GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

FIREMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO

ACTUARIAL VALUATION REPORT AS OF DECEMBER 31, 2015

GRS
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June 10, 2016

Retirement Board of the
Firemen's Annuity and Benefit Fund of Chicago
20 South Clark Street, Suite 1400
Chicago, IL 60603-1899

Re: Actuarial Certification

Dear Members of the Board:

At your request, we have performed an actuarial valuation for the Firemen's Annuity and Benefit Fund of Chicago ("the Fund") as of December 31, 2015. This valuation has been performed to measure the funding status of the Fund and determine the contribution for 2016 stated on the statutes in effect as of December 31, 2015. In addition, it includes disclosure information required under GASB Statements Nos. 43 and 45 for the fiscal year ending December 31, 2015. The assumptions and methods used were recommended by the actuary and approved by the Board and meet the parameters set for the disclosure presented in the financial section by Government Accounting Standards Board (GASB) Statement Nos. 43 and 45. These actuarial valuations of the Fund are performed annually.

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

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

We have also provided the following schedules in the financial sections of the report:

- Schedule of Funding Progress; and
- Schedule of Employer Contributions.

This valuation is based upon:

a) **Data relative to the Members of the Fund –** Data for active members and persons receiving benefits from the fund was provided by the Fund's staff. We have tested this data for reasonableness; however, we have not audited the data.

b) **Asset Values** – The values of assets of the Fund were provided by the Fund's staff. The assets provided by the Fund are still in draft form. The Fund and their auditor do not anticipate a material change in the asset value. The actuarial value of assets was used to develop actuarial results for the State-reporting basis. In each fiscal year, gains and losses are phased in over a five-year period.

c) **Actuarial Method –** The actuarial method utilized by the Fund is the Projected Unit Credit cost method. The objective of this method is to uniformly amortize costs of Fund benefits over the entire career of each member. 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. The actuarial cost method utilized for all GASB reporting purposes remains Entry-Age Normal.

d) **Actuarial Assumptions –** Effective with the December 31, 2015, actuarial valuation, the investment return assumption was decreased from 8.00 percent to 7.50 percent (along with a reduction in the underlying inflation component from 3.00 percent to 2.50 percent), and the wage inflation assumption decreased from 4.25 percent to 3.75 percent. 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.

e) **Plan Provisions –** The liabilities reflect the plan provisions and statutes in effect as of December 31, 2015.

Public Act 96-1495, effective as of January 1, 2011, requires that the City finance plan benefits on an actuarial basis commencing with tax levy year 2015. The funding policy requires that future employer contributions, employee contributions and other fund income is sufficient to produce 90 percent funding by fiscal year end 2040. The projections are based on an open group, level percent of pay financing, and the Projected Unit Credit cost method.

Please note that the PA 96-1495 funding policy was changed by PA 99-0506, effective as of May 30, 2016. The funding policy defined in PA 99-0506 significantly defers contributions when compared to the provisions of PA 96-1495. The new funding policy requires fixed City contributions for payment years 2016 to 2020, and level percent of pay contributions for years 2021 to 2055 that, along with member contributions and investment income, are projected to produce a funded ratio of 90% by 2055.

The funding valuation results contained in this report were prepared based on the statutes in effect as of December 31, 2015, and will be used solely to comply with the financial reporting requirements under GASB Statements No. 56, 67 and 68. The contributions contained in this report will be used to develop the blended discount rate under GASB Statements No. 67 and 68. The statutory funding amounts contained in this report are no longer valid as of May 30, 2016.

We strongly recommend that a formal liquidity and asset allocation study be performed as soon as practical and that GRS prepare statutory funding and accounting impact statements of PA 99-0596 using updated economic assumptions approved by the Board.

The valuation results set forth in this report are based on the data and actuarial techniques described above, and upon the provisions of the Fund as of the valuation date. To the best of our knowledge, this actuarial statement is complete and accurate based on the statutes in effect as of December 31, 2015, and fairly presents the actuarial position of the Fund as of December 31, 2015, for purposes of complying with the financial reporting requirements under GASB Statements No. 56, 67 and 68. The statutory funding amounts contained in this report are no longer valid as of May 30, 2016. Based on these items, we certify these results to be true and correct.

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.

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

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

Alex Rivera and Lance J. Weiss are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

The signing actuaries are independent of the plan sponsor.

The statutory funding method generates a contribution requirement that is less than a reasonable actuarially determined contribution. Meeting the statutory requirement does not mean that the undersigned agree that adequate actuarial funding has been achieved; we recommend the development and adherence to a funding policy that funds the normal cost of the plan as well as an amortization payment that would seek to pay off 100 percent of the unfunded accrued liability over a closed period of between 15 and 20 years.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

Alex Rivera

Lance J. Weiss

Alex Rivera, FSA, EA, MAAA, FCA
Senior Consultant

Lance J. Weiss, EA, MAAA, FCA
Senior Consultant

ADDITIONAL DISCLOSURES
PUBLIC ACT 99-0506

Public Act 99-0506 became law on May 30, 2016, and changes the City of Chicago's required contribution to the Firemen's Annuity and Benefit Fund of Chicago ("FABF").

