rate") used to value OPEB liabilities to be based on the estimated long-term yield of the investments expected to be used to finance the payment of benefits. The investment return assumption of 4.5 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 prefund or pay the health insurance supplement.

Beginning with the actuarial valuation as of December 31, 2006, GASB #25 requires the use of at most a 30-year amortization period to determine the pension ARC, which is already required for the OPEB ARC.

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 produce a blended or average discount rate based on 7.75 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 blended discount rate and shorter amortization periods required under GASB #67 and #68, the liabilities and pension expense will 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.

The actuarial liabilities increased by approximately \$47 million (or 8.2 percent) less than the expected value. The key factors impacting the actuarial liability loss of \$209 million include: Salary gains of \$115 million, demographic losses of \$26 million, new entrants losses of \$4 million, and other losses of \$37 million. The loss due to changing the investment return assumption from 8.00% to 7.75% was \$256 million.

On the State reporting basis, the unfunded liability increased from \$6.61 billion to \$7.27 billion and the funded ratio decreased from 31.72% to 28.89%. The funded ratio comparing actuarial value of assets

to actuarial liabilities decreased from 35.55% to 30.81%. The funded ratio comparing market value of assets to actuarial liabilities decreased from 32.78% to 31.44%.

On a market value basis, the unfunded liability increased due primarily to contribution shortfalls and the change in the investment return assumption. There was a gain on invested assets due to an approximate return of 11.7% on market value compared with the assumed return of 8.00%.

On a book value basis, the unfunded liability increased due to the realized asset losses, contribution shortfalls, and the change in the investment return assumption. The actual return on a book value basis of 6.7% was below the assumed return of 8.00%.

In each future fiscal year, for purposes of determining actuarial value of assets, investment gains and losses will be phased in over a five year period.

The total ARC for pension and OPEB for 2012 was \$441.5 million compared to actual contributions of \$207.7 million. This difference has increased over the last ten years and the impact can be seen in the GASB #27 Net Pension Obligation (NPO). The NPO has increased from \$635.6 million at December 31, 2002, to \$2,350.7 million as of December 31, 2012.

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% 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.

Please note the highlighted area on page 28 showing the age/service distribution for active members. A large portion of the population is at or nearing retirement. We should continue to monitor this as the ratio of actives to retirees has been steadily declining, which can ultimately have a large impact on contribution requirements. A more thorough examination of these and other factors can be found in the Analysis of Actuarial Assumptions explanation and the gain/loss information in Table 5.

A summary of the primary results of this valuation is shown in the following table.

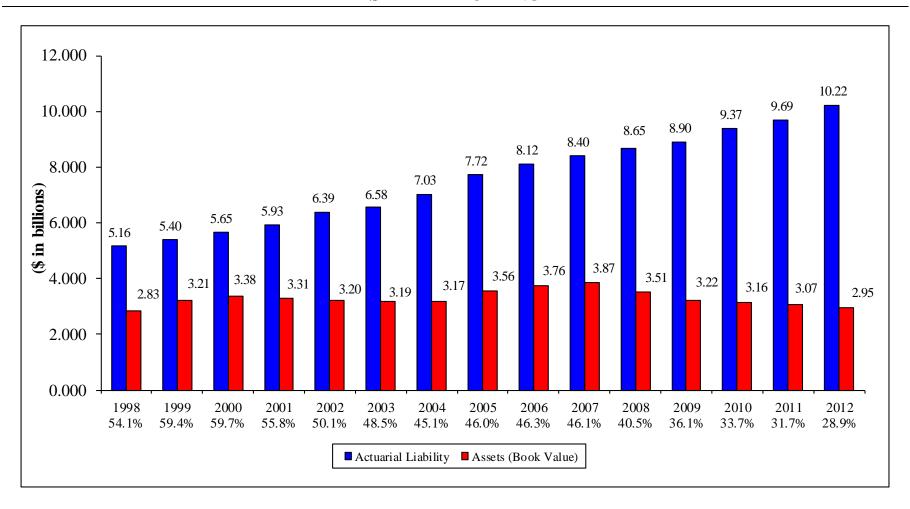
	2011			2012		
	\$	in Millions	% of Pay	\$	in Millions	% of Pay <sup>1</sup>
Contribution Levels						
Actuarially						
Determined Contribution						
(State Reporting) <sup>2</sup>	\$	689.48	66.65%	\$	728.59	71.77%
Annual Required Contribution <sup>3</sup>		441.48	42.68		484.61	47.74
(GASB 25 and 43)						
Funded Status						
Book Value of Assets	\$	3,073.61	297.14%	\$	2,952.87	290.87%
Actuarial Liability		9,688.35	936.61		10,220.64	1,006.79
Funded Ratio		31.72%	N/A		28.89%	N/A
Funded Status-Market Value						
Market Value of Assets	\$	3,175.51	306.99%	\$	3,213.43	316.54%
Actuarial Liability		9,688.35	936.61		10,220.64	1,006.79
Funded Ratios		32.78%	N/A		31.44%	N/A
Funded Status - GASB #25 and #43	3					
Market-Related Value of Assets	\$	3,444.69	333.01%	\$	3,148.93	310.19%
Actuarial Liability		9,688.35	936.61		10,220.64	1,006.79
Funded Ratios		35.55%	N/A		30.81%	N/A

Payroll was \$1,034 million in 2011 and \$1,015 million in 2012.

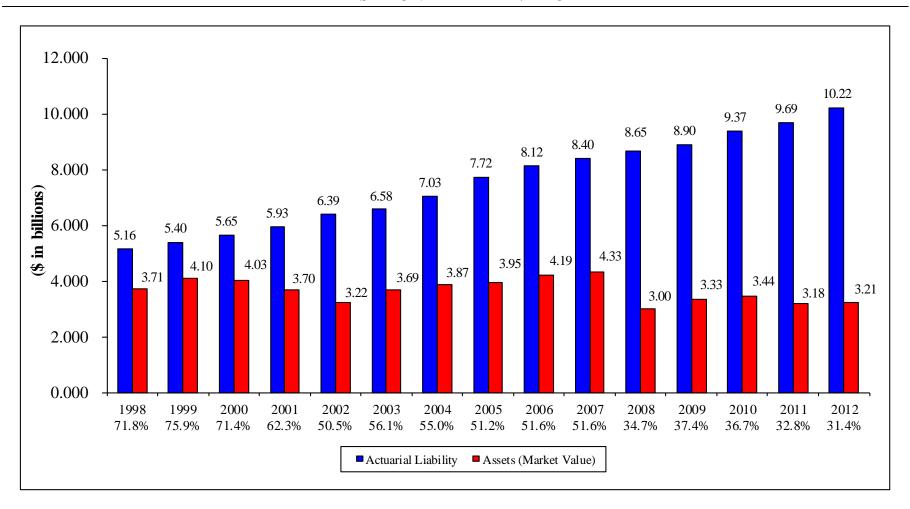
The contribution is for the following fiscal year and includes estimated employee contributions of \$95.3 million for 2011 and \$93.5 million for 2012.

<sup>&</sup>lt;sup>3</sup> For the following fiscal year net of employee contributions. ARC for both pension and healthcare benefits under GASB #25 and GASB #43.

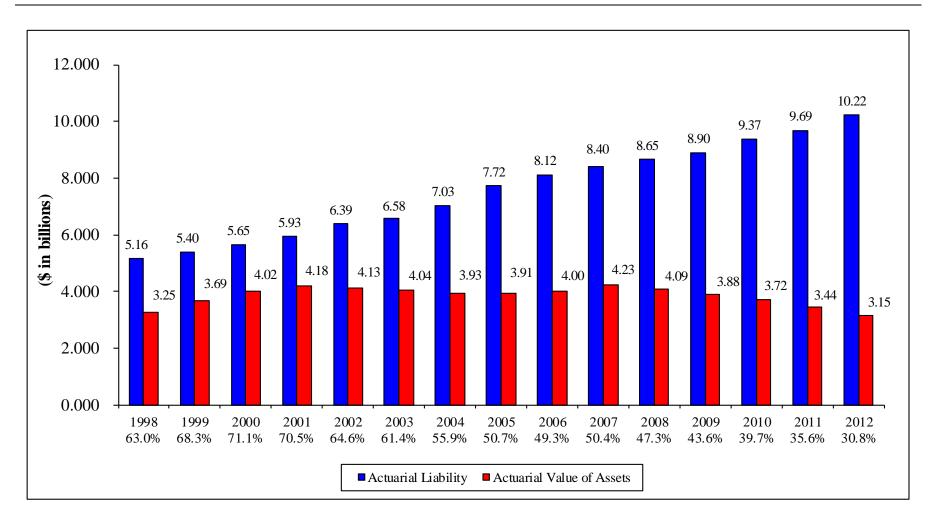
## POLICEMEN'S ANNUITY AND BENEFIT FUND SUMMARY OF VALUATION RESULTS (CONT'D) COMPONENTS OF FUNDED RATIO STATE REPORTING



## POLICEMEN'S ANNUITY AND BENEFIT FUND SUMMARY OF VALUATION RESULTS (CONT'D) COMPONENTS OF FUNDED RATIO BASED ON MARKET VALUE



## POLICEMEN'S ANNUITY AND BENEFIT FUND SUMMARY OF VALUATION RESULTS (CONT'D) COMPONENTS OF FUNDED RATIO GASB #25 #43



#### **Participants**

	December 31, 2011	December 31, 2012
<b>Active Participants</b>		
Number	12,236	12,026
Average Age	43.6	43.4
Average Service	15.0	14.9
Average Annual Salary	\$84,538 1	\$84,415
Retirees		
Number	8,763	9,035
Average Age	68.4	68.5
Average Monthly Benefit	\$4,592	\$4,741
Survivors		
Number	3,161	3,191
Average Age	74.8	75.1
Average Monthly Benefit	\$1,571	\$1,616

The major characteristics of the Fund participants are summarized as follows:

A large portion of the active participant population is nearing or is eligible for retirement; 33.8% of the workforce is between the ages of 45 and 54, while 25.5% have 20 or more years of service. Total participants receiving benefits under the Fund, including retirees, disabilities, survivors, and children increased 2.39% during 2012 from 12,663 to 12,966. The total retiree count increased by 3.1% during 2012. Total expenditures for benefits increased from \$575.3 million in 2011 to \$613.9 million during 2012, or 6.71%.

#### **Changes in Provisions of the Fund**

The following Public Acts were passed in 2012 by the 97th General Assembly that made changes to the Fund Provisions.

P. A. 97-0651, effective January 5, 2012

P. A. 97-0813, effective July 13, 2012

These changes do not directly impact the liabilities of the Fund as of the valuation date. A detailed description of the provisions in the Public Acts passed in 2012 can be found in the Historical Information section of this report.

<sup>&</sup>lt;sup>1</sup> Average annual salary would have been \$81,531 without the addition of duty availability pay.

<sup>&</sup>lt;sup>2</sup> Average annual salary would have been \$81,307 without the addition of duty availability pay.

#### **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. Thus, while actual experience will fluctuate over the short run, actuarial assumptions are chosen in an attempt to model the future long run 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, disability incidence, and post-retirement mortality. The most significant economic assumptions are: pay increases, investment return, and inflation. Other actuarial assumptions include: active mortality and percent married.

#### **Changes in Actuarial Assumptions and Methods**

There were no changes in the Demographic Actuarial Assumptions during the plan year ending December 31, 2012.

For the December 31, 2012 actuarial valuation, the Investment Return Rate was changed in the Economic Assumptions from 8.00% to 7.75%. This change increased the actuarial liabilities by \$256 million and decreased the funded ratio from 32.25% to 31.44% on a market value basis.

#### 2012 Gain/Loss Analysis

We performed a gain/loss analysis of the major factors which contributed to the change in the unfunded actuarial liability between December 31, 2011 and December 31, 2012. Our analysis by source follows.

#### **Turnover**

We reviewed all exits in 2012 from the Fund for reasons other than retirement, death, or disability for members with less than 20 years of service. The ratio of actual withdrawals to expected withdrawals was 177% (77 percent more than expected). The overall result is an actuarial gain.

#### Retirement

The number of retirements during 2012 was more than expected. The ratio of actual retirements to expected retirements was 134%, resulting in an actuarial loss to the plan.

#### **Disability**

The number of new disabled participants during 2012 was more than expected. The ratio of actual to expected disability was 120%, resulting in a loss to the plan.

#### Mortality

There were fewer deaths during 2012 than expected for active members and more deaths than expected for annuitants, which resulted in a net actuarial gain to the fund.

#### **Pay Increase**

The average salary for continuing active members in the 2011 and 2012 valuations increased by 2.3%. This was 2.7% less than the expected increase from the 2011 salary. The lower than expected salary increases resulted in an actuarial gain to the fund.

#### **Investment Return**

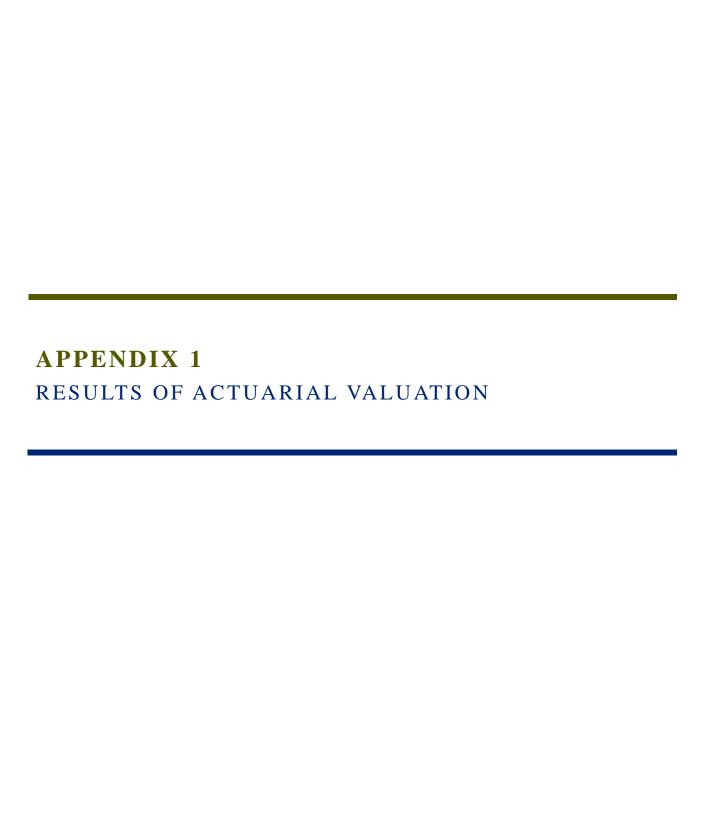
During 2012, assets earned 11.7% on a market basis, 6.7% on a book basis, and 0.6% on an actuarial basis which compares to the 2012 assumed return of 8.0%. Overall, the fund experienced an actuarial loss due to investment performance, on an actuarial basis and book value basis, during the year.

#### **Data and Other Sources**

There were small actuarial losses in liabilities due to data corrections and other sources.

#### **Conclusion**

Overall, we believe that the current assumptions are doing a reasonable job of modeling experience. Table 5 of Appendix 1 shows a more detailed development of the actuarial gains and losses for the plan year ending December 31, 2012.



# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUMMARY

#### Table 1A

	December 31,			
	2011	2012		
Assets				
Book Value - Beginning of Year	\$ 3,159,704,269	\$ 3,073,609,092		
Income				
Investment Income Net of Expenses	\$ 211,720,949	\$ 194,517,018		
Employer Contributions	183,521,526	207,228,022		
Employee Contributions	98,222,257	95,892,052		
Miscellaneous	104,468	423,216		
Subtotal	\$ 493,569,200	\$ 498,060,308		
Outgo (Refunds, Benefits, & Administration)	\$ 579,664,377	\$ 618,795,083		
Book Value - End of Year	\$ 3,073,609,092	\$ 2,952,874,317		
Market Value - End of Year	3,175,508,681	3,213,433,233		
Actuarial Value - End of Year	3,444,690,362	3,148,929,770		
Member Counts				
Active	12,236	12,026		
Retirees	8,763	9,035		
Survivors	3,161	3,191		
Disabilities	349	346		
Inactives	624	664		
Children	390	394		
Payroll Data				
Valuation Payroll	\$ 1,034,403,526	\$ 1,015,170,686		
Average Salary	84,538	84,415		

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUMMARY (CONT'D)

Table 1B

	December 31,			
	2011	2012		
ACTUARIAL VALUES				
Funding - State Basis				
Actuarial Liability	\$ 9,688,349,905	\$ 10,220,638,509		
Assets - Book Value - Net	3,073,609,092	2,952,874,317		
Unfunded Liability	6,614,740,813	7,267,764,192		
Funded Ratio	31.72%	28.89%		
Actuarially Determined Total Contribution <sup>1</sup>	\$ 689,479,397	\$ 728,592,633		
Deficiency in Required Contribution (est.)	380,077,329	442,493,101		
Required Employer Contribution Multiple	5.71	6.73		
Termination Values				
Liability	\$ 7,350,706,289	\$ 7,834,008,959		
Deficiency	4,277,097,197	4,881,134,642		
Quick Ratio	41.81%	37.69%		
Funding using Market Values				
Actuarial Liability	\$ 9,688,349,905	\$ 10,220,638,509		
Assets - Market Value	3,175,508,681	3,213,433,233		
Unfunded Liability	6,512,841,224	7,007,205,276		
Funded Ratio	32.78%	31.44%		
GASB #25 and #43 Values				
Actuarial Liability <sup>3</sup>	\$ 9,688,349,905	\$ 10,220,638,509		
Assets - Actuarial Value	3,444,690,362	3,148,929,770		
Unfunded Liability	6,243,659,543	7,071,708,739		
Funded Ratio	35.55%	30.81%		
Annual Required Contribution (ARC) <sup>2</sup>	441,483,651	484,607,486		
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<sup>&</sup>lt;sup>1</sup> Includes estimated employee contributions of \$95,307,068 for December 31, 2011, and \$93,535,532 for December 31, 2012.

<sup>&</sup>lt;sup>2</sup> ARC is for the following fiscal year, and is the total under GASB#25 and GASB#43. The fiscal year 2013 ARC for Pension benefits is \$ 474,177,604, and the fiscal year 2013 ARC for OPEB is \$10,429,882.

<sup>&</sup>lt;sup>3</sup> Disclosures under GASB#25 and GASB#43 show Actuarial Accrued Liability separately for Pensions and OPEB.

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUMMARY (CONT'D)

Table 1C
Active Accrued Liability and Normal Cost by Tier
Includes Pension and Healthcare

	Ti	er 1 Members	Tie	r 2 Members <sup>2</sup>		Total
(1) Count		11,540		486		12,026
(2) Payroll	\$	993,223,408	\$	21,947,278	\$	1,015,170,686
(3) Average Payroll	\$	86,068	\$	45,159	\$	84,415
(4) Actuarial Accrued Liability (AAL) <sup>1</sup>	\$3	3,679,456,201	\$	959,594	\$ :	3,680,415,795
(5) Total Normal Cost <sup>1</sup>	\$	179,759,879	\$	3,525,678	\$	183,285,557
(6) Total Normal Cost as a Percent of Pay		18.1%		16.1%		18.1%
(7) Estimated Member Contributions	\$	91,506,579	\$	2,028,953	\$	93,535,532
(8) Net Normal Cost <sup>1</sup>	\$	88,253,300	\$	1,496,725	\$	89,750,025
(9) Net Normal Cost as a Percent of Pay		8.9%		6.8%		8.8%

<sup>&</sup>lt;sup>1</sup>The normal cost and liabilities for healthcare are based on a discount rate of 4.5%.

<sup>&</sup>lt;sup>2</sup>Members hired on or after January 1, 2011.

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUMMARY OF BASIC ACTUARIAL VALUES

Table 2

	APV of Projected Benefits	Actuarial Accrued Liability (AAL)
(1) Values for Active Members		
(a) Retirement	\$5,040,060,158	\$3,497,680,048
(b) Termination	68,099,962	7,707,851
(c) Disability	365,005,353	151,403,724
(d) Death	89,794,102	23,624,172
Total for Actives	\$5,562,959,575	\$3,680,415,795
(2) Values for Inactive Members		
(a) Retired	5,683,911,713	5,683,911,713
(b) Survivor	513,867,069	513,867,069
(c) Disability	267,807,543	267,807,543
(d) Inactive (Deferred Vested)	64,940,396	64,940,396
(e) Children	9,695,993	9,695,993
Total for Inactives	6,540,222,714	6,540,222,714
(3) Grand Totals	\$12,103,182,289	\$10,220,638,509
(4) Normal Cost for Active Members	\$ 183,285,557	
(5) Actuarial Present Value of Future Compensation	\$10,746,060,973	

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO DEVELOPMENT OF ACTUARIALLY DETERMINED CONTRIBUTION FOR 2013 (STATE BASIS)

(1) Normal Cost (see Table 2)	\$	183,285,557
(2) Actuarial Accrued Liability (AAL)	\$1	0,220,638,509
(3) Unfunded AAL (UAAL)		
(a) Assets at Book	\$	2,952,874,317
(b) UAAL (2-3(a))	,	7,267,764,192
(4) Interest on UAAL Payable at End of Year	\$	557,765,364
(5) Actuarially Determined Contribution for 2013		
(a) Interest Adjustment for Semimonthly Payment	\$	(12,458,288)
(b) Total Minimum Contribution (1+4+5(a))	\$	728,592,633
(c) Total Minimum Contribution (Percent of Pay)		71.77%
(6) Estimated City and Member Contributions for 2013		
(a) City	\$	192,564,000
(b) Members		93,535,532
(c) Total	\$	286,099,532
(7) Estimated Deficiency/(Excess) for 2013		
(a) in Dollars $(5(b)-6(c))$	\$	442,493,101
(b) as a Percentage of Pay		43.59%

## POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO **DEVELOPMENT OF ANNUAL REQUIRED** CONTRIBUTION UNDER GASB #25 AND GASB #43 FOR 2013 1

		Health Ins.	
	Pension	Supplement	Total
(1) Normal Cost (see Table 2)	\$ 179,118,343	\$ 4,167,214	\$ 183,285,557
(2) Actuarial Accrued Liability (AAL)	\$10,051,827,391	\$ 168,811,118	\$10,220,638,509
(3) Unfunded AAL (UAAL)			
(a) Actuarial Value of Assets	\$ 3,148,929,770	\$ 0	\$ 3,148,929,770
(b) UAAL (2-3(a))	6,902,897,621	168,811,118	7,071,708,739
(4) Amortization Payable at Beginning of Year <sup>2</sup>	\$ 367,073,974	\$ 6,027,100	\$ 373,101,074
(5) Estimated Member Contributions	\$ 93,535,532	\$ 0	\$ 93,535,532
(6) Annual Required Contribution (ARC) for 2013			
(a) Interest Adjustment for Semimonthly Payment	21,520,819	235,568	21,756,387
(b) Annual Required Contribution $(1 + 4 - 5 + 6(a))$	\$ 474,177,604	\$ 10,429,882	\$ 484,607,486
(c) Annual Required Contribution (Percent of Pay)	46.71%	1.03%	47.74%
(7) Estimated City Contribution for 2013	\$ 182,784,614	\$ 9,779,386 3	\$ 192,564,000
(8) Estimated Deficiency/(Excess) for 2013			
(a) in Dollars (6(b)-7)	\$ 291,392,990	\$ 650,496	\$ 292,043,486
(b) as a Percentage of Pay	28.70%	0.06%	28.77%

<sup>&</sup>lt;sup>1</sup> Pension liabilities were discounted at 7.75% per year, and OPEB liabilities discounted at 4.5% per year. <sup>2</sup> Amortization is over a 30-year period as a level percent of pay.

<sup>&</sup>lt;sup>3</sup> Represents expected health insurance supplemental benefits for fiscal year 2013.

## POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO DEVELOPMENT OF ACTUARIAL GAINS AND LOSSES FOR 2012

UNFU	UNFUNDED ACTUARIAL ACCRUED LIABILITY - BEGINNING OF 2012					
(1)	Actuarial Accrued Liability - 12/31/2011	\$9,688,349,905				
(2)	Assets at Book Value - 12/31/2011	3,073,609,092				
(3)	Unfunded Accrued Actuarial Liability - 12/31/2011	\$6,614,740,813				
EXPE	CTED UNFUNDED ACTUARIAL ACCRUED LIABILITY - END	OF 2012				
(4)	Normal Cost for 2012	\$ 177,910,993				
(5)	Total Contributions for 2012	303,543,290				
(6)	Interest on (3), (4), & (5) at Valuation Rates	525,710,463				
(7)	Expected Unfunded Actuarial Accrued Liability - 12/31/2012	\$7,014,818,979				
	((3)+(4)-(5)+(6))					
DEVL	ATIONS FROM EXPECTED					
(8)	(Gain)/Loss on Investment Return (Book Value)	\$44,084,492				
(9)	(Gain)/Loss from Salary Changes	(115,345,955)				
(10)	(Gain)/Loss from Retirement	33,065,081				
(11)	(Gain)/Loss from Turnover	(1,414,675)				
(12)	(Gain)/Loss from Mortality	(8,048,677)				
(13)	(Gain)/Loss from Disability	2,652,583				
(14)	(Gain)/Loss from New Entrants	4,433,995				
(15)	(Gain)/Loss from All Other Sources	37,342,595				
(16)	Composite Experience (Gain)/Loss	(\$3,230,561)				
(17)	(Gain)/Loss as a percentage of Expected UAAL ( (16)/(7) )	(0.0)%				
(18)	(Gain)/Loss from Assumption Changes	256,175,774				
UNFU	UNDED ACTUARIAL ACCRUED LIABILITY - END OF 2012					
(19)	Unfunded Accrued Actuarial Liability - $12/31/2012$ ((7)+(16)+(18))	\$7,267,764,192				

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO HISTORY OF RECOMMENDED EMPLOYER MULTIPLES \*

Table 6

**Normal Cost** Plus Amortization<sup>4</sup> Level % Year of **Statutory Normal Cost Multiple** Level \$ of Salary Report **Plus Interest**  $1983^{-1,2}$ 2.00 4.11 4.29 3.12 1984 2.00 4.26 4.46 3.24  $1985^{-1,2}$ 4.50 4.70 3.48 2.00  $1986^{-1}$ 2.00 4.15 4.31 3.18  $1987^{-1}$ 2.00 4.13 4.29 3.16 1988 2.00 4.16 4.32 3.18  $1989^{-1,2}$ 3.79 2.00 3.91 2.85  $1990^{-3}$ 2.00 3.58 3.68 2.73 1991 2.00 3.80 3.91 2.98  $1992^{-1}$ 2.00 3.23 3.36 2.11 1993 2.00 3.23 3.37 2.10 1994 2.00 3.05 3.18 1.98 1995 2.00 3.34 3.49 2.17 1996 2.00 3.19 3.32 2.10 1997 2.00 3.10 3.23 2.04 1998 1,2 2.00 3.63 3.77 2.56 1999 2.24 2.00 3.15 3.27  $2000^{-1}$ 2.00 3.27 3.39 2.32  $2001^{-2}$ 2.00 3.63 3.78 2.56 2002 2.00 4.62 4.79 3.33  $2003^{-1,2}$ 2.00 4.46 4.63 3.23  $2004^{-2}$ 2.00 4.99 5.18 3.60  $2005^{-1,2}$ 2.00 5.33 5.56 3.85 2006 2.00 4.95 5.40 3.94 2007 2.00 4.98 5.43 3.97 2008 2.00 5.43 5.94 4.30  $2009^{-1}$ 2.00 5.87 6.42 4.61 2010 2.00 6.19 6.78 4.85 2011 2.00 5.71 6.26 4.45

 $2012^{-1}$ 

6.73

2.00

5.25

7.43

<sup>&</sup>lt;sup>1</sup>Change in actuarial assumptions.

<sup>&</sup>lt;sup>2</sup>Change in benefits.

<sup>&</sup>lt;sup>3</sup>Change in actuary.

<sup>&</sup>lt;sup>4</sup>Prior to 2005, amortizations were over a 40-year period. In 2005, pension unfunded liability was amortized over a 40-year period and OPEB liability over a 30-year period. Starting in 2006, both pension and OPEB amortizations are over a 30-year period.

<sup>\*</sup>Based on book value of assets.

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO ORDINARY DEATH BENEFIT RESERVE

#### Table 7

Actuarial Balance Sheet – 6% Basis

December 31, 2012

#### **ASSETS**

Fund Balance	\$(22,350,263)
Present Values of Future Contributions:	
Contributions by Members at \$30.00 a Year	4,344,364
Annual City Contribution of \$224,000	2,697,315
Unfunded Liability	47,478,618
TOTAL ASSETS	\$ 32,170,034
LIABILITIES	
Present Value of Future Death Benefits (6%, 83 GAM)	
Active & Disabled Members	6,546,143
Retired Members	25,623,891

TOTAL LIABILITIES

\$ 32,170,034

## POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO ACTUARIAL ACCRUED LIABILITY PRIORITIZED SOLVENCY TEST

Table 8

Valuation	(1) Active and Inactive	(2) Retirees	(3) Active and Inactive	Actuarial	Portion (%	) of Present Va	lue Covered
Date	Member	and	Members (ER	Value of	(, , ,	By Assets	
12/31	Contribution	Beneficiaries	Financed Portion)	Assets	(1)	(2)	(3)
1998 <sup>1,2</sup>	\$ 777,205,937	\$ 2,690,216,494	\$ 1,690,773,788	\$ 3,249,729,847	100.00%	91.91%	0.00%
1999	763,729,532	2,939,332,536	1,691,810,150	3,685,681,671	100.00%	99.41%	0.00%
2000 1	818,382,556	3,228,954,418	1,604,693,684	4,019,467,561	100.00%	99.14%	0.00%
2001 2	803,453,930	3,463,944,097	1,665,112,602	4,183,796,025	100.00%	97.59%	0.00%
2002	846,622,627	3,769,125,439	1,769,097,893	4,124,579,960	100.00%	86.97%	0.00%
2003 1,2	893,425,839	3,856,262,804	1,831,744,607	4,039,695,590	100.00%	81.59%	0.00%
2004 <sup>2</sup>	910,480,098	4,313,531,046	1,810,260,330	3,933,031,342	100.00%	70.07%	0.00%
2005 1,2	950,764,942	4,677,632,909	2,094,339,296	3,914,431,654	100.00%	63.36%	0.00%
2006	1,016,217,810	4,858,554,051	2,241,771,313	3,997,990,919	100.00%	61.37%	0.00%
2007	1,082,742,927	5,006,931,293	2,309,718,259	4,231,681,817	100.00%	62.89%	0.00%
2008	1,144,380,257	5,208,199,833	2,299,966,099	4,093,719,894	100.00%	56.63%	0.00%
2009 1	1,217,645,647	5,391,373,730	2,291,882,108	3,884,978,241	100.00%	49.47%	0.00%
2010	1,251,147,487	5,717,654,520	2,406,050,870	3,718,954,539	100.00%	43.16%	0.00%
2011	1,286,345,939	6,041,684,411	2,360,319,555	3,444,690,362	100.00%	35.72%	0.00%
2012 1	1,309,825,828	6,475,282,318	2,435,530,363	3,148,929,770	100.00%	28.40%	0.00%

<sup>&</sup>lt;sup>1</sup>Change in actuarial assumptions. <sup>2</sup>Change in benefits.