The law in effect prior to May 30, 2016, Public Act 96-1495, required that the City of Chicago (the "City") make level percent of pay contributions for plan years 2015 through 2040 that along with member contributions and investment earnings would generate a projected funded ratio of 90% by plan year end 2040.

Under PA 99-0506, City contributions are equal to $199 million in payment year 2016, $208 million in payment year 2017, $227 million in payment year 2018, $235 million in payment year 2019 and $245 million in payment year 2020. For payment years after 2020, the City is required to make level percent of pay contributions for plan years 2020 through 2055 that along with member contributions and investment earnings are expected to generate a projected funded ratio of 90% by plan year end 2055.

We understand the Plan auditor and City auditor have requested that GRS reflect paragraphs 8 and 10 of GASB Statement No. 56 for purposes of financial reporting of the FABF at plan year end December 31, 2015. That is, the auditors have requested that the December 31, 2015, valuations for GASB Statements No. 67 and 68 purposes be performed based on the provisions of Public Act 96-1495, but with disclosure of the impact of PA 99-0506.

As a result, the funding valuation results contained in this report were prepared based on the statutes in effect as of December 31, 2015, and will be used solely to comply with the financial reporting requirements under GASB Statements No. 56, 67 and 68. The contributions contained in this report will be used to develop the blended discount rate under GASB Statements No. 67 and 68. The statutory funding amounts contained in this report are no longer valid as of May 30, 2016.

We strongly recommend that a formal liquidity and asset allocation study be performed as soon as practical and that GRS prepare statutory funding and accounting impact statements of PA 99-0596 using updated economic assumptions approved by the Board.

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Appendix 3 (Cont'd)

SUMMARY OF VALUATION RESULTS

This report sets forth the results of the actuarial valuation of the Firemen's Annuity and Benefit Fund of the City of Chicago ("Fund") as of December 31, 2015. This valuation is based on the provisions of PA 96-1495. However, effective May 30, 2016, PA 99-0506 replaced PA 96-1495 and the provisions of PA 96-1495 no longer apply. The purposes of this valuation are:

1. To develop statutory contributions based on the provisions of Public Act 96-1495, for purposes of developing the blended discount rate under GASB #67 and #68.
2. To develop the actuarially determined contributions (ADC) under GASB #67 and #68 and the annual required contribution ("ARC") under GASB #43.
3. To develop the annual OPEB costs under GASB #45.
4. To review the funded status of the Fund, based on the statutes in effect as of December 31, 2015.

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

Funded status is measured differently for statutory funding and for Fund and City financial reports. The following chart shows how funded status is determined for each purpose.

Purpose	Actuarial Method	Asset Value
Statutory Funding	Projected Unit Credit	Actuarial (Market-Related) Value of Assets
Fund and City reporting after 2006 (GASB #43 and #45)	Entry-Age Normal	Actuarial (Market-Related) Value of Assets
Fund reporting after 2014 (GASB #67 for pension benefits)	Entry-Age Normal	Market Value of Assets
City reporting after 2015 (GASB #68 for pension benefits)	Entry-Age Normal	Market Value of Assets

Under the Projected Unit Credit Cost Method, each participant's projected benefit is allocated in proportion to service as of the valuation date. The Actuarial Accrued Liability is the present value of the portion of benefits allocated for periods of service prior to the valuation date. The Normal Cost is the present value of the benefits allocated for service during the current plan year.

Under the Entry Age Normal Cost Method, each participant's projected benefit is allocated on a level percent of pay basis from entry age to assumed exit age. The Actuarial Accrued Liability is the portion of the present value associated with pay prior to the valuation date. The Normal Cost is the portion of the present value associated with pay during the current plan year.

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 both measures.

Comments on Results

Public Act 96-1495, effective as of January 1, 2011, requires that the City finance plan benefits on an actuarial basis commencing with tax levy year 2015. The funding policy requires that future employer contributions, employee contributions and other fund income is sufficient to produce 90 percent funding by fiscal year end 2040. The projections are based on an open group, level percent of pay financing, and the Projected Unit Credit cost method. This valuation report contains the projected funding requirements under the provisions of Public Act 96-1495.

The calculations in this report were prepared based on the funding policy methods required by Public Act 96-1495. In light of the current funded status of this Retirement System, we do not endorse this funding policy because the Statutory funding policy defers funding for benefits into the future and places a higher burden on the future generations of taxpayers.

We recommend a funding policy that contributes normal cost plus closed period amortization as a level percentage of payroll for paying off 100 percent of the current unfunded accrued liability (i.e., the amortization period declines by one year with each actuarial valuation) such that the funded ratio is projected to be 100 percent funded after 15 to 20 years. For example, a 20-year closed amortization period methodology, at the actuarial valuation as of December 31, 2015, pays off the unfunded accrued liability in full by the end of the 20-year period in 2035. The current Statutory contribution does not comply with this recommendation. Underfunding the System creates the risk that ultimately benefit obligations cannot be met from the trust, and will require a greater amount of funding from other City resources. In addition, continually underfunding the System reduces the investment return and ultimately increases the contribution requirement – thereby creating a more expensive plan.

GASB #43 requires the calculation of a separate ARC for Other Postemployment Benefits (OPEB). The OPEB ARC for the fiscal year ending December 31, 2016, is $2.5 million.

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

	Pension ADC	OPEB ARC
Investment Return	7.50% per year	4.50% per year
Assets	5-year smoothed market	No assets (Pay-as-you-go)

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

P.A. 98-0043, effective June 28, 2013, terminates the retiree healthcare subsidy paid from the Fund after December 31, 2016. The amortization period used to calculate the fiscal year 2014 GASB #43 ARC was changed to a three year closed period, as of December 31, 2013.

Effective with Fiscal Year Ending December 31, 2014, GASB #67 replaced GASB #25 for pension plan financial reporting requirements. GASB #68 replaced 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 be based on a single equivalent discount rate using a combination of 7.50 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 the portion of the projected benefits after assets are depleted. The municipal bond rate is based on a yield or index rate for 20 year, tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). We believe the liability based on the GASB single equivalent discount rate will become an important liability for users of the Fund's financial information.

Due to the single equivalent discount rate and shorter amortization periods required under GASB #67 and #68, the net pension liabilities and pension expense will likely be much higher and more volatile than under the current standards. The measurements required under GASB Statement #67 and #68 are provided in a separate report.

Based on the Actuarial Value of Assets, the Unfunded Actuarial Liability increased from $3.31 billion to $3.53 billion during the year. The funded ratio increased from 23.01 percent to 23.43 percent.

Based on the Market Value of Assets, the Unfunded Actuarial Liability increased from $3.26 billion to $3.57 billion, and the funded ratio decreased from 24.13 percent to 22.65 percent.

There were six major gain/loss items which impacted the unfunded actuarial accrued liability:

- The employer cost in excess of actual contributions generated a loss of approximately $61.7 million.
- The investment gain/loss on the actuarial value of assets generated an overall gain of $12.3 million.
- Pay increases lower than expected resulted in a gain of $28.7 million.
- Actual experience which differed from expected experience based on the demographic assumptions resulted in a loss of $9.1 million.
- Changes in actuarial assumptions for investment return, inflation and wage inflation resulted in a loss of $188.2 million.
- All other factors generated a loss of $9.0 million.

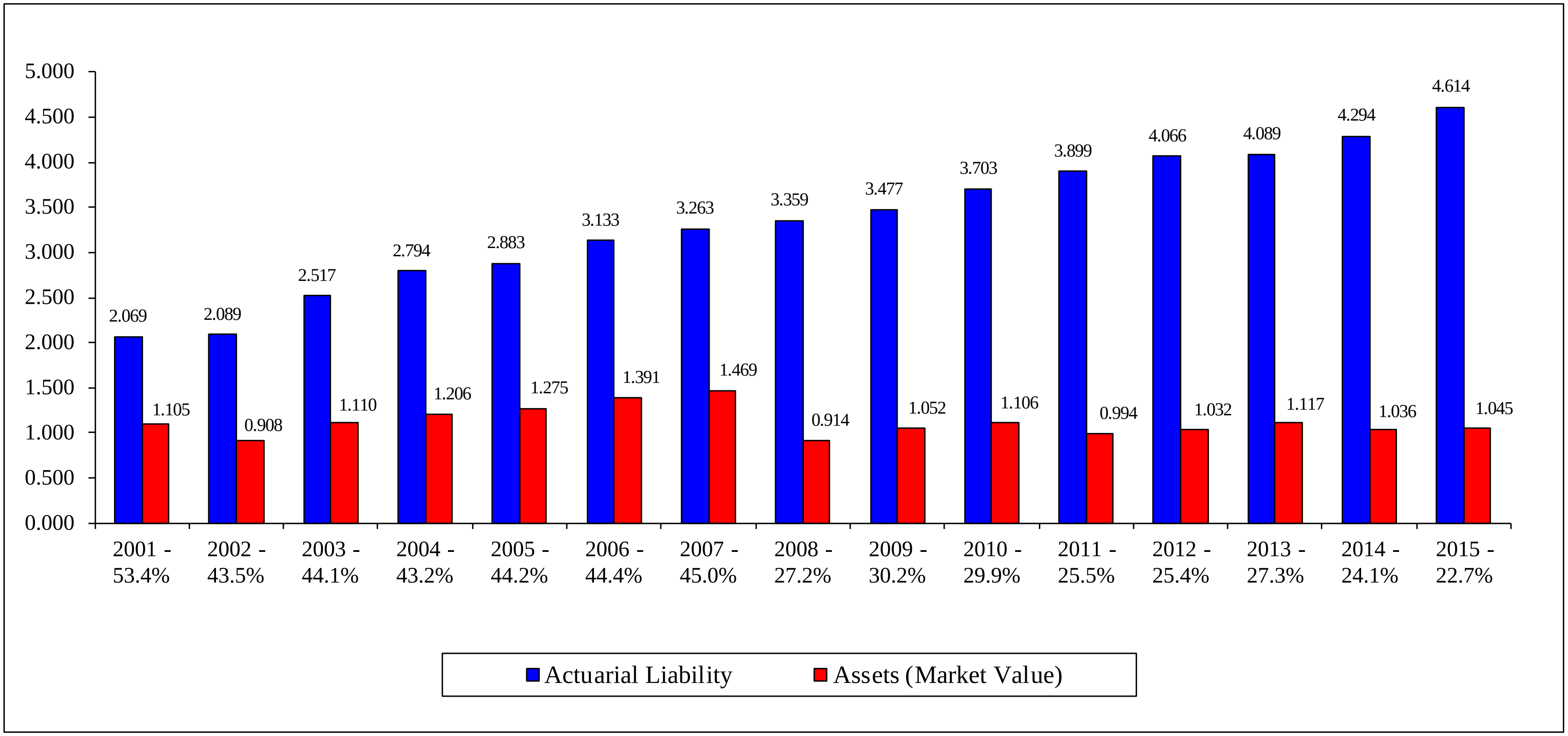
A more thorough examination of these and other factors can be found in the Reconciliation of Unfunded Liability gain/loss calculation in Table 3.