## APPENDIX 2

ASSETS OF THE PLAN

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO ASSETS OF THE PLAN

The book value of the plan assets, net of accounts payable, decreased from \$3.074 billion as of December 31, 2011, to \$2.953 billion as of December 31, 2012. The market value of the plan assets, net of accounts payable, increased from \$3.176 billion as of December 31, 2011, to \$3.213 billion as of December 31, 2012. Table 9 details the development of asset values during 2012 and Table 10 shows the development of the actuarial value of assets as of December 31, 2012. In each future fiscal year, gains and losses will be phased in over a five year period.

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO RECONCILIATION OF ASSETS AS OF DECEMBER 31, 2012

	14010 >		
		Market Value	<b>Book Value</b>
1.	Value of assets as of 12/31/2011	\$3,175,508,681	\$3,073,609,092
2.	Income for plan year:		
	a) Member contributions	\$ 95,892,052	\$ 95,892,052
	b) City contributions	207,228,022	207,228,022
	c) Investment income net of expenses	353,176,345	194,517,018
	d) Miscellaneous revenue	423,216	423,216
	e) Total income	\$ 656,719,635	\$ 498,060,308
3.	Disbursements for plan year:		
	a) Benefit payments		
	i) Pension, disability and death benefit payments	\$ \$ 592,990,346	\$ 592,990,346
	ii) Healthcare premiums	9,765,686	9,765,686
	b) Refunds	11,150,565	11,150,565
	c) Administration	4,888,486	4,888,486
	d) Total disbursements	\$ 618,795,083	\$ 618,795,083
4.	Value of assets as of 12/31/2012	\$3,213,433,233	\$2,952,874,317
5.	Estimated rate of return in 2012: 1		
	a) Gross	12.01%	7.00%
	b) Net of investment expense (Investment expense of \$9,235,684)	11.70%	6.67%

<sup>&</sup>lt;sup>1</sup>Method used for calculating rate of return does not reflect specific timing of income and outflows. It is also based on total assets, not invested assets.

# POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO DEVELOPMENT OF ACTUARIAL (MARKET-RELATED) VALUE OF ASSETS AS OF DECEMBER 31, 2012

#### Table 10

#### 1. Expected Return on Market Value of Assets for Prior Year

a) Market value of assets as of 12/31/2011

\$ 3,175,508,681

b) Actual income and disbursements in prior year weighted for timing

		Weight for	Weighted
Item	Amount	Timing	Amount
i) Member contributions	\$ 95,892,052	50.0%	\$ 47,946,026
ii) City contributions	207,228,022	50.0%	103,614,011
iii) Miscellaneous revenue	423,216	50.0%	211,608
iv) Benefit payments	(602,756,032)	50.0%	(301,378,016)
v) Refunds	(11,150,565)	50.0%	(5,575,283)
vi) Administration	(4,888,486)	50.0%	(2,444,243)
vii) Total	\$(315,251,793)		\$ (157,625,897)

- c) Market value of assets adjusted for actual income and disbursements [(a) + (b)(vii))] \$ 3,017,882,784 d) Assumed rate of return on plan assets for the year 8.00%
- e) Expected return [(c) \* (d)] \$ 241,430,623
- 2. Actual Return on Market Value of Assets for Prior Year

a)	Market value of assets as of 12/31/2011	\$ 3,175,508,681
b)	Income (less investment income) for prior plan year	303,543,290
c)	Disbursements paid in prior year	618,795,083
d)	Market value of assets as of 12/31/2012	3,213,433,233
e)	Actual return $[(d) + (c) - (b) - (a)]$	\$ 353,176,345

3. Investment Gain/(Loss) for Prior Year [2(e) - 1(e)]

\$ 111,745,722

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

a) Market value of assets as of 12/31/2012

3,213,433,233

b)	Deferred	investment	gams	and	(losses)	) tor	last 5 years	
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			Percent	Deferred
	Plan Year	Gain/(Loss)	Deferred	Amount
i)	2008	\$ (1,442,475,137)	0.00%	\$ 0
ii)	2009	336,925,451	20.00%	67,385,090
iii)	2010	113,711,599	40.00%	45,484,640
iv)	2011	(229,604,741)	60.00%	(137,762,845)
v)	2012	111,745,722	80.00%	89,396,578
vi)	Total	\$ (1,109,697,106)		\$ 64,503,463

c) Actuarial Value of Assets

\$ 3,148,929,770

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.



## **EXHIBIT A** POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO **SUMMARY OF CHANGES IN ACTIVE PARTICIPANTS** FOR FISCAL YEAR ENDING DECEMBER 31, 2012

<u>-</u>	Male	Female	Total
Number of Participants at Beginning of Fiscal Year <sup>2</sup>	9,270	2,966	12,236
Increases: Participants Added During Year Participants Returning From Inactive or Disability Status	350 36	92 12	442 48
Totals	9,656	3,070	12,726
Decreases: Terminations During Year	483	<u>217</u>	700
Number of Participants at End of Fiscal Year	9,173	2,853	12,026
Total Inactive Participants			664
Terminations:			
Withdrawal (With Refunds) <sup>1</sup>	10	8	18
Withdrawal (Without Refunds)	99	37	136
Ordinary Disability Benefit	12	15	27
Occupational Disease Disability Benefit	2	1	3
Duty Disability Benefit	11	5	16
Retirements	337	149	486
Deaths (Occupational)	0	0	0
Deaths (Non-occupational)	12	2	14
Totals	483	217	700

<sup>&</sup>lt;sup>1</sup> This total differs from the total of 63 shown in Exhibit D due to the fact that only 18 of the refunds were paid to participants who were considered to be active as of December 31, 2011.

<sup>2</sup> Includes one active member reclassified from male to female and one active member reclassified from female to male.

EXHIBIT B
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SUMMARY OF CHANGES IN ANNUITANTS AND BENEFICIARIES
FOR FISCAL YEAR ENDING DECEMBER 31, 2012

	Number at Beginning of Year	Additions During Year	Terminations During Year	Number at End of Year
Service Retirement Annuities	8,763	539	267	9,035
Widow Annuities	3,091	174	143	3,122
Children's Annuities	214	21	21	214
Ordinary Disability Benefit (Non-Occupational)	43	27	23	47
Occupational Disease Disability Benefit	36	3	3	36
Duty Disability Benefit (Occupational)	270	20	27	263
Children's Disability Benefit	176	27	23	180
Widows' Compensation Annuities (Service Connected Death)	70	0	1	69
Totals	12,663	811	508	12,966
Annual Benefits	\$562,386,796	\$ 50,931,101	\$ 17,488,557	\$595,829,340

EXHIBIT C – PART I
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
TOTAL LIVES AND ANNUAL SALARIES OF ACTIVE MALE PARTICIPANTS
CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2012

					Years of Serv	vice					
AGE	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	Total	Annual Salary
Under 20										0	
Olidel 20											\$ 0
20 to 24	9									9	
	387,936										387,936
25 to 29	213	125	126							464	25.054.652
	9,184,172	8,888,517	9,898,963								27,971,652
30 to 34	90 3,879,360	145 10,483,216	804 63,208,414	220 18,184,393						1,259	95,755,383
25 . 20					102					1 400	75,755,565
35 to 39	35 1,508,640	56 4,015,056	448 35,212,982	847 70,324,792	102 9,058,112					1,488	120,119,582
40 to 44	2	28	261	765	898	194				2,148	
	86,208	2,039,355	20,498,108	63,208,544	79,349,724	18,343,770				_,,-	183,525,708
45 to 49		3	87	303	675	590	202			1,860	
		218,172	6,845,097	24,840,714	58,710,189	55,376,248	20,872,158				166,862,578
50 to 54			2	109	272	367	391	29		1,170	100 505 605
			157,184	8,942,806	23,417,235	33,805,975	39,452,266	3,012,141			108,787,607
55 to 59			2 157,184	51 4,153,102	128 10,971,015	148 13,341,058	206 20,176,742	60 6,284,098	10 1,003,636	605	56,086,834
CO 1 - C1			137,101	10		29	34	31		170	20,000,021
60 to 64				809,680	32 2,719,375	2,578,861	3,245,091	3,052,371	34 3,541,637	170	15,947,013
65 and over										0	
											0
<b>Total Active</b>	349	357	1,730	2,305	2,107	1,328	833	120	44	9,173	
Annual Salary	\$15,046,316	\$25,644,316	\$135,977,931	\$190,464,030	\$184,225,650	\$123,445,913	\$83,746,257	\$12,348,609	\$ 4,545,272		\$ 775,444,293

EXHIBIT C – PART II
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
TOTAL LIVES AND ANNUAL SALARIES OF ACTIVE FEMALE PARTICIPANTS
CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2012

					Years of Servi	ice					
AGE	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	Total	Annual Salary
II., 4., 20										0	
Under 20										-	\$
20 to 24										0	
25 to 29	34 1,465,536	29 2,091,247	26 2,043,391							89	5,600,
30 to 34	38	49	235	44						366	
	1,637,952	3,557,702	18,469,111	3,681,150							27,345,
35 to 39	18 775,872	17 1,224,895	155 12,184,394	242 19,968,262	21 1,946,087					453	36,099
											30,099
40 to 44	1 43,104	9 669,270	105 8,258,594	220 18,181,075	238 20,664,708	57 5,167,834				630	52,984
45 to 49	1		37	117	178	164	52			549	
	43,104		2,910,543	9,587,467	15,327,843	15,330,955	5,115,788				48,315
50 to 54			1 78,592	51 4,150,606	124 10,561,571	148 13,456,386	152 15,132,152	11 1,096,760		487	44,476
55 to 59			1	29	71	67	42	7	1	218	
			78,592	2,381,695	6,029,153	6,031,783	4,070,098	719,392	96,412		19,407
60 to 64				4	22	18	9	6	2	61	<b>-</b>
				324,928	1,877,307	1,581,947	903,252	610,554	199,328		5,497,
5 and over										0	
Cotal Active		104	560	707	654	454	255	24	3	2,853	
nnual Salary		\$7,543,114	\$44,023,216	\$58,275,184	\$56,406,670	\$41,568,906	\$25,221,290	\$2,426,705	\$ 295,740	•	\$ 239,726,

# EXHIBIT C – PART III POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO TOTAL LIVES AND ANNUAL SALARIES OF ALL ACTIVE PARTICIPANTS CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2012

					Years of Se	ervice					
AGE	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	Total	Annual Salary
	Chuci i year	1104	3.007	10 10 14	13 10 17	20 to 24	23 to 27	30 10 34	33 and over		Salary
Under 20										0	}
											,
20 to 24	9 387,936									9	387,93
											307,53
25 to 29	247 10,649,708	154 10,979,764	152 11,942,354							553	33,571,82
											33,371,62
30 to 34	128 5,517,312	194 14,040,918	1,039 81,677,524	264 21,865,543						1,625	123,101,29
											123,101,23
35 to 39	53 2,284,512	73 5,239,951	603 47,397,376	1,089 90,293,055	123 11,004,199					1,941	156,219,09
											130,219,03
40 to 44	3 129,312	37 2,708,625	366 28,756,701	985 81,389,619	1,136 100,014,433	251 23,511,604				2,778	236,510,29
											230,310,23
45 to 49	1 43,104	3 218,172	9,755,639	420 34,428,181	853 74,038,032	754 70,707,204	254 25,987,946			2,409	215,178,27
	43,104	210,172									213,176,27
50 to 54			3 235,776	160 13,093,412	396 33,978,806	515 47,262,361	543 54,584,418	40 4,108,900		1,657	153,263,67
											133,203,07
55 to 59			3 235,776	80 6,534,797	199 17,000,168	215 19,372,841	248 24,246,840	67 7,003,489	11 1,100,048	823	75,493,95
			233,776								75,493,95
60 to 64				14 1,134,607	54 4,596,682	47 4,160,808	43 4,148,342	37 3,662,925	36 3,740,965	231	21,444,32
				1,134,007	4,390,062	4,100,000	4,146,342	3,002,923	3,740,903		21,444,52
65 and over										0	
Total Active	441	461	2,290	3,012	2,761	1,782	1,088	144	47	12,026	
Annual Salary	\$19,011,884	\$33,187,430	\$180,001,146	\$248,739,214	\$240,632,320	\$165,014,819	\$108,967,547	\$14,775,314	\$ 4,841,012	\$	1,015,170,68

## EXHIBIT D – PART I POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING NUMBER OF REFUND PAYMENTS MADE DURING YEAR TO MALE EMPLOYEES FOR FISCAL YEAR ENDING DECEMBER 31, 2012

		Le	ngth of Sei	vice at Da	te of Refund	d	
Age at Date of Refund	Under 1 Year	Between 1 and 2	Between 2 and 3		Between 4 and 5	5 and over	Total
Under 20							0
20 to 24							0
25 to 29			1		2	1	4
30 to 34		2				11	13
35 to 39		1			1	10	12
40 to 44	1			2		6	9
45 to 49						6	6
50 to 54	1					1	2
55 to 59							0
60 & over		1					1
Totals	2	4	1	2	3	35	47

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

#### EXHIBIT D - PART II

#### POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING NUMBER OF REFUND PAYMENTS MADE DURING YEAR TO FEMALE EMPLOYEES FOR FISCAL YEAR ENDING DECEMBER 31, 2012

		Le	ngth of Se	rvice at Da	te of Refund	d	
Age at Date of Refund	Under 1 Year	Between 1 and 2		Between 3 and 4	Between 4 and 5	5 and over	Total
Under 20							0
20 to 24							0
25 to 29						1	1
30 to 34						2	2
35 to 39						5	5
40 to 44						6	6
45 to 49						2	2
50 to 54							0
55 to 59							0
60 & over							0
Totals	0	0	0	0	0	16	16

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

EXHIBIT E
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SHOWING STATISTICS ON SERVICE RETIREMENT ANNUITIES
CLASSIFIED BY AGE AS OF DECEMBER 31, 2012