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

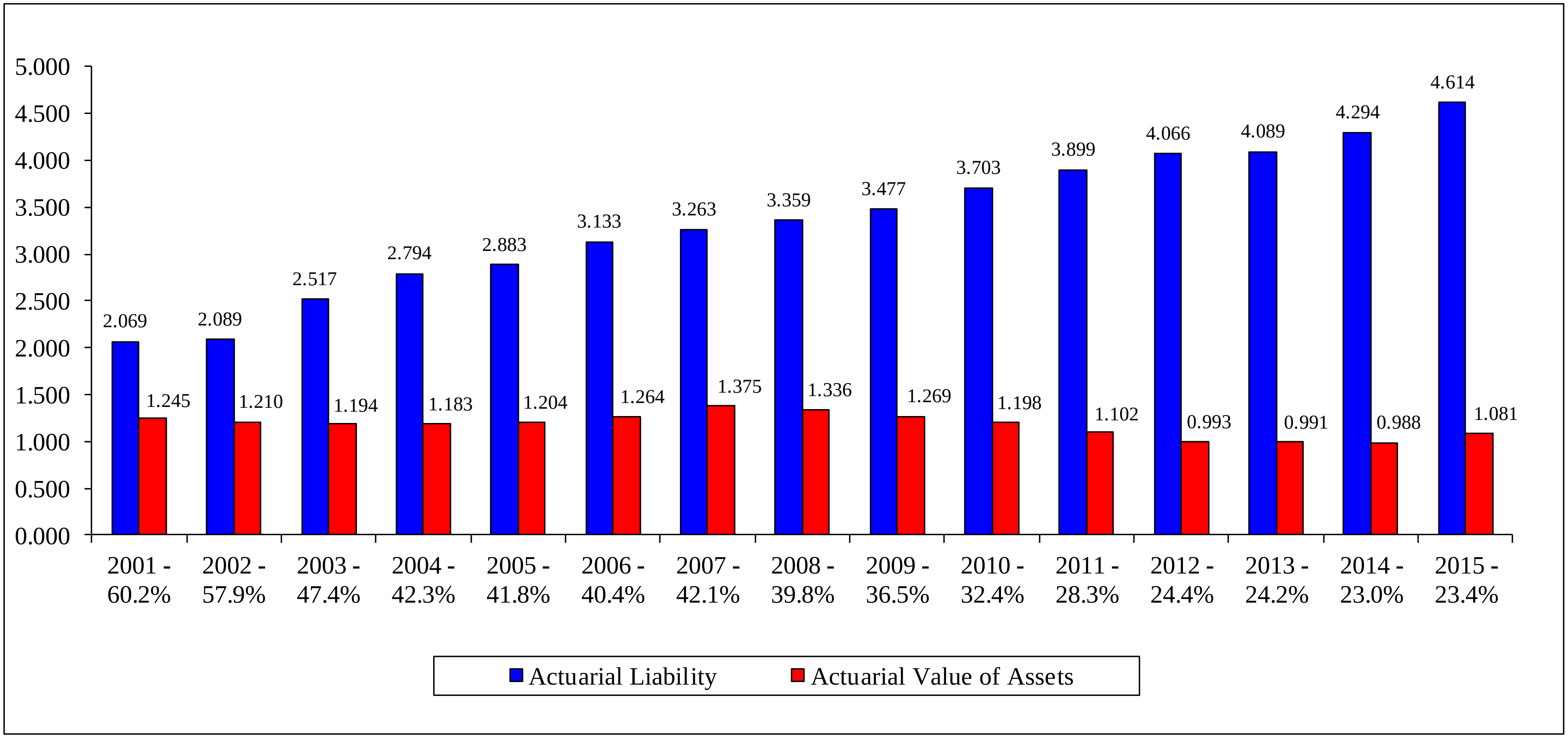
	December 31, 2014			December 31, 2015		
		$ in Millions	% of Pay[1]		$ in Millions	% of Pay[1]
Contribution Levels						
Statutory Contribution	$	284.1	58.2 %	$	311.2	64.0 %
(Tax Levy Year)		(2016)			(2017)	
Actuarially Determined Contribution (ADC) [2, 3]		326.2	70.87		336.4	72.31
(Plan Year)		(2015)			(2016)	
Funding Status -- Actuarial Value						
Actuarial Value of Assets	$	988.1	214.72	$	1,081.0	232.37
Actuarial Liability		4,293.7	933.03		4,613.7	991.70
Funding Ratios		23.01%	N/A		23.43%	N/A
Funding Status -- Market Value						
Market Value of Assets	$	1,036.0	225.13	$	1,045.1	224.64
Actuarial Liability		4,293.7	933.03		4,613.7	991.70
Funding Ratios		24.13%	N/A		22.65%	N/A
Funding Status -- ADC Value						
Actuarial Value of Assets	$	988.1	214.72	$	1,081.0	232.37
Actuarial Liability - Entry Age[4]		4,343.6	943.87		4,666.8	1,003.11
Funding Ratios		22.75%	N/A		23.16%	N/A

[1]Payroll of $460.2 million for 2014 and $465.2 million for 2015 includes duty availability pay for both years.
[2]The actuarially determined contribution for OPEB benefits for the plan year ending December 31, 2016, will be used to determine the plan sponsor's expense under GASB # 45 for the fiscal year ending December 31, 2016.
[3]For fiscal year ending December 31, 2014, the Annual Required Contribution (ARC) under GASB Statements Nos. 25, 27, 43 and 45 was determined based on a 30-year open level dollar amortization policy for pension benefits and a two-year closed level dollar amortization policy for OPEB benefits. The ARC is no longer applicable to the current accounting requirements for pension benefits found under GASB Statements Nos. 67 and 68. Thus, the Actuarially Determined Contribution (ADC) as defined by GASB Statements Nos. 67 and 68 is recognized for fiscal years on and after December 31, 2015. The ADC for fiscal year December 31, 2015, was determined based on a 30-year open level dollar amortization policy for pension benefits and includes the ARC under GASB Statement No. 43 for OPEB benefits, which was determined based on a one-year closed level dollar amortization policy.
[4]Used to determine Actuarially Determined Contribution under GASB Statements Nos. 67 and 68.

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

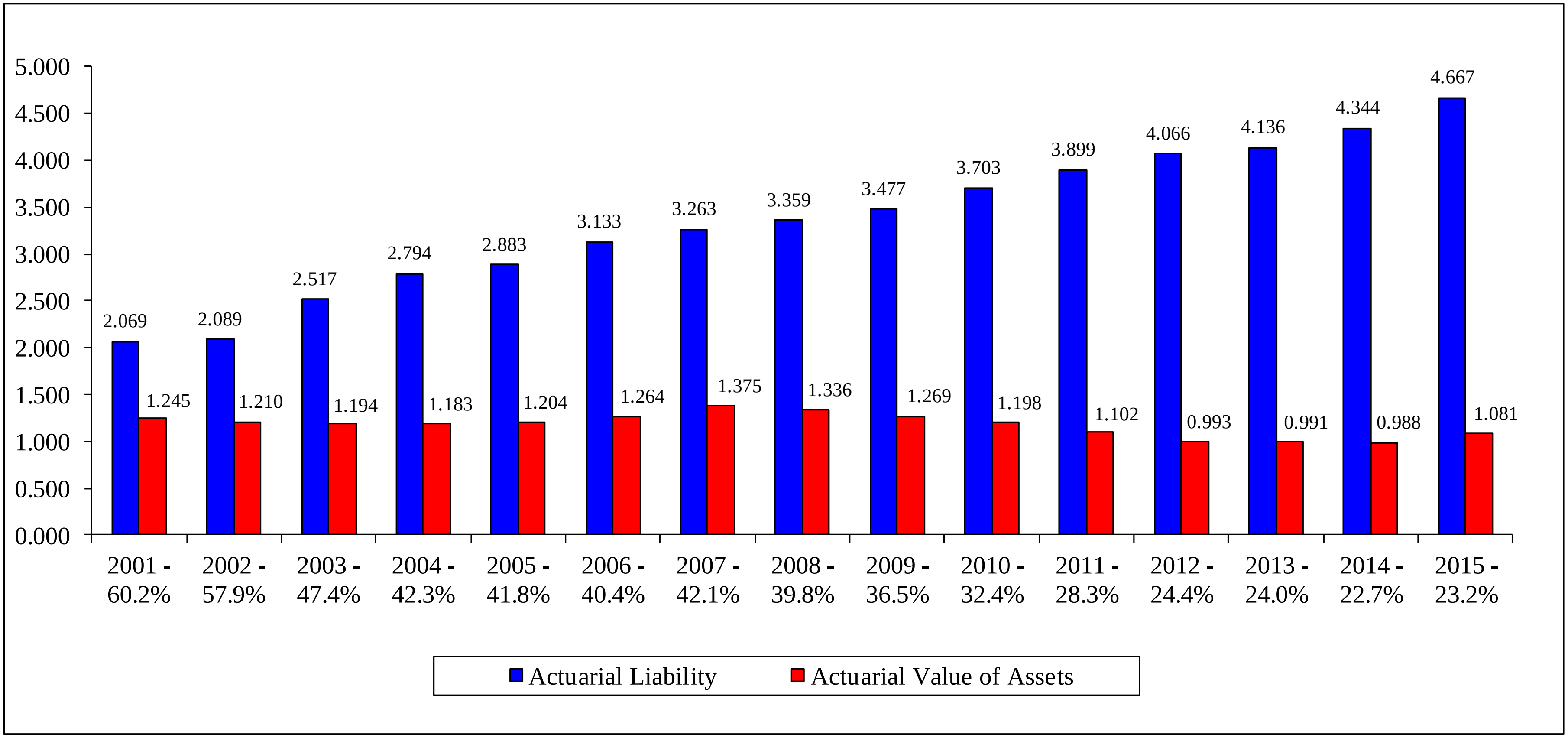


COMPONENTS OF FUNDING RATIO
BASED ON ACTUARIAL VALUE
($ IN BILLIONS)



State reporting for years after 2012 uses Projected Unit Credit for Actuarial Liability. Prior to 2013, the Entry Age Normal cost method was used for Actuarial Liability.

COMPONENTS OF FUNDING RATIO
BASED ON ADC UNDER GASB #67/68 AND ARC UNDER GASB #43
($ IN BILLIONS)



Participants

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

	December 31, 2014	December 31, 2015
Active Participants[1]		
Number	4,809	4,735
Average Age	45.8	46.1
Average Service	15.6	15.8
Average Annual Salary[2]	$92,273	$94,834
Retirees		
Number	2,977	3,044
Average Age	69.8	69.9
Average Monthly Benefit	$ 5,831	$ 5,985
Survivors[3]		
Number	1,316	1,287
Average Age	77.7	77.9
Average Monthly Benefit	$ 2,035	$ 2,096

[1] Includes one participant on ordinary disability who continues to accrue benefit service as of December 31, 2014, and three participants on ordinary disability who continue to accrue benefit service as of December 31, 2015.
[2] Average Annual Salary excludes duty availability pay.
[3] Includes one parent annuitant.

Total participants receiving benefits under the Fund, including disability, widow and children, increased 0.6 percent during 2015 from 4,704 to 4,732. Total expenditures for these benefits increased from $264.0 million in 2014 to $276.8 million during 2015, or 4.8 percent.

Changes in Provisions of the Fund

There have been no changes made to the provisions of the fund since the prior valuation.