		MALE	]	FEMALE	7	ГОТАL
		Annual		Annual		Annual
AGE	No.	Payments	No.	Payments	No.	Payments
UNDER 50	5	\$ 63,000	4	\$ 50,400	9	\$ 113,40
50	12	777,882	8	357,663	20	1,135,54
51	26	1,358,905	12	569,544	38	1,928,44
52	28	1,576,165	12	666,035	40	2,242,20
53	37	1,787,644	18	871,737	55	2,659,38
54	24	1,295,984	15	762,102	39	2,058,08
55	64	3,857,781	41	2,294,034	105	6,151,81
56	73	4,327,963	52	2,716,666	125	7,044,62
57	92	5,749,251	45	2,355,290	137	8,104,54
58	147	9,873,982	63	3,347,524	210	13,221,50
59	166	10,633,707	62	3,610,813	228	14,244,52
60	215	13,508,227	72	4,057,545	287	17,565,77
61	332	21,605,735	78	4,403,131	410	26,008,86
62	384	25,647,915	90	4,957,166	474	30,605,08
63	478	29,986,825	79	4,207,458	557	34,194,28
64	521	33,089,076	107	5,550,003	628	38,639,07
65	585	36,812,613	74	3,931,792	659	40,744,40
66	540	33,067,080	47	2,071,660	587	35,138,74
67	355	21,360,991	35	1,646,594	390	23,007,58
68	367	21,956,153	40	1,983,782	407	23,939,93
69	398	23,235,297	38	1,622,561	436	24,857,85
70	351	20,154,919	23	1,007,213	374	21,162,13
71	310	16,997,937	17	856,194	327	17,854,13
72	251	13,856,213	17	787,359	268	14,643,57
73	233	12,580,943	2	42,673	235	12,623,61
74	230	12,257,072	3	167,930	233	12,425,00
75	171	8,681,488	6	293,398	177	8,974,88
76	152	7,683,244	5	274,866	157	7,958,11
77	140	7,204,825	1	40,450	141	7,245,27
78	129	6,467,067	0	0	129	6,467,06
79	132	6,507,168	0	0	132	6,507,16
80	154	7,572,752	0	0	154	7,572,75
81	127	6,311,452	0	0	127	6,311,45
82	125	5,827,835	0	0	125	5,827,83
83	122	5,734,103	0	0	122	5,734,10
84	94	4,014,146	0	0	94	4,014,14
85 to 89	305	12,189,786	0	0	305	12,189,78
90 to 94	82	2,628,775	1	23,280	83	2,652,05
95 to 99	8	247,637	1	764	9	248,40
100+	2	36,673	0	0	2	36,67
tals	7,967	\$458,526,211	1068	\$55,527,627	9,035	\$514,053,83

EXHIBIT F
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SHOWING STATISTICS ON WIDOW'S ANNUITIES
CLASSIFIED BY AGE AS OF DECEMBER 31, 2012

		Annual			Annual
Age	No.	Payments	Age	No.	Payments
Under 30	1	\$ 20,479	65	81	\$ 1,748,66
30	1	20,953	66	93	1,979,65
31	0	0	67	84	1,727,59
32	0	0	68	73	1,547,89
33	1	19,399	69	96	1,965,31
34	0	0	70	104	2,175,29
35	0	0	71	84	1,830,04
36	0	0	72	82	1,671,77
37	3	62,088	73	88	1,734,66
38	3	98,422	74	111	1,976,03
39	2	40,828	75	111	2,035,67
40	5	105,930	76	102	1,919,78
41	5	97,653	77	97	1,779,60
42	4	84,114	78	87	1,598,13
43	9	174,990	79	96	1,784,56
44	3	62,239	80	95	1,684,55
45	5	93,557	81	110	1,848,28
46	3	57,023	82	112	1,969,96
47	7	143,834	83	91	1,554,01
48	7	147,280	84	91	1,453,95
49	10	212,846	85	102	1,621,93
50	6	149,291	86	95	1,457,38
51	12	237,649	87	83	1,194,88
52	16	339,250	88	68	983,17
53	13	260,639	89	76	1,094,79
54	18	370,478	90	50	709,29
55	20	397,224	91	51	676,97
56	22	491,440	92	49	637,35
57	25	549,349	93	25	336,50
58	45	1,049,717	94	25	324,55
59	37	928,512	95	17	208,77
60	36	835,021	96	8	96,00
61	47	967,388	97	16	192,14
62	50	1,031,859	98	6	72,00
63	63	1,274,472	99	7	84,55
64	70	1,566,757	100+	7	84,00
			Total	3,122	\$57,650,47

# EXHIBIT G POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING STATISTICS ON MISCELLANEOUS ANNUITIES FOR FISCAL YEAR ENDING DECEMBER 31, 2012

	No.	Annual Payments
Children's Annuities	214	\$1,362,239
Widows' Compensation Annuities	69	4,248,075
Ordinary Disability Benefits	47	1,981,692
Occupational Disease Disability Benefits	36	1,813,517
Duty Disability Benefits	263	14,441,218
Children's Disability Benefits	180	278,284
Totals	809	\$24,125,025

# EXHIBIT H – PART I POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING MALE PARTICIPANTS RECEIVING DUTY DISABILITY CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

						Length of Se	ervice	as of December	31, 20	012				
	Und	ler 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over	<u>.</u>	Total
ATTAINED		Annual		Annual		Annual		Annual		Annual		Annual		Annual
AGE	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments
UNDER 30													0	\$ 0
30 to 34			1	41,796	1	53,386	2	115,304					4	210,486
35 to 39			2	102,343	5	252,759		-					7	355,102
40 to 44			3	145,303	9	449,031	13	722,857	8	496,364	1	62,780	34	1,876,335
45 to 49			6	306,932	8	422,066	6	328,926	5	278,842	2	128,126	27	1,464,892
50 to 54			4	197,316	8	421,067	12	639,409	7	430,876	9	594,392	40	2,283,060
55 to 59			8	392,802	4	217,064	15	811,036	11	618,154	10	608,834	48	2,647,890
60 & over					4	221,439	5	269,855	10	510,829	14	861,437	33	1,863,560
Totals	0	\$0	24	\$ 1,186,492	39	\$ 2,036,812	53	\$ 2,887,387	41	\$ 2,335,065	36	\$ 2,255,569	193	\$ 10,701,325

# EXHIBIT H – PART II POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING FEMALE PARTICIPANTS RECEIVING DUTY DISABILITY CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

	Length of Service as of December 31, 2012													
	Und	er 1 Year		1 to 4		5 to 9		10 to 14		15 to 19	2	20 & Over		Total
ATTAINED		Annual		Annual		Annual		Annual		Annual		Annual		Annual
AGE	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments
UNDER 30													0	\$ 0
30 to 34			1	40,977									1	40,977
35 to 39			2	98,503	1	54,329	1	60,924					4	213,756
40 to 44			4	190,788	5	259,233	4	214,517	2	116,350			15	780,888
45 to 49			1	46,807	1	62,958	4	205,770	3	172,346	1	65,194	10	553,075
50 to 54				-	7	374,526	2	106,296	4	235,193	3	190,995	16	907,010
55 to 59				-	2	111,214	8	414,209	3	167,926	1	39,435	14	732,784
60 & over			2	98,485	1	45,363	2	103,356	3	141,000	2	123,199	10	511,403
Totals	0	\$0	10	\$475,560	17	\$907,623	21	\$1,105,072	15	\$832,815	7	\$418,823	70	\$ 3,739,893

### EXHIBIT I – PART I POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO

### SHOWING MALE PARTICIPANTS RECEIVING ORDINARY DISABILITY CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

					Length of So	ervice	as of December	31, 20	12				
_	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total
ATTAINED	Annual		Annual		Annual		Annual		Annual		Annual		Annual
AGE	No. Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments
UNDER 30												0	\$ 0
30 to 34												0	0
35 to 39						3	119,235					3	119,235
40 to 44							-	2	89,797			2	89,797
45 to 49						1	40,129	5	199,341			6	239,470
50 to 54						2	78,829	4	165,508	3	130,469	9	374,806
55 to 59								1	38,948	3	131,034	4	169,982
60 & over										1	41,473	1	41,473
Totals	0 \$0	0	\$0	0	\$0	6	\$238,193	12	\$493,594	7	\$302,976	25	\$ 1,034,763

# EXHIBIT I— PART II POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING FEMALE PARTICIPANTS RECEIVING ORDINARY DISABILITY CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

						Length of Se	ervice a	as of December	31, 20	12					
_	Und	er 1 Year		1 to 4		5 to 9		10 to 14		15 to 19	2	20 & Over			Total
ATTAINED		Annual		Annual		Annual		Annual		Annual		Annual			Annual
AGE	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	]	Payments
UNDER 30													0	\$	0
30 to 34					1	39,296							1		39,296
35 to 39													0		0
40 to 44					1	39,296	1	39,323	1	41,972			3		120,591
45 to 49					1	38,042			4	167,389	2	91,831	7		297,262
50 to 54									3	122,393	8	367,387	11		489,780
55 to 59													0		0
60 & over													0		0
Totals	0	\$0	0	\$0	3	\$116,634	1	\$39,323	8	\$331,754	10	\$459,218	22	\$	946,929

# EXHIBIT J – PART I POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING MALE PARTICIPANTS RECEIVING OCCUPATIONAL DISEASE DISABILITY CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

						Length of So	ervice a	as of December	31, 20	12				
	Une	der 1 Year		1 to 4		5 to 9		10 to 14		15 to 19	2	20 & Over		Total
ATTAINED		Annual		Annual		Annual		Annual		Annual		Annual		Annual
AGE	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44													0	0
45 to 49													0	0
50 to 54									6	305,811	3	166,948	9	472,759
55 to 59							2	84,093	2	99,490	6	335,309	10	518,892
60 & over							1	43,065	1	43,065	9	458,199	11	544,329
Totals	0	\$0	0	\$0	0	\$0	3	\$127,158	9	\$448,366	18	\$960,456	30	\$ 1,535,980

# EXHIBIT J—PART II POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SHOWING FEMALE PARTICIPANTS RECEIVING OCCUPATIONAL DISEASE DISABILITY CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2012

						Length of So	ervice a	as of December	31, 20	12					
	Under	1 Year	-	1 to 4		5 to 9		10 to 14		15 to 19	2	20 & Over			Total
ATTAINED		Annual		Annual	Annual			Annual		Annual		Annual	Annual		Annual
AGE	No. P	ayments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	Payments	No.	I	Payments
UNDER 30													0	\$	0
30 to 34													0		0
35 to 39													0		0
40 to 44													0		0
45 to 49							1	42,635					1		42,635
50 to 54							1	41,853	1	45,026	1	54,409	3		141,288
55 to 59									1	40,782			1		40,782
60 & over									1	52,832			1		52,832
Totals	0	\$0	0	\$0	0	\$0	2	\$84,488	3	\$138,640	1	\$54,409	6	\$	277,537

### EXHIBIT K POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO HISTORY OF AVERAGE ANNUAL SALARIES

Year	Members		Current Year		Average		Actuarial	СРІ
End	in Service	Increase	Salary	Increase	Salary	Increase	Assumptions	Chicago
1983	12,557	(2.0)%	\$ 381,553,344	9.4 %	\$ 30,386	11.6 %	6.00	4.0
1984 1	12,110	(3.6)	379,686,648	(2.8)	30,610	0.7	6.00	3.8
1985	12,096	(0.1)	395,295,432	6.6	32,680	6.8	6.00	3.8
1986	12,578	4.0	431,883,240	9.3	34,336	5.1	6.00	2.0
1987	12,602	0.2	443,122,728	2.6	35,163	2.4	6.00	4.1
1988 <sup>2</sup>	12,495	(0.8)	443,669,520	0.1	35,508	1.0	6.00	3.9
1989	12,060	(3.5)	437,121,504	(1.5)	36,246	2.1	6.00	5.1
1990	12,039	(0.2)	471,544,173	7.9	39,168	8.1	6.00	5.5
1991	12,513	3.9	520,015,930	10.3	41,558	6.1	6.00	3.0
1992	12,570	0.5	538,404,098	3.5	42,832	3.1	5.80	3.3
1993	12,591	0.2	561,156,282	4.2	44,568	4.1	5.80	2.3
1994	13,095	4.0	599,073,276	6.8	45,748	2.6	5.80	2.9
1995	13,437	2.6	622,413,737	3.9	46,321	1.3	5.80	2.2
1996	13,475	0.3	654,149,310	5.1	48,545	4.8	5.80	3.8
1997	13,435	(0.3)	675,515,532	3.7	50,280	3.6	5.80	1.7
1998 <sup>3</sup>	13,586	1.1	736,401,756	9.0	54,203	7.8	5.50	1.5
1999	13,829	1.8	755,303,667	2.6	54,617	0.8	5.50	2.6
2000	13,858	0.2	759,343,026	0.5	54,795	0.3	5.50	4.0
2001	13,889	0.2	763,352,475	0.5	54,961	0.3	5.50	0.8
2002	13,720	(1.2)	866,531,789	13.5	63,158	14.9	5.50	2.5
2003	13,746	0.2	887,555,791	2.4	64,568	2.2	5.50	1.7
2004	13,569	(1.3)	874,301,958	(1.5)	64,434	(0.2)	5.50	2.2
2005	13,462	(0.8)	948,973,732	8.5	70,493	9.4	5.50	3.6
2006	13,749	2.1	1,012,983,635	6.7	73,677	4.5	5.50	0.7
2007	13,748	0.0	1,038,957,026	2.6	75,572	2.6	5.50	4.7
2008	13,373	(2.7)	1,023,580,667	(1.5)	76,541	1.3	5.50	(0.6)
2009	13,154	(1.6)	1,011,205,359	(1.2)	76,874	0.4	5.50	2.5
2010	12,737	(3.2)	1,048,084,301	3.6	82,287	7.0	5.50	1.2
2011	12,236	(3.9)	1,034,403,526	(1.3)	84,538	2.7	5.50	2.1
2012	12,026	(1.7)	1,015,170,686	(1.9)	84,415	(0.1)	5.50 4	1.7
Average In (Decrease)								
last 5 years		(2.6)%		(0.5)%		2.3 %		1.4 %

<sup>&</sup>lt;sup>1</sup> Members in service does not include those age 63 and over who are still working.

<sup>&</sup>lt;sup>2</sup> Figures do not include retroactive raise.

<sup>&</sup>lt;sup>3</sup> Pay definition changed to include duty availability pay. Of the \$1,015,170,686 current year salary, \$37,368,278 is duty availability pay.

<sup>&</sup>lt;sup>4</sup> See Appendix 4 for a complete description of the current assumptions.

### EXHIBIT L POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO NEW ANNUITIES GRANTED DURING 2012

		Annuitants	Widows/ Widowers of Deceased Employees <sup>1</sup>	Widows/ Widowers of Deceased Annuitants	Compensation Widows/ Widowers
Number retired/deceased		539	10	164	0
Average age attained		58.7	56.8	72.3	0.0
Average length of service		26.7	N/A	N/A	N/A
Average annual salary	\$	90,773	N/A	N/A	N/A
[4 out of 10]	ļΨ	70,773	14/21	14/11	14/11
[104:0110]					
Average annual final salary	\$	93,900	N/A	N/A	N/A
Total annual annuity		33,039,315	281,471	4,156,025	0
Average annual annuity		61,297	28,147	25,341	0
Total liability	\$	472,116,987	4,066,670	38,672,303	0
[(Based on 3% Comb. and 4%					
Amer. Exp.)]					
Average liability	\$	875,913	406,667	235,807	0
Total investment	\$	1,308,938	N/A	N/A	N/A
[Employee-paid for tax purposes]					
Average investment <sup>2</sup>	\$	2,428	N/A	N/A	N/A
Liability/cost		360.7	N/A	N/A	N/A
Liability/final pay	\$	9.33	N/A	N/A	N/A

<sup>&</sup>lt;sup>1</sup> Not including compensation or supplemental.

<sup>&</sup>lt;sup>2</sup>Based on previously-taxed contributions.

#### EXHIBIT M POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO RETIREES AND BENEFICIARIES BY TYPE OF BENEFIT

	AN	INUITANTS			DISA	BILITY		Widow	
Years	Employee	Spouse <sup>1</sup>	Child	Ordinary	Duty	Occup.	Child <sup>2</sup>	Comp.	Total
1983	3,642	3,202	446	104	86			70	7,550
1984	3,723	3,152	435	87	113			74	7,584
1985	3,861	3,234	406	95	126			70	7,792
1986	4,212	3,145	380	78	144			69	8,028
1987	4,467	3,100	354	66	156			75	8,218
1988	4,595	3,184	350	63	167			78	8,437
1989	4,772	3,202	335	58	179			71	8,617
1990	4,936	3,214	335	51	187			66	8,789
1991	5,033	3,137	329	75	192			68	8,834
1992	5,109	3,129	310	83	204			66	8,901
1993	5,195	3,151	294	59	211		160	66	9,136
1994	5,309	3,123	281	51	221		159	64	9,208
1995	5,510	3,133	254	51	231	1	144	60	9,384
1996	5,714	3,120	252	67	256	12	158	59	9,638
1997	5,945	3,104	240	59	270	36	130	59	9,843
1998	6,241	3,093	228	56	279	57	150	57	10,161
1999	6,520	3,118	249	57	291	76	150	58	10,519
2000	6,876	3,107	267	48	274	87	149	59	10,867
2001	7,192	3,114	255	52	265	95	143	59	11,175
2002	7,392	3,092	235	38	289	103	150	59	11,358
2003	7,498	3,083	247	29	285	97	139	63	11,441
2004	7,815	3,133	249	44	287	85	130	65	11,808
2005	8,026	3,107	247	35	298	82	139	65	11,999
2006	8,083	3,093	255	39	291	69	132	64	12,026
2007	8,155	3,137	242	52	284	65	136	64	12,135
2008	8,210	3,148	237	39	286	58	139	66	12,183
2009	8,227	3,111	232	44	284	52	138	66	12,154
2010	8,495	3,079	222	37	284	40	155	69	12,381
2011	8,763	3,091	214	43	270	36	176	70	12,663
2012	9,035	3,122	214	47	263	36	180	69	12,966

 <sup>&</sup>lt;sup>1</sup> Includes reversionary.
 <sup>2</sup> Children's Disability Benefit not tracked before 1993.

## EXHIBIT N POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO AVERAGE EMPLOYEE RETIREMENT BENEFITS PAYABLE

Years Ended	Average Annual Benefit	Average Current Age of Retirees	Average Age at Retirement Current Year*	Average Years of Benefit Service at Retirement Current Year*
1983	\$ 10,770	68	59.4	29.3
1984	11,782	68	58.6	29.9
1985	13,070	68	58.7	30.2
1986	15,033	67	57.7	30.0
1987	16,257	67	58.1	30.1
1988	17,855	67	58.8	30.9
1989	19,315	67	58.6	30.7
1990	21,120	68	58.9	30.2
1991	21,782	68	58.4	30.8
1992	23,128	68	57.7	30.3
1993	24,724	68	56.9	29.6
1994	25,636	68	55.7	29.5
1995	26,996	67	55.3	29.2
1996	28,412	67	55.5	29.8
1997	29,867	67	55.0	29.3
1998	31,682	66	54.6	30.0
1999	33,220	66	54.8	29.9
2000	34,880	66	56.3	31.6
2001	36,428	66	56.4	29.8
2002	38,199	66	55.6	29.4
2003	38,998	66	57.1	30.2
2004	41,914	66	57.5	30.4
2005	43,930	67	57.3	30.6
2006	45,680	67	58.0	29.6
2007	47,392	67	58.1	29.3
2008	49,239	68	58.3	29.4
2009	50,799	68	59.2	28.6
2010	53,060	68	59.1	28.1
2011	55,104	68	59.5	27.4
2012	56,896	69	58.7	26.7

<sup>\*</sup> Averages for New Annuitants in 2012.

## EXHIBIT O – PART I POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO HISTORY OF ANNUITIES EMPLOYEE ANNUITANTS (MALE AND FEMALE)

Year	Number of	Total	Average
End	Annuitants	Annuities	Annuities
1983	3,642	\$ 39,223,898	\$ 10,770
1984	3,723	43,864,666	11,782
1985	3,861	50,464,782	13,070
1986	4,212	63,319,877	15,033
1987	4,467	72,621,701	16,257
1988	4,595	82,044,371	17,855
1989	4,772	92,170,354	19,315
1990	4,936	104,221,349	21,114
1991	5,033	109,629,175	21,782
1992	5,109	118,162,135	23,128
1993	5,195	128,443,550	24,724
1994	5,309	136,102,089	25,636
1995	5,510	148,748,836	26,996
1996	5,714	162,343,898	28,412
1997	5,945	177,557,655	29,867
1998	6,241	197,728,489	31,682
1999	6,520	216,593,933	33,220
2000	6,876	239,833,436	34,880
2001	7,192	261,991,891	36,428
2002	7,392	282,368,164	38,199
2003	7,498	292,407,321	38,998
2004	7,815	327,560,253	41,914
2005	8,026	352,579,199	43,930
2006	8,083	369,228,619	45,680
2007	8,155	386,485,701	47,392
2008	8,210	404,254,060	49,239
2009	8,227	417,924,766	50,799
2010	8,495	450,742,884	53,060
2011	8,763	482,875,300	55,104
2012	9,035	514,053,838	56,896

# EXHIBIT O – PART II POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO HISTORY OF ANNUITIES SPOUSE ANNUITANTS (NOT INCLUDING COMPENSATION WIDOWS)

Year	Number of	Total	Average
End	Annuitants	Annuities	Annuities
1983	3,202	\$ 10,083,245	\$ 3,151
1984	3,152	10,213,392	3,199
1985	3,164	10,339,504	3,228
1986	3,145	12,770,159	4,060
1987	3,100	12,959,691	4,180
1988	3,184	13,701,678	4,303
1989	3,202	16,304,771	5,092
1990	3,214	16,779,894	5,221
1991	3,137	17,342,488	5,528
1992	3,129	20,773,699	6,639
1993	3,151	24,711,076	7,842
1994	3,123	28,041,269	8,979
1995	3,133	28,792,959	9,190
1996	3,120	30,778,518	9,865
1997	3,104	31,492,268	10,146
1998	3,093	32,285,743	10,438
1999	3,118	36,134,606	11,589
2000	3,107	37,022,962	11,916
2001	3,114	38,316,493	12,305
2002	3,092	40,086,748	12,965
2003	3,083	39,924,324	12,950
2004	3,133	44,609,535	14,239
2005	3,107	47,658,776	15,339
2006	3,093	49,187,928	15,903
2007	3,137	51,646,225	16,464
2008	3,148	53,489,665	16,992
2009	3,111	53,381,986	17,159
2010	3,079	53,621,501	17,415
2011	3,091	55,323,666	17,898
2012	3,122	57,650,477	18,466

## EXHIBIT P POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO COUNTS OF RETIREES AND BENEFICIARIES WITH HEALTHCARE COVERAGE SUBSIDIES

Year End	Employee	Spouse 1	Total
2006	7,552	2,104	9,656
2007	7,637	2,253	9,890
2008	7,731	2,286	10,017
2009	7,763	2,285	10,048
2010	7,878	2,240	10,118
2011	8,111	2,257	10,368
2012	8,458	2,280	10,738

<sup>&</sup>lt;sup>1</sup> Includes children.

EXHIBIT Q POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SCHEDULE OF RETIRED MEMBERS BY TYPES OF BENEFIT AND MONTHLY BENEFIT LEVELS

	Retin	ement	Disa	ability	Wie	dow <sup>1</sup>	Ch	ild <sup>2</sup>	To	tals
Years	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under \$100	6	1					1		7	1
\$100 to under \$250	11	3					118	85	129	88
\$250 to under \$500	20	7					43	33	63	40
\$500 to under \$750	21	1					37	42	58	43
\$750 to under \$1,000	3	3					21	13	24	16
\$1,000 to under \$2,000	148	35			38	2,430			186	2,465
\$2,000 to under \$3,000	489	59	3		5	577			497	636
\$3,000 to under \$4,000	1,411	358	42	35		64			1,453	457
\$4,000 to under \$5,000	2,196	287	148	46		28		1	2,344	362
\$5,000 to under \$6,000	2,526	220	49	17	3	37			2,578	274
\$6,000 to under \$7,000	783	59	6			6			789	65
\$7,000 to under \$8,000	200	21							200	21
\$8,000 to under \$9,000	56	6				1			56	7
\$9,000 to under \$10,000	65	7				1			65	8
\$10,000 and over	32	1				1			32	2
Totals:	7,967	1,068	248	98	46	3,145	220	174	8,481	4,485

<sup>&</sup>lt;sup>1</sup> Includes reversionary. <sup>2</sup> Children's Disability Benefit not tracked before 1993.

EXHIBIT R
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SCHEDULE OF AVERAGE BENEFIT PAYMENTS FOR NEW ANNUITIES GRANTED DURING 2012

	Years of Service:	0-9	10-14	15-19	20-24	25-29	30-34	>= 35	Total
2010	Number of Retired Members	0	1	13	105	161	140	131	551
	Average annual salary [4 out of 10]	\$0	\$81,122	\$70,339	\$80,639	\$88,735	\$91,739	\$92,194	\$88,330
	Average Monthly Benefit	\$0	\$2,535	\$2,667	\$3,837	\$5,385	\$5,734	\$5,762	\$5,199
2011	Number of Retired Members	1	8	16	95	175	103	102	500
	Average annual salary [4 out of 10]	\$18,730	\$76,848	\$70,140	\$82,778	\$92,829	\$93,780	\$98,280	\$91,097
	Average Monthly Benefit	\$390	\$2,158	\$2,728	\$3,949	\$5,497	\$5,861	\$6,142	\$5,257
2012	Number of Retired Members	0	9	22	123	217	88	80	539
	Average annual salary [4 out of 10]	\$0	\$72,245	\$65,305	\$85,175	\$92,825	\$94,854	\$98,415	\$90,773
	Average Monthly Benefit	\$0	\$2,066	\$2,511	\$4,002	\$5,408	\$5,928	\$6,151	\$5,108

## EXHIBIT S POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO HISTORY OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM BENEFIT PAYROLL

	Ad	lded to Payroll	Remo	oved from Payroll	Payre	oll End of Year	Average Annual	Increase to Avg.
Yr.	No.	Annual Benefits.	No.	<b>Annual Benefits</b>	No.	<b>Annual Benefits</b>	Benefits	Benefits
				<b>Employee Annuit</b>	ants (Male	and Female)		
2010	551	\$ 44,873,260	283	\$ 12,055,142	8,495	\$ 450,742,884	\$ 53,060	4.5%
2011	500	42,603,517	232	10,471,101	8,763	482,875,300	55,104	3.9%
2012	539	43,830,960	267	12,652,422	9,035	514,053,838	56,896	3.3%
			Widow	/Widower Annuitant	ts (Not Incl	uding Compensation		
2010 1	145	\$ 2,838,113	177	\$ 2,598,598	3,079	\$ 53,621,501	\$ 17,415	1.5%
2011 1	144	3,709,829	132	2,007,664	3,091	55,323,666	17,898	2.8%
2012 1	174	4,436,964	143	2,110,153	3,122	57,650,477	18,466	3.2%

<sup>&</sup>lt;sup>1</sup> Not including Compensation Annuitants.

#### **APPENDIX 4**

ACTUARIAL METHODS AND ASSUMPTIONS AS OF DECEMBER 31, 2012

### POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO 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 Normal Actuarial Cost Method.

Under the Entry Age Normal Actuarial Cost Method, each participant's benefits are assumed to be funded by annual installments, equal to a level percentage of compensation, payable from date of participation to assumed retirement. The total "Normal Cost" is the sum of the current year's annual installments determined for all active participants. The "Actuarial Accrued Liability" is the excess of the value of projected benefits for all participants (both active and retired) over the discounted value of Normal Costs determined for future years of service.

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 fixed period of time (e.g. 30 years) from the date incurred. At a minimum, interest on UAAL should be funded. The total contribution developed under this method is the sum of the Normal Cost and the payment toward the UAAL. The Minimum Actuarially Determined Contribution contains only an interest payment on the UAAL.

#### II. CURRENT ACTUARIAL ASSUMPTIONS

The current actuarial assumptions were adopted and became effective December 31, 2009, and were based on an experience study for the period January 1, 2003, to December 31, 2008. The investment return assumption was changed effective for the December 31, 2012 actuarial valuation.

#### A. Demographic Assumptions

Mortality: 1994 Group Annuity Mortality Table. The mortality table used is a

static table and provides an estimated margin of 25 percent, based on the postretirement experience from 2003 through 2008, for future

mortality improvement.

Disabled Mortality: 1994 Group Annuity Mortality Table set forward six years.

Rate of Disability: Rates at which members are assumed to become disabled under the

provisions of the Fund. Sample rates assumed are as follows:

ATTAINED AGE	RATE
22	.0003
27	.0006
32	.0012
37	.0015
42	.0020
47	.0045
52	.0050
57	.0060
62	.0060

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

The distribution of disability types is assumed to be as follows:

Duty Disability	45%
Occupational Disease Disability	15%
Ordinary Disability	40%

Rate of Retirement:

Rates at which members are assumed to retire under the provisions of the Fund. The rates assumed are as follows:

For members hired before January 1, 2011:

ATTAINED AGE	RATE 1
49	.00
50	.08
51	.08
52	.08
53	.08
54	.15
55	.15
56	.15
57	.15
58	.15
59	.15
60	.25
61	.30
62	.35
63	1.00

For members hired on or after January 1, 2011:

ATTAINED AGE	RATE 1
49	.00
50	.02
51	.02
52	.02
53	.02
54	.08
55	.17
56	.17
57	.17
58	.17
59	.17
60	.25
61	.30
62	.35
63	1.00

<sup>&</sup>lt;sup>1</sup> Only for members eligible for a formula annuity.

### POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO ACTUARIAL METHODS AND ASSUMPTIONS AS OF DECEMBER 31, 2012 (CONT'D)

Turnover Rates: The following sample rates exemplify the table:

YEARS OF SERVICE	RATE
0	0.028
1	0.022
2	0.014
3	0.013
4-9	0.012
10	0.011
11	0.010
12	0.009
13	0.008
14	0.007
15	0.006
16	0.005
17-25	0.004

#### B. Economic Assumptions

Investment Return Rate: 7.75% per annum for pensions effective as of December 31, 2012 and

4.50% for OPEB effective as of December 31, 2005.