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-term experience.

There are two general types of actuarial assumptions:

1. Demographic Assumptions – reflect the flow of participants into and out of a retirement system, and

2. Economic Assumptions – reflect the effect of the economic climate on a retirement system.

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

Changes in Actuarial Assumptions & Methods

Effective December 31, 2015, the investment return assumption was decreased from 8.00 percent to 7.50 percent (along with a reduction in the underlying inflation component from 3.0 percent to 2.5 percent), and the wage inflation assumption was decreased from 4.25 percent to 3.75 percent. Other assumptions used in the valuation as of December 31, 2015, are the same as the prior valuation. Other than the aforementioned assumptions, the assumptions used reflect the results of the experience study performed for the period from January 1, 2003, through December 31, 2010, and were first effective with the valuation as of December 31, 2011.

The cost method used for calculating the statutory contribution is the Projected Unit Credit Cost Method in accordance with P.A. 96-1495. The objective of the Projected Unit Credit cost method is to uniformly amortize the costs of Fund benefits over the entire career of each member. Any UAAL under this method is separately financed. All actuarial gains and losses under this method are reflected in the UAAL. The actuarial cost method utilized for all GASB reporting purposes, including the actuarially determined contribution, continues to use Entry Age Normal.

Asset Valuation Method

The method used to develop the Fund's Actuarial Value of Assets is as follows: In years when Fund assets earn above 7.5 percent (i.e., experience gain) or below 7.5 percent (i.e., experience loss) the gain (or loss) will be gradually recognized over five years. This approach both smoothes the Fund's level of actuarially determined contribution and insures the Fund's assets will track the market value of assets.

In accordance with P.A. 96-1495, the actuarial value of assets was marked to the market value of assets as of December 31, 2011. Gains and losses for each year ending after December 31, 2011, are smoothed over a five-year period.

2015 Experience Analysis

Investment Return

During 2015, assets earned 0.7% percent on a market basis and 9.2% percent on an actuarial basis which compares to the 2014 assumed rate of return of 8.0 percent. Overall, the fund experienced an actuarial loss due to investment performance, on a market basis, and an actuarial gain on an actuarial (smoothed) value basis, during the year.

The Fund had an investment loss in 2015 of $75.3 million relative to the 8.0 percent expected rate of return on a market value basis. The gain on the Actuarial (Market-Related) Value of Assets relative to the 8.0 percent expected rate of return was $12.3 million.