General Inflation: The 7.75% Investment Return Rate assumption contains a 3.00%

inflation assumption and a 4.75% real rate of return assumption for

pension.

Future Salary Increases: Assumed rates of individual salary increase at 4.0% per year, plus an

additional percentage based on the following service scale:

COMPLETED YEARS	
of Service *	<b>SCALE</b>
1	0.250
2	0.060
3	0.050
4	0.050
5	0.040
6-9	0.000
10	0.035
11-14	0.000
15	0.035
16-19	0.000
20	0.035
21-24	0.000
25	0.035
Over 25	0.000

<sup>\*</sup> Includes increases at 12 and 18 months of service.

### POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO ACTUARIAL METHODS AND ASSUMPTIONS AS OF DECEMBER 31, 2012 (CONT'D)

Asset Value: For State reporting, bonds are at amortized value and stocks are at cost.

For GASB #25 and #27, the actuarial value of assets is smoothed by recognizing each year's difference between actual and expected investment return at the rate of 20 percent per year over a five-year

period.

C. Other Assumptions

Marital Status: It is assumed that 85% of members have an eligible spouse. The male

spouse is assumed to be three 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 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, as well as widow annuitants that are currently receiving a health insurance

supplement.

Required Ultimate Multiple: The actuarially determined contribution (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% overall loss on tax levy is assumed.

#### APPENDIX 5

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

#### **PARTICIPANTS**

An employee in the police department of the City of Chicago appointed and sworn or designated by law as a peace officer with the title of policeman, policewoman, chief surgeon, police surgeon, police dog catcher, police kennelman, police matron and members of the police force of the police department.

#### **SERVICE**

In computing service rendered by a police officer, the following periods shall be counted, in addition to all periods during which he performed the duties of his position, as periods of service for annuity purposes only: All periods of (a) vacation; (b) leave of absence with pay; (c) military service; (d) disability for which the police officer receives disability benefit. The calculation of service is based on a day-to-day basis for most purposes. For the purpose of calculating benefits under the Dominant Formula, one-year of Service is credited for a year in any portion of which a police officer is compensated.

#### RETIREMENT

#### **Eligibility**

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**

Effective in plan year 2003, retirement is mandatory for a participant who has attained age 63.

#### **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, the employee is entitled to an annuity based on all sums accumulated.

### Formula Minimum Annuity

While there are several alternative formulas available with 20 or more years of service, the Dominant Formula is 50% of highest average salary (including duty availability pay) in 48 consecutive months within the last 10 years of service plus 2.5% for each year or fraction of service over 20 years, limited to 75% of average salary.

#### Mandatory Retirement Minimum Annuity

A police officer who is required to withdraw from service due to attainment of mandatory retirement age who has less than 20 years of service credit may elect to receive an annuity equal to 30% of average salary for the first 10 years of service, plus 2% of average salary for each completed year of service in excess of 10, to a maximum of 48% of average salary. This benefit qualifies for post retirement increases.

#### Post-Retirement Increase

A retiree born before January 1, 1955, with at least 20 years of service or receiving a mandatory retirement minimum annuity, receives an increase of 3% of the original annuity, starting on the first of the month following the first anniversary of his retirement or the first of the month following attainment of age 55, whichever is later, and shall not be subject to a 30% maximum increase. For retirees born after January 1, 1955, automatic increases are 1.5% of the original annuity, commencing at age 60, or the first anniversary of retirement, if later, to a maximum of 30%.

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.

#### Minimum Annuity

The benefit of any retiree who retired from the service before January 1, 1986, at age 50 or over with at least 20 years of service, or due to termination of disability is not less than \$1,050 per month.

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.

#### Reversionary Annuity

A member, prior to retirement, may elect to reduce his own annuity, and provide a reversionary annuity, to begin upon the officer's death, for the officer's spouse.

#### SURVIVOR INCOME BENEFITS PAYABLE ON DEATH

### Death in Service (Non-Duty):

Generally, a money-purchase benefit is provided, based on total salary deductions and City contributions. However, if a policeman dies in service after December 31, 1985, with at least 1.5 years of service, the widow's annuity is the greater of (a) 30% of the annual maximum salary attached to the classified civil service position of a first class patrolman at the time of his death (without dollar limit) or (b) 50% of the benefit accrued by the policeman at date of death.

The lifetime benefit is payable until death.

### Death in Service (Duty Related)

#### **Compensation Annuity**

75% of the member's salary attached to the civil service position that would ordinarily have been paid to such member as though in active discharge of his duties at the time of death payable until the date the policeman would have attained age 63.

#### Supplemental Annuity

Payable for life and is equal to the difference between the money purchase annuity for the spouse and an amount equal to 75% of the annual salary (including all salary increases and longevity raises) the police officer would have been receiving when he attained age 63 if the police officer had continued in service at the same rank last held in the department.

#### Death after Retirement

If a police officer retires on or after January 1, 1986, and subsequently dies, the widow's annuity is 40% before 1988 and 50% on and after January 1, 1988 of the retired policeman's annuity at the time of death (without dollar limit).

#### Maximum Annuity

\$500 a month (after discount for age difference) under both the accumulation method and the old formula method. There is no dollar limit on the 30%, 40% or 50% benefit.

*Minimum Annuity* Any spouse is entitled to a minimum annuity of \$1,000 a month.

For participants that first became members on or after January 1, 2011, widow benefits are equal to 66-2/3 percent of the officer'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.

#### **CHILDREN'S ANNUITIES**

Eligibility Payable at death of the policeman to all unmarried children less than 18

years of age.

Benefit 10% of the annual maximum salary of a first class patrolman during

widow (widower) life, 15% otherwise.

**Payable Until** Age 18. If the child is disabled, benefit is payable for life or as long as

such disablement exists.

Family Maximum 60% (non-duty death) or 100% (duty death) of the salary that would

ordinarily been paid to the policeman, if he had been in the active

discharge of his duties.

Parent's Annuities

Eligibility Payable to a dependent parent at the death of a policeman who is in

either active service, or receiving a disability benefit, or on leave of absence, or in receipt of an annuity granted after 20 years of service, or waiting to start receiving an annuity granted for 20 years of service. The benefit is only payable if there are no surviving spouses or children

eligible for benefits.

**Benefit** 18% of the current salary attached to the rank at separation from service.

Payable until Death of the dependent parent.

#### **DUTY DISABILITY BENEFIT**

*Eligibility* Disabling condition incurred in the performance of duty.

#### Benefit

75% of salary at the time the disability is allowed plus \$100.00 per month for each unmarried child less than age 18, (total amount of child's benefits shall not exceed 25% of salary). Beginning January 1, 2000, after 7 years of payment, the benefit shall not be less than 60% of the current salary attached to the rank held by the policemen at the time of disability. Payable to employee's age 63 or by operation of law, whichever is later. Salary deductions are contributed by the City.

#### OCCUPATIONAL DISEASE DISABILITY BENEFIT

Eligibility Heart attack or any disability heart disease after 10 years of service.

**Benefit** 65% of salary attached to the rank held by the police officer at the time

of his or her removal from the police department payroll with a minimum after 10 years of 50% of the current salary attached to the rank. Each natural or legally adopted unmarried child of the officer under the age of 18 is entitled to a benefit of \$100 per month. This benefit is not terminated at age 18 if the child is then dependent by reason of physical or mental disability. Salary deductions are contributed by the City.

#### ORDINARY DISABILITY BENEFIT

Eligibility Disabling condition other than duty or occupational related.

Benefit 50% of salary at the time of injury, payable for a period not more than

25% of service (excluding any previous disability time) rendered prior to injury, nor more than 5 years. Disability shall cease at age 63. Salary

deductions are contributed by the City.

#### **DEATH BENEFIT**

#### **Eligibility**

Payable upon the death of a police officer whose death occurs while in active service; on authorized leave of absence; within 60 days of receipt of salary; while 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 20 years of service. This benefit is payable to beneficiaries or, if none, to estate.

Bene	e fit
	$J^{-1}$

Death in Service:	AGE AT DEATH	BENEFIT
	49 and under	\$12,000
	50-62	\$12,000 less \$400 for each year by which age at death exceeds 49.
	63 and Over	\$6,000
	03 <b>unu</b> 0 (01	40,000
Death after Retirement:	AGE AT DEATH	BENEFIT
	50 and over	\$6,000
		injury incurred in performance of duty before the benefit payable is \$12,000 regardless of the
GROUP HEALTH HOSPITAL AND SURGICAL INSURANCE PROGRAM	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 through June 30, 2013.	
REFUNDS		
Policemen	Without regard to service and under age 50, or with less than 10 years of service and under age 57 at withdrawal: a refund of all salary deductions together with 1.5% simple interest until the date of withdrawal.	
For Spouse's Annuity	Upon retirement an unmarried policeman will receive a refund of contributions for spouse's annuity, accumulated at 3% compounded annually.	
Of Remaining Amounts		policeman the total member contributions paid total retirement benefits paid to date of death, the

#### **CONTRIBUTIONS**

Salary Deductions	Employee	7 %
	Spouse	11/2%
	Annuity Increase	1/2%
		9 %

#### POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUMMARY OF PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS AS OF DECEMBER 31, 2012 (CONT'D)

City Contributions <sup>1</sup>	Employee	9-5/7%

Spouse 2 %

Annuity Increase  $\frac{\frac{1}{2}\%}{12-\frac{3}{14}\%}$  Unallocated

In addition to the above contributions, a contribution is made to support the Death Benefit. Policemen contribute \$2.50 per month. City contributes a total of \$224,000 for all policemen.

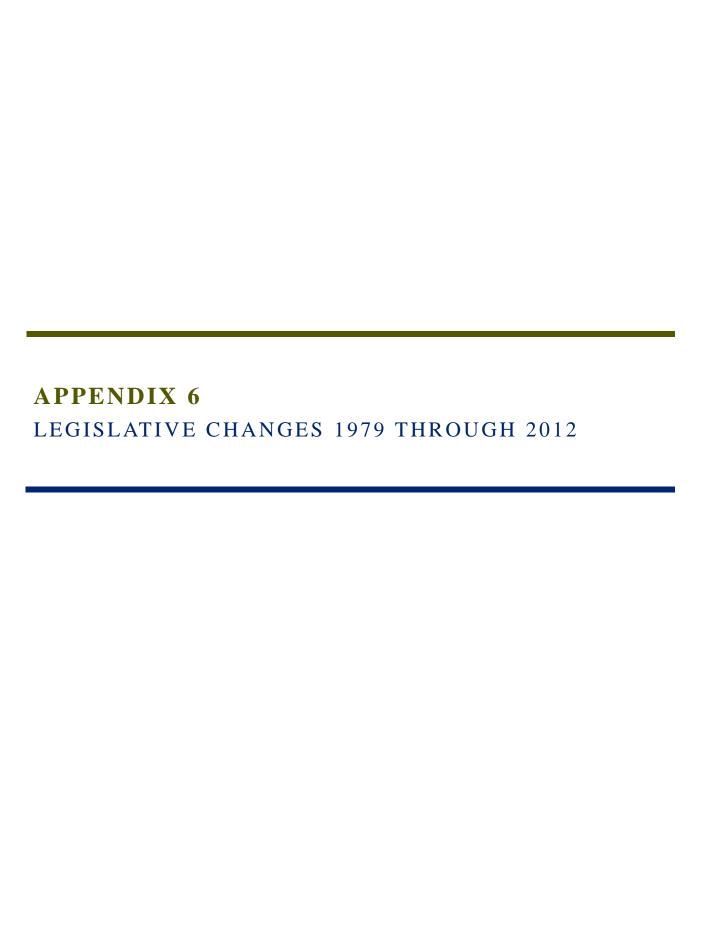
The total City contribution is generated by a tax equal to double the contributions by the policemen to the Fund two years prior to the year of the tax levy.

"PICK UP" OF EMPLOYEE SALARY DEDUCTIONS Beginning January 1, 1982, the employee contributions were "picked up" 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 contributions, these contributions will be treated as employee contributions.

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

				Maximum Annual
Year Ending	CPI-U	½ <b>CPI-U</b>	COLA	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

<sup>&</sup>lt;sup>1</sup> Credited to Participant's Accumulation Annuity and Widow's Annuity Account



#### 1979 Session

#### HB 2128

Refund repayment provided at least 3 years of service after reentry, surviving spouse may pay in the case of death of the employee.

#### HB 2012

Under IRS Code Section 414(h), employer may pick up the employee contributions for all compensation earned after December 31, 1981 by a reduction in the cash salary or an offset to a future salary increase or by a combination of both.

#### HB 2160

Duty disability benefit based on the salary when the benefit is payable in the case of a disabled policeman who returns to active service for a period of at least 2 years.

#### 1980 Session

#### 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.

#### SB 1126

Duty disability benefits based on salary at time disability is allowed; salary for policeman on leave of absence; definition of heart attack.

#### HB 291

Minimum survivor's annuity from \$200 to \$250.

#### **Spring 1982 Session**

#### SB 740

Minimum employee annuity from \$350 to \$400 effective July 1, 1982, for policemen who retired before September 1, 1976.

#### SB 1127

3% post-retirement increase for employees born before January 1, 1930, without 30% maximum, effective January 1, 1983.

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 1147

Actuarial reporting to Insurance Department and Pension Laws Commission. Actuarial statements prepared by a qualified actuary for plan years ending after December 31, 1984, including actuarial present value of credited projected benefits.

#### SB 1579

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

#### **Spring 1983 Session**

#### SB 22

Delegation of investment authority restrictions.

#### HB 514

10% prudent person investment category.

#### HB 1412

Heart attack; need not result from an injury.

#### HB 1413

Wrongful death of a police officer bars benefit.

#### HB 1414

50/20 50%, plus 2% minimum formula; if retire in 1984 qualify with 52 and 22; in 1985, 51 and 21; in 1986 and after, 50 and 20.

#### HB 2003

Reversionary annuity. Securities lending.

#### City Ordinance

Changes compulsory retirement from 63 to 70.

#### 1984 Court Decision

Kaner case awarding widow compensation annuity 75% of the salary attached to the civil service position that would have ordinarily have been paid to him as though he were in active discharge of his duties for widows of policemen who died a duty death after January 1, 1970.

#### 1984 Session

Illinois Public Employees' Pension Laws Commission abolished.

#### 1985 Session

#### HB 1529

30% (of maximum first class patrolman salary) widow's benefit for death in service, with 1.5 years of service, eliminated the excess spouse refund.

40% (of policeman annuity at the time of death) widow's benefit for death after retirement (for retirements after January 1, 1986 only).

Death benefit increase: retirees \$2,250 to \$6,000, actives \$12,000 before 50 graded down to \$6,000.

Minimum widow pension from \$250 to \$325 under certain conditions.

3% increase for the closed group receiving 2%.

Widow compensation annuity for duty deaths after September 17, 1969.

#### 1986 Session

#### HB 2630

Expands the widow compensation annuity category to include duty deaths after January 1, 1940.

#### 1987 Session

#### HB 2715

Beginning January 1, 1988, 50% of employees' annuity at death for widows (present and future) whose spouse retired on or after January 1, 1986.

3% annual increase for life to all employee annuitants (present and future) born before 1940 instead of 1930.

#### 1988 Session

No legislative changes.

#### 1989 Session

#### SB 95

Signed August 23, 1989. 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, 1995, until December 31, 1997, the amounts are \$75 and \$45, respectively. Widows will now be supplemented also. The City will be required to pay 50% of the aggregated 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 1997 for the retired group.

\$150 to \$200 minimum widow's benefit.

Beginning January 1, 1990, minimum widow's annuity shall be \$400.

Transfer of credits to IMRF for a County Sheriff upon application and payment by the Fund.

#### HB 332

Signed August 23, 1989, age discrimination changes. Removed the age 63 limitations in determining benefits for money purchase employee and widow annuities, disability benefits and refunds. The change requires contributions (deductions from salary) and concurrent City contributions from January 1, 1988, until withdrawal but not for the period between the attainment of age 63 and January 1, 1988.

Allow transfer credits and creditable service under any other pension fund if police officer has 10 years of service and payment before January 1, 1990.

Provides for a transfer of credits to the Municipal Fund or State Fund of any police officer with at least 10 years of service.

#### 1990 Session

#### SB 1951

Allows policemen to withdraw at age under 50 with at least 20 years of service to receive benefit based on minimum formula commencing at age 50.

Widows of active policemen receive benefit not less than 50% of annuity payable to the policeman had he retired on the date of death.

Compensation and supplemental widows' annuities do not cease upon remarriage.

#### 1991 Session

#### HB 969

Increases the minimum monthly benefit to retirees who had at least 20 years of service prior to January 1, 1992 to \$650.

Increases the minimum monthly widow's annuity payable upon death after January 1, 1992 of:

- an active policeman with at least 10 years of service, or
- a policeman who had at least 20 years of service at withdrawal from the Fund to \$500.

#### 1992 Session

No legislative changes.

#### 1993 Session

#### SB 1650

Increases the minimum monthly benefit to retirees who had at least 20 years of service prior to January 1, 1995 to \$750, and after January 1, 1995 to \$850.

Increases the minimum monthly widow's annuity payable upon death after January 1, 1995 of:

- an active policeman with at least 10 years of service; or
- a policeman who had at least 20 years of service at withdrawal from the Fund to \$600, and after January 1, 1995 to \$700.

#### 1994 Session

No legislative changes.

#### 1995 Session

#### SB 99

Beginning January 1, 1996, supplemental annuity changed to the difference between the annuity for the widow and an amount equal to 50% of the annual salary (including all salary increases and longevity raises) the policeman would have been receiving when he attained age 63 if the policeman had continued in service at the same rank (whether career service or exempt) that he last held in the police department.

Beginning January 1, 1996, duty disability minimum benefit is stated such that after 10 years of payment the benefit shall not be less than 50% of the current salary attached to the rank held by the policeman at the time of removal from police department payroll.

An occupational disease disability benefit has been added for any policeman with at least 10 years of service who suffers a heart attack or any other disability heart disease. The benefit shall be 65% of salary attached to the rank held by the officer at the time of his or her removal from the police department payroll, with a minimum after 10 years of 50% of the current salary attached to the rank. Each natural or legally adopted unmarried child of the officer under age 18 is entitled to a benefit of \$50 per month. This benefit is not terminated at age 18 if child is then dependent by reason of a physical or mental disability.

Beginning January 1, 1996, the age of the commencement of automatic increases in annuities has been lowered to age 55 for policemen born on or after January 1, 1940, but before January 1, 1945. Any policemen born before January 1, 1945, who qualifies for a minimum annuity and retires after September 1, 1967, not receiving the initial increases before January 1, 1996, will receive the initial increase on (1) January 1, 1996, (2) the first anniversary of the date of retirement, or (3) attainment of age 55, whichever occurs last.

Beginning January 1, 1996, the minimum monthly widow's annuity payable upon death increases to \$700.00 for all widow's not previously eligible for the minimum.

#### 1996 Session

#### SB 1456

Effective August 9, 1996, a parent's annuity equal to 18% of the current salary attached to the rank at separation from service will be provided to each of the natural parents of a police officer who dies under certain conditions. Those conditions include: death in active service, while receiving a disability benefit, during leave of absences, or after 20 years of service and eligible or receiving an annuity. The benefit is payable only if there are no surviving spouse or children eligible for benefits.

#### 1997 Session

#### PA 90-551

Effective December 12, 1997, the law was amended to include on prospective basis duty availability in the definition of salary. The law also allows policemen who retired or were at least age 50 and had at least 20 years of service between July 1, 1994, and December 31, 1997, to count duty availability pay in the calculation of final average salary. In order for this to happen, the policemen must elect to do so and must contribute the employee contributions (9%) without interest from the duty availability pay that is to be considered in the final average salary calculation.

Effective June 27, 1997, PA 90-0031 was enacted. This law extends the hospitalization plan through June 30, 2002, for annuitants and their eligible dependents.

Effective July 1, 1997, PA 89-643 was amended. This provision extended the parent's annuity eligibility to apply to dependent parents of police officers who died prior to August 9, 1996.

#### 1998 Session

#### PA 90-0766

Effective August 16, 1998, this law increased the minimum monthly widow's annuity payable from \$700.00 to \$800.00 effective January 1, 2012. This law also increased the earnings limit maximum for those receiving disability benefits such that the sum of the disability benefit and outside compensation may be up to 150% of the rate of salary which the participant would be receiving if working in his regularly appointed civil service position as a policeman.

#### 2000 Session

In 2000 the City of Chicago has enacted mandatory retirement for Policemen upon attainment of age 63.

#### 2001 Session

#### PA92-0052

Effective July 12, 2001.

Beginning on January 1, 2000, the minimum duty disability after 7 years of payment shall be 60% of the current salary attached to the rank held by the policeman at the time of removal from police department payroll. If the Board finds that the disability permanently renders the policeman totally disabled for any service of a remunerative character, the minimum disability benefit shall be 75% of the current salary attached to the rank held by the policeman at the time of removal from payroll.

The child's benefit for both duty disability and occupational disease disability was increased to \$100 per month.

The law removed the earnings limit of 150% of regular salary to be eligible to receive disability benefits.

With effect from January 1, 2000, the age of the commencement of the automatic 3% increases in annuities has been lowered to age 55 for policemen born on or after January 1, 1945, but before January 1, 1950. Any policeman born before January 1, 1950, who qualifies for a minimum annuity and retires after September 1, 1967, not receiving the initial increase before January 1, 2000, will receive the initial increase at the latest of (1) January 1, 2000, (2) the first anniversary of the date of retirement, or (3) attainment of age 55.

#### 2002 Session

#### HB 5168

- Effective June 28, 2002.
- A police officer who is required to withdraw from service due to attainment of mandatory retirement age and who has less than 20 years of service credit, may elect to receive an annuity equal to 30% of average salary for the first 10 years of service, plus 2% of average salary for each completed year of service in excess of 10, to a maximum of 48% of average salary. This benefit qualifies for post-retirement increases.
- The supplemental annuity payable to the widow of an officer on account of a duty-related death is increased to the difference between the money purchase annuity for the spouse and 75% (previously 50%) of the annual salary the police officer would have been receiving when he attained age 63 if the police officer had continued in service at the same rank last held in the department.
- The pension fund subsidy for retiree health insurance was extended through June 30, 2003. For annuitants (other than child annuitants) taking the employer-provided plan, 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.
- The minimum annuity formula accrual rate for service after 20 years was increased from 2.0% to 2.5% with total benefits limited to 75% of final average pay.
- The minimum benefit for age-service retirements 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.

#### 2005 Session

#### PA 94-0624

- Effective August 18, 2005.
- Beginning January 1, 2000, removes the limitation for maintaining benefits for non-civil service positions when assigned within three years of retirement for non-civil service positions with the title of Captain.

#### HB 1009

Effective January 1, 2005, any policeman born after January 1, 1950, but before January 1, 1955 shall receive a benefit increase of 3% compounded annually. Any policeman born before January 1, 1955, who qualifies for a minimum annuity and retires after September 1, 1967, not receiving the initial increase before January 1, 2005, will receive the initial increase at the latest of (1) January 1, 2005, (2) the first anniversary of the date of retirement, or (3) attainment of age 55.

#### 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 under Section 1-110.5 of the pension code that they have not loaned to, invested in, or otherwise transferred any of the pension fund assets to a forbidden entity.

#### SB 1446

- Approved August 22, 2005.
- Provides for various changes in provisions and procedures concerning Qualified Illinois Domestic Relations Orders. Allows for alternate payee's benefit to be based on a percentage of employee's benefit. Effective July 1, 2006.

#### 2006 Session

No legislative changes.

#### 2007 Session

#### PA 95-0279

- Effective 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 6 months prior to the policeman's death.

#### PA 95-0504

- Effective August 28, 2007.
- Beginning on the effective date, a widow's annuity shall no longer be subject to termination or suspension due to remarriage. Any widow's annuities previously terminated or suspended due to remarriage shall be resumed upon application, but the resumption shall not be retroactive.
- At the discretion of the Board, a widow's annuity may be granted to a widow who was denied a benefit for having been married less than one year at the time of the member's death.
- Removes age limitation on child's annuity for children who are so physically or mentally handicapped as to be unable to support themselves.

#### 2008 Session

No legislative changes.

#### 2009 Session

#### P.A. 95 -1036

- Effective February 17, 2009.
- For purposes of tax levy, contributions by the policeman to the Fund shall not include payments made by a policeman to establish credit under Section 5-214.2.
- An officer with prior service credit under article 3,7,9,10,13,14,15 Funds may transfer up to 10 years of service in 6 month increments provided the transfer of service results in no increase to the unfunded actuarial accrued liability of the Fund.

#### PA 96-0006

- Effective April 3, 2009.
- The Illinois Governmental Ethics Act.

#### P.A. 96 -285

- Effective August 11, 2009.
- Extends PA 95-1036 service purchase eligibility to include members of article 8 Funds and law enforcement officers with any agency of the United States Government.

#### P.A. 96 -727

- Effective August 25, 2009.
- Allows an officer with at least 10 years of PABF service to transfer up to 48 months of eligible service as a County Correctional Officer. The officer is required to pay to the Fund the difference between contributions transferred by the County on behalf of the officer and the amount of employee and employer contributions that would have been contributed had the officer been a member of this Fund plus interest at the actuarially assumed rate.

#### P.A. 96 -745

- Effective August 25, 2009.
- Transfer of service to Article 14 (State Employees' Retirement System) now includes investigators for the Office of the Attorney General and investigators for
- The Department of Revenue. Interest on the repayment of refund is changed from 6% to the actuarially assumed rate.

#### 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.

#### 2010 Session

#### P.A. 96-1260

- Effective July 23, 2010.
- A policeman may purchase benefit service for all periods of service in the military before beginning service as an active policeman. The total amount of such service shall not exceed 2 years.

#### 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 ending after March 30, 2011, the actuarial value of assets is based on a five-year smoothing of investment gains and losses incurred in fiscal years ending after March 30, 2011. 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 PABF. 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 policemen'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. 97-326 (HB 1872)

- Effective August 12, 2011.
- A policeman may transfer up to 10 years of credible service to a fund covered under Article 3. PABF will pay the Article 3 fund an amount consisting of (1) the amounts credited to the applicant through employee contributions, plus accumulated interest plus (2) an amount representing municipality contributions equal to the amount determined in (1) plus (3) any interest paid to PABF in order to reinstate credits and credible service.
- A policeman may reinstate credits and credible service that was terminated upon receipt of a refund, by paying the Fund the amount of the refund plus interest thereon at the actuarially assumed rate, compounded annually, from the date of the refund to the date of the payment.

#### P.A. 97-344 (HB 3376)

- Effective August 12, 2011.
- Makes changes concerning annual increases to the monthly annuities of persons who first become a policeman on or after January 1, 2011 and deletes repetitive language concerning annual increases in survivor's annuities for Tier 2.

#### 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.
  - 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.

#### P.A. 97-813

- Effective July 13, 2012.
- Clarifies provisions of widow's annuity.



#### EXHIBIT A-1

## POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO GASB #25, #27, #43, AND #45 DISCLOSURES

The Governmental Accounting Standards Board (GASB) has adopted Statement #25, changing the way in which governmental retirement systems must report financial information. GASB #25 is effective for Fund and City reporting in 1997.

The GASB has also issued Statements #43 and #45, changing the way in which governmental retirement systems and governmental employers report financial information for other postemployment benefits (OPEB). GASB #43 is effective for the fund in fiscal year 2006 and GASB #45 is effective for the City in fiscal year 2007.

This report includes the following Exhibits with information required to be reported under GASB #25, #27, #43, and #45. 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 15-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 shows a 16-year history.

#### Exhibit A-4: Supplementary Information for GASB #25/27

This exhibit has certain information required in the notes to the Fund's 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 has a 15-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 (CONT'D)

## POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO GASB #25, #27, #43, AND #45 DISCLOSURES

Exhibit A-7: Development of Net Pension Obligation (NPO) for GASB #27

This exhibit documents the 25-year summary of the calculation of the net pension obligations under GASB #27.

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

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 compares the Annual Required Contribution (ARC) as computed under GASB #43 with the amount actually received.

Exhibit A-10: Supplementary Information for GASB #43

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

Exhibit A-11: Annual OPEB Cost and Contributions Made for GASB #45 for 2012

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. The exhibit also includes the dollar amount of contributions made.

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

This exhibit has a six-year summary of annual OPEB cost; percentage of annual OPEB cost contributed that year and NOO at the end of the year.

EXHIBIT A-2
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SCHEDULE OF FUNDING PROGRESS FOR GASB #25

Actuarial Valuation Date	Actuarial Actuarial Accrued Value of Liability (AAL) Assets Entry Age (a) (b) 1		Unfunded AAL (UAAL) (b - a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/1998	\$ 3,249,729,847	\$ 5,158,196,219	\$ 1,908,466,372	63.00%	\$ 736,401,756	259.16%
12/31/1999	3,685,681,671	5,394,872,218	1,709,190,547	68.32%	755,303,667	226.29%
12/31/2000	4,019,467,561	5,652,030,658	1,632,563,097	71.12%	759,343,026	215.00%
12/31/2001	4,183,796,025	5,932,510,629	1,748,714,604	70.52%	763,352,475	229.08%
12/31/2002	4,124,579,960	6,384,845,959	2,260,265,999	64.60%	866,531,789	260.84%
12/31/2003	4,039,695,590	6,581,433,250	2,541,737,660	61.38%	887,555,791	286.37%
12/31/2004	3,933,031,342	7,034,271,474	3,101,240,132	55.91%	874,301,958	354.71%
12/31/2005	3,914,431,654	7,722,737,147	3,808,305,493	50.69%	948,973,732	401.31%
12/31/2006	3,997,990,919	7,939,561,277	3,941,570,358	50.36%	1,012,983,634	389.11%
12/31/2007	4,231,681,817	8,220,352,638	3,988,670,821	51.48%	1,038,957,026	383.91%
12/31/2008	4,093,719,894	8,482,574,033	4,388,854,139	48.26%	1,023,580,667	428.77%
12/31/2009	3,884,978,241	8,736,101,666	4,851,123,425	44.47%	1,011,205,359	479.74%
12/31/2010	3,718,954,539	9,210,056,428	5,491,101,889	40.38%	1,048,084,301	523.92%
12/31/2011	3,444,690,362	9,522,395,036	6,077,704,674	36.17%	1,034,403,526	587.56%
12/31/2012	3,148,929,770	10,051,827,391	6,902,897,621	31.33%	1,015,170,686	679.97%

<sup>&</sup>lt;sup>1</sup> Actuarial liability excludes OPEB benefits as of December 31, 2006.