Pay Increase

Effective December 31, 2015, the salary increase assumption consists of a 3.75 percent base increase with an additional service-based increase. For the current continuing actives in both 2014 and 2015, the average salary increase was approximately 4.3 percent. This was 5.3 percentage points below our aggregate assumption of 9.5 percent resulting in an actuarial gain of approximately $28.7 million, or 0.6 percent of total liabilities.

Other

The combination of retirements, disablements and deaths resulted in a net actuarial loss of $9.1 million. Gains and losses from all other sources, including new hires and data corrections, resulted in a net loss of $9.04 million.

Conclusion

Overall, we believe that the assumptions are reasonable for the purpose of the measurement of the System's costs in effect as of December 31, 2015, under the provisions of PA 96-1495. Table 3 of Appendix 1 shows a more detailed development of the actuarial gains and losses for the plan year ending December 31, 2015.

In a letter dated May 6, 2016, GRS recommended the FABF decrease the discount rate assumption to 7.25 percent. On May 11, 2016, the Board approved a reduction in the discount rate assumption to 7.50 percent. The recommendation of 7.25 percent was based on the current FABF investment policy, capital market assumptions provided by FABF investment consultant and the funding policy under P.A. 96-1495. If the investment policy or funding policy changes, the recommendation of a 7.25 percent discount rate assumption may change. GRS will continue to monitor these policies and evaluate whether or not the recommendation at December 31, 2015, can be supported. If assets continue to earn less than the targeted rate of return in the near term, the assumption will also need to be reevaluated. There is a 48.4 percent of the Fund earning an investment return of 7.25 percent or more. There is a 44.75 percent probability of the Fund earning an investment return of 7.50 percent or more.

During 2015, the Fund received contributions (net of investment return) of $285,045,208 and paid out benefits and expenses of $283,548,078 resulting in net positive cash flow of $1,497,130. In addition, as of December 31, 2015, the funded ratio of the plan was only 22.7 percent based on the Market Value of Assets, the Projected Unit Credit cost method and a current investment return assumption of 7.50 percent.

If contributions are not made on a timely basis, or if benefits are projected to be greater than the contributions in the near term, the Fund may not have enough liquidity to continue making all the required benefit payments without changing its investment portfolio to one comprised of a larger percentage of short term (cash generating) investments. If the Fund changes its investment portfolio to one comprised of a larger percentage of short term investments, the Fund may no longer be able to support the current 7.50 percent investment return assumption.

The result of using a lower investment return assumption could be a significant increase in the annual contribution requirement of the Fund and a decrease in the funded ratio.

APPENDIX 1

RESULTS OF ACTUARIAL VALUATION

TABLE 1
SUMMARY

	December 31, 2014	December 31, 2015
Assets		
Market Value - Beginning of Year	$ 1,116,704,857	$ 1,036,008,401
Income		
Investment Income Net of Expenses	$ 30,867,889	$ 7,595,562
Employer Contributions	109,805,454	238,485,820
Employee Contributions	48,056,393	46,552,247
Miscellaneous	7,393	7,141
Subtotal	$ 188,737,129	$ 292,640,770
Outgo (Refunds, Benefits, & Administration)	$ 269,433,585	$ 283,548,078
Market Value - End of Year	$ 1,036,008,401	$ 1,045,101,093
Actuarial Value - End of Year	988,141,316	1,081,041,796
Book Value - End of Year	917,273,656	1,002,393,416
Members		
Active	4,809	4,735
Retirees	2,977	3,044
Survivors [2]	1,316	1,287
Disabilities	328	319
Children	82	79
Payroll Data		
Valuation Payroll [1]	$ 460,189,982	$ 465,231,594
Average Salary	95,693	98,254

[1] The valuation payroll includes compensation for three ordinary disability participants. They continue to accrue benefit service and hence additional liability while on ordinary disability. December 31, 2014, payroll includes retroactive pay increases and both years include duty availability pay.
[2] Includes Widow, Compensation and Parent Annuitants.

TABLE 1 (CONT'D)
SUMMARY

	December 31, 2014	December 31, 2015
Actuarial Values		
Statutory Funding		
Actuarial Liability [1]	$4,293,730,487	$4,613,683,248
Assets - Actuarial Value	988,141,316	1,081,041,796
Unfunded Liability	3,305,589,171	3,532,641,452
Funded Ratio	23.01%	23.43%
Statutory Employer Contribution	284,085,912	311,244,012
(Tax Levy Year)	(2016)	(2017)
Market Values		
Actuarial Liability [1]	$4,293,730,487	$4,613,683,248
Assets - Market Value	1,036,008,401	1,045,101,093
Unfunded Liability	3,257,722,086	3,568,582,155
Funded Ratio	24.13%	22.65%
ADC Values		
Actuarial Liability - Entry Age [2]	$4,343,587,556	$4,666,801,476
Assets - Actuarial Value	988,141,316	1,081,041,796
Unfunded Liability [2]	3,355,446,240	3,585,759,680
Funded Ratio	22.75%	23.16%
Actuarially Determined Contribution (ADC) [3]	326,156,388	336,406,327
(Plan Year End)	(2015)	(2016)

[1] *Actuarial Liabilities for Statutory Funding and Market Value Funding are calculated using the Projected Unit Credit cost method.*