EXHIBIT A-3
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR GASB #25

For Year Ending December 31	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
1998	\$105,484,624	\$118,867,416	112.69%
1999	133,535,979	125,281,970	93.82%
2000	125,129,864	139,481,871	111.47%
2001	123,201,657	139,675,766	113.37%
2002	130,237,405	141,989,027	109.02%
2003	181,545,562	140,807,354	77.56%
2004	203,757,534	135,744,173	66.62%
2005	238,423,459	178,278,371	74.77%
$2006^{\;1}$	262,657,025	150,717,705	57.38%
2007	312,726,608	170,598,268	54.55%
2008	318,234,870	172,835,805	54.31%
2009	339,488,187	172,043,784	50.68%
2010	363,624,570	174,500,507	47.99%
2011	402,751,961	174,034,600	43.21%
2012	431,010,173	197,885,552	45.91%
2013	474,177,604	TBD	TBD

<sup>&</sup>lt;sup>1</sup> Starting with fiscal year 2006, GASB #25 disclosure includes pension benefits only. The retiree healthcare supplement will be recognized under GASB #43 disclosure.

## EXHIBIT A-4 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUPPLEMENTARY INFORMATION FOR GASB #25/27

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 Normal

Actuarial Value of Assets 5-year smoothed market

Amortization Method Level percent open

**Remaining Amortization Period** 30 years

**Actuarial Assumptions:** 

**Pension Investment Rate of Return** 7.75%, December 31, 2012

8.00%, December 31, 2011

**General Inflation** 3.00%

**Projected Salary Increases** 4.00% per year, plus

additional percentage related to service.

**Cost-of-Living Allowance** For members hired before January 1, 2011:

3.00% (1.50% for retirees born after January 1, 1955)

For members hired on or after January 1, 2011: ½ CPI, max 3.00%; assumed rate of 1.5%

	2011 1	2012 1
Payable to Retirees, Beneficiaries, and Inactives	\$5,961,518,390	\$ 6,428,152,427
Current Employees:		
Accumulated Employee Contributions Including		
Statutory Interest	1,286,345,939	1,309,825,828
Payable to Vested and Non-Vested Employees	2,274,530,707	2,313,849,136
Total Actuarial Accrued Liability	\$9,522,395,036	\$10,051,827,391
Net Plan Actuarial Assets	3,444,690,362	3,148,929,770
Unfunded AAL (assets in excess of AAL)	\$6,077,704,674	\$ 6,902,897,621
Percent Funded	36.17%	31.33%
Unfunded AAL as Percent of Payroll	587.56%	679.97%
Payroll	\$1,034,403,526	\$ 1,015,170,686

<sup>&</sup>lt;sup>1</sup> Excludes liabilities for retiree healthcare subsidy.

## EXHIBIT A-5 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO 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 2.00.

Plan Members 9.0%

#### **Annual Pension Cost for 2012**

Annual Required Contribution (ARC)	\$431,010,173
Interest on Net Pension Obligation	165,221,297
Adjustment to ARC	(112,872,393)
Total	\$483,359,077

**Contributions Made in 2012** \$197,885,552 1

#### **Net Pension Obligation (NPO):**

NPO at 12/31/2011	\$2,065,266,212
Increase/(Decrease) in NPO	285,473,525_
NPO at 12/31/2012	\$2,350,739,737

#### Pension Liability at Transition (January 1, 1997) \$566,107,984

<sup>&</sup>lt;sup>1</sup> Includes miscellaneous revenue.

## EXHIBIT A-6 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO PENSION COST SUMMARY FOR GASB #27

Year Ended December 31	Annual Pension Cost	% of Annual Pension Cost Contributed	Net Pension Obligation
1998	\$124,458,001	95.51%	\$590,179,285
1999	152,690,804	82.05	617,588,119
2000	145,174,269	96.08	623,280,517
2001	143,430,813	97.38	627,035,564
2002	150,588,435	94.29	635,634,972
2003	202,175,694	69.65	697,003,312
2004	226,379,433	59.96	787,638,572
2005	263,987,011	67.53	873,347,212
2006	302,556,587	52.47	1,017,144,522
$2007^{-1}$	338,508,467	50.40	1,185,054,721
2008	348,272,798	49.63	1,360,491,714
2009	373,972,967	46.00	1,562,420,897
2010	403,227,708	43.28	1,791,148,098
2011	448,152,714	38.83	2,065,266,212
2012	483,359,077	40.94	2,350,739,737

<sup>&</sup>lt;sup>1</sup> Annual pension cost for fiscal years on and after 2007 excludes OPEB which are recognized in GASB 45 accounting.

EXHIBIT A-7
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
DEVELOPMENT OF NET PENSION OBLIGATION (NPO) FOR GASB #27 PRIOR TO JANUARY 1, 1997

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 Me thod	EAN											
Ac tu a ria lly De te rmine d Contribution (ADC)												
NormalCost	\$ 88,600,984	\$90,317,357	\$90,506,052	\$79,153,328	\$67,782,578	\$78,695,560	\$66,329,000	\$68,617,000	\$72,637,000	\$76,463,000		
Interest on Unfunded	89,867,346	92,162,828	93,180,094	88,948,163	110,558,088	126,460,879	120,691,562	132,733,871	144,248,034	150,876,009		
TotalADC	\$178,468,330	\$182,480,185	\$183,686,146	\$168,101,491	\$178,340,666	\$205,156,439	\$187,020,562	\$201,350,871	\$216,885,034	\$227,339,009		
Interest on NPO	-	5,194,794	10,671,277	16,254,357	19,887,447	23,818,783	29,389,826	32,880,844	36,612,931	40,614,169		
Adjustment to ADC	-	(4,758,157)	(11,443,199)	(17,430,139)	(21,421,034)	(25,657,792)	(31,714,118)	(35,473,365)	(39,495,803)	(43,810,319)		
Annual Pension Cost	\$178,468,330	\$182,916,822	\$182,914,224	\$166,925,709	\$176,807,079	\$203,317,430	\$184,696,270	\$198,758,350	\$214,002,162	\$224,142,859		
Net Pension Obligations (	NPO)											
NPO at Beginning of Year	\$ -	\$69,263,914	\$142,283,691	\$203,179,467	\$248,593,093	\$297,734,789	\$367,372,826	\$411,010,553	\$457,661,636	\$507,677,114		
Annual Pension Cost	178,468,330	182,916,822	182,914,224	166,925,709	176,807,079	203,317,430	184,696,270	198,758,350	214,002,162	224,142,859		
Total Contributions	(109,204,416)	(109,897,045)	(122,018,448)	(121,512,083)	(127,665,383)	(133,679,393)	(141,058,542)	(152,107,267)	(163,986,684)	(165,711,990)		
NPO at End of Year	\$ 69,263,914	\$142,283,691	\$203,179,467	\$248,593,093	\$297,734,789	\$367,372,826	\$411,010,553	\$457,661,636	\$507,677,114	\$566,107,984		

## EXHIBIT A-7 (CONT'D) POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO DEVELOPMENT OF NET PENSION OBLIGATION (NPO) FOR GASB #27 AFTER JANUARY 1, 1997

Year Ending December 31: Assumptions and Method	1997	1998	1999	2000	2001	2002	2003	2004
Interest Rate	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Salary Scale	4.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Amortization Period (years)	40	40	40	40	40	40	40	40
· ·								
Cost Method	EAN	EAN	EAN	EAN	EAN	EAN	EAN	EAN
Annual Pension Cost								
Annual Required Contribution (ARC)	\$107,607,525	\$105,484,624	\$133,535,979	\$125,129,864	\$123,201,657	\$130,237,405	\$181,545,562	\$203,757,534
Interest on Net Pension Obligation	45,288,639	46,767,096	47,214,343	49,407,050	49,862,441	50,162,845	50,850,798	55,760,265
Adjustment to ARC	(25,053,818)	(27,793,719)	(28,059,518)	(29,362,645)	(29,633,285)	(29,811,815)	(30,220,666)	(33,138,366)
Total	\$127,842,346	\$124,458,001	\$152,690,804	\$145,174,269 \$143,430,813		\$150,588,435	\$202,175,694	\$226,379,433
Net Pension Obligations (NPO)								
NPO at Beginning of Year	\$566,107,984	\$584,588,700	\$590,179,285	\$617,588,119	\$623,280,517	\$627,035,564	\$635,634,972	\$697,003,312
Annual Pension Cost	127,842,346	124,458,001	152,690,804	145,174,269	143,430,813	150,588,435	202,175,694	226,379,433
Total Contributions	(109,361,629)	(118,867,416)	(125,281,970)	(139,481,871)	(139,675,766)	(141,989,027)	(140,807,354)	(135,744,173)
NPO at End of Year	\$584,588,700	\$590,179,285	\$617,588,119	\$623,280,517	\$627,035,564	\$635,634,972	\$697,003,312	\$787,638,572

#### EXHIBIT A-7 (CONT'D) POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO DEVELOPMENT OF NET PENSION OBLIGATION (NPO) FOR GASB #27 AFTER JANUARY 1, 1997

Year Ending December 31: Assumptions and Method	2005	2006	2007	2008	2009	2010	2011	2012	
Interest Rate	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.00%	1
Salary Scale	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Amortization Period (years)	40	40	30	30	30	30	30	30	2
Cost Method	EAN	EAN	EAN	EAN	EAN	EAN	EAN	EAN	
Annual Pension Cost Annual Required Contribution (ARC) Interest on Net Pension Obligation Adjustment to ARC Total	\$238,423,459 63,011,086 (37,447,534) \$263,987,011	\$273,733,047 69,867,777 (41,044,237) \$302,556,587	\$312,726,608 81,371,562 (55,589,703) \$338,508,467	\$318,234,870 94,804,378 (64,766,450) \$348,272,798	\$339,488,187 108,839,337 (74,354,557) \$373,972,967	\$363,624,570 124,993,672 (85,390,534) \$403,227,708	\$402,751,961 143,291,848 (97,891,095) \$448,152,714	\$431,010,173 165,221,297 (112,872,393) \$483,359,077	
Net Pension Obligations (NPO) NPO at Beginning of Year Annual Pension Cost	\$787,638,572 263,987,011	\$873,347,212 302,556,587	\$1,017,144,522 338,508,467	\$1,185,054,721 348,272,798	\$1,360,491,714 373,972,967	\$1,562,420,897 403,227,708	\$1,791,148,098 448,152,714	\$2,065,266,212 483,359,077	3
Total Contributions	(178,278,371)	(158,759,277)	(170,598,268)	(172,835,805)	(172,043,784)	(174,500,507)	(174,034,600)	(197,885,552)	
NPO at End of Year	\$873,347,212	\$1,017,144,522	\$1,185,054,721	\$1,360,491,714	\$1,562,420,897	\$1,791,148,098	\$2,065,266,212	\$2,350,739,737	

 <sup>8.0%</sup> for Pension and 4.5% for OPEB, beginning with fiscal year 2006.
 40 years for Pension and 30 years for OPEB for fiscal year 2006.
 Annual Pension Cost for fiscal years on and after 2007 excludes OPEB which are recognized in GASB 45 accounting.

EXHIBIT A-8
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
SCHEDULE OF FUNDING PROGRESS FOR GASB #43

Actuarial Valuation Date	Actuarial Value of Assets (a)		uarial Accrued iability (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)
12/31/2005	\$	0	\$ 176,117,539	\$ 176,117,539	0.00%	\$ 948,973,732	18.56%
12/31/2006		0	176,981,897	176,981,897	0.00%	1,012,983,634	17.47%
12/31/2007		0	179,039,841	179,039,841	0.00%	1,038,957,026	17.23%
12/31/2008		0	169,972,156	169,972,156	0.00%	1,023,580,667	16.61%
12/31/2009		0	164,799,819	164,799,819	0.00%	1,011,205,359	16.30%
12/31/2010		0	164,796,449	164,796,449	0.00%	1,048,084,301	15.72%
12/31/2011		0	165,954,869	165,954,869	0.00%	1,034,403,526	16.04%
12/31/2012		0	168,811,118	168,811,118	0.00%	1,015,170,686	16.63%

## EXHIBIT A-9 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR GASB #43

For Year Ending December 31	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2006	\$11,076,022	\$8,041,573	72.60%
2007	11,220,081	8,107,708	72.26%
2008	11,348,959	8,850,186	77.98%
2009	11,810,766	9,266,431	78.46%
2010	10,659,006	9,354,163	87.76%
2011	10,538,116	9,591,394	91.02%
2012	10,473,478	9,765,686	93.24%
2013	10,429,882	TBD	TBD

## EXHIBIT A-10 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO SUPPLEMENTARY INFORMATION FOR GASB #43

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 Normal

Actuarial Value of Assets No assets (Pay-as-you-go)

Amortization Method Level percent open

**Remaining Amortization Period** 30 years

**Actuarial Assumptions:** 

**OPEB Investment Rate of Return** 4.50%

General Inflation 3.00%

**Projected Salary Increases** 4.00% per year, plus

additional percentage related to service.

Healthcare Cost Trend Rate 0.00% 1

	2011	2012
Payable to Retirees, Beneficiaries, and Inactives	\$ 108,022,235	\$ 112,070,287
Current Employees:		
Accumulated Employee Contributions Including		
Statutory Interest	-	-
Payable to Vested and Non-Vested Employees	57,932,634	56,740,831
Total Actuarial Accrued Liability	\$ 165,954,869	\$ 168,811,118
Net Plan Actuarial Assets	-	-
Unfunded AAL (assets in excess of AAL)	\$ 165,954,869	\$ 168,811,118
Percent Funded	0.00%	0.00%
Unfunded AAL as Percent of Payroll	16.04%	16.63%
Payroll	\$1,034,403,526	\$1,015,170,686

<sup>&</sup>lt;sup>1</sup> Trend not applicable - Fixed dollar subsidy.

# EXHIBIT A-11 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO ANNUAL OPEB COST AND CONTRIBUTIONS MADE FOR GASB #45 For 2012

\$ 11,461,254

Con	tributi	on P	otos

NOO at 12/31/2012

Contribution Rates		
City	Pay-as-you-go	
Plan Members	Plan Members None	
Annual OPEB Cost for 2012		
Annual Required Contribution (ARC)		10,473,478
Interest on Net OPEB Obligation		479,448
Adjustment to ARC		(380,397)
Total	\$	10,572,529
Contributions Made in 2012	\$	9,765,686
Net OPEB Obligation (NOO):		
NOO at 12/31/2011		10,654,411
Increase/(Decrease) in NOO		806,843

## EXHIBIT A-12 POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO OPEB COST SUMMARY FOR GASB #45

Year Ended December 31	Annual OPEB Cost	% of Annual OPEB Cost Contributed	Net OPEB Obligation
2007	\$11,220,081	72.26%	\$3,112,373
2008	11,377,894	77.78	5,640,081
2009	11,863,201	78.11	8,236,851
2010	10,735,582	87.13	9,618,270
2011	10,627,535	90.25	10,654,411
2012	10,572,529	92.37	11,461,254