[2] *Used to determine Actuarially Determined Contribution under GASB Statements Nos. 67 and 68.*

[3] *For fiscal year ending December 31, 2014, the Annual Required Contribution (ARC) under GASB Statements Nos. 25, 27, 43 and 45 was determined based on a 30-year open level dollar amortization policy for pension benefits and a two-year closed level dollar amortization policy for OPEB benefits. The ARC is no longer applicable to the current accounting requirements for pension benefits found under GASB Statements Nos. 67 and 68. Thus, the Actuarially Determined Contribution (ADC) as defined by GASB Statements Nos. 67 and 68 is recognized for fiscal years on and after December 31, 2015. The ADC for fiscal year December 31, 2015, was determined based on a 30-year open level dollar amortization policy for pension benefits and includes the ARC under GASB Statements Nos. 43 and 45 for OPEB benefits, which was determined based on a one-year closed level dollar amortization policy.*

TABLE 2A
DEVELOPMENT OF STATUTORY CONTRIBUTION

Actuarial Valuation Projection Results as of December 31, 2015
Discount Rate of 7.50%
($ in Thousands)

Year Ending	Actuarial Accrued Liability	Market Value of Assets	Actuarial Value of Assets	Unfunded Liability	Actuarial Value Funded Ratio	Uncapped Payroll	Capped Payroll	Employer Normal Cost	Statutory Contribution [1]	Statutory Contribution as % of Pay	Employee Contributions	Benefit Payments	Admin Expenses
2015	$4,613,683	$1,045,101	$1,081,042	$3,532,641	23.43%	$474,337	$474,337	$37,085	$238,493	50.3%	$46,552	$ 280,399	$3,150
2016	4,751,348	1,141,186	1,185,591	3,565,757	24.95%	475,249	475,248	45,079	284,086	58.2% [2]	43,383	292,647	3,228
2017	4,889,839	1,262,579	1,303,535	3,586,304	26.66%	486,075	485,979	43,639	311,244	64.0%	46,251	303,322	3,309
2018	5,026,202	1,387,431	1,402,500	3,623,701	27.90%	498,601	498,403	44,044	319,201	64.0%	47,359	316,963	3,392
2019	5,159,550	1,515,989	1,515,989	3,643,561	29.38%	511,124	510,817	44,119	327,151	64.0%	48,571	331,068	3,477
2020	5,288,969	1,647,983	1,647,983	3,640,986	31.16%	523,731	523,316	44,109	335,156	64.0%	49,770	345,737	3,563
2021	5,414,188	1,783,891	1,783,891	3,630,297	32.95%	536,484	536,035	44,048	343,302	64.0%	50,978	360,337	3,653
2022	5,534,426	1,924,031	1,924,031	3,610,394	34.76%	549,793	549,295	43,843	351,795	64.0%	52,224	375,280	3,744
2023	5,649,847	2,070,620	2,070,620	3,579,228	36.65%	565,276	564,599	43,581	361,596	64.0%	53,577	389,753	3,837
2024	5,759,077	2,223,438	2,223,438	3,535,639	38.61%	580,741	579,825	42,950	371,347	64.0%	55,052	404,950	3,933
2025	5,861,494	2,382,650	2,382,650	3,478,844	40.65%	596,156	594,934	42,387	381,024	64.0%	56,495	420,334	4,032
2026	5,956,931	2,549,002	2,549,002	3,407,928	42.79%	611,938	609,894	41,806	390,605	64.0%	57,902	435,332	4,132
2027	6,047,192	2,725,943	2,725,943	3,321,249	45.08%	630,366	626,483	41,651	401,229	64.0%	59,337	448,554	4,236
2028	6,133,661	2,916,189	2,916,189	3,217,472	47.54%	652,015	643,468	41,565	412,107	64.0%	60,883	460,255	4,342
2029	6,217,537	3,119,297	3,119,297	3,098,240	50.17%	674,450	656,485	41,834	420,444	64.0%	62,264	470,721	4,450
2030	6,299,501	3,335,910	3,335,910	2,963,590	52.96%	696,765	667,875	42,300	427,739	64.0%	63,399	480,293	4,561
2031	6,377,839	3,563,756	3,563,756	2,814,083	55.88%	718,981	676,232	42,578	433,091	64.0%	64,363	491,006	4,676
2032	6,452,796	3,803,432	3,803,432	2,649,363	58.94%	742,693	684,034	43,270	438,088	64.0%	65,119	501,435	4,792
2033	6,524,493	4,055,962	4,055,962	2,468,530	62.17%	769,061	691,568	44,030	442,913	64.0%	65,837	511,535	4,912
2034	6,592,881	4,321,486	4,321,486	2,271,395	65.55%	795,646	697,795	44,964	446,901	64.0%	66,473	521,540	5,035
2035	6,659,369	4,601,770	4,601,770	2,057,599	69.10%	822,685	703,365	46,327	450,468	64.0%	66,987	530,264	5,161
2036	6,724,513	4,898,043	4,898,043	1,826,470	72.84%	851,609	708,157	47,770	453,537	64.0%	67,444	538,341	5,290
2037	6,790,489	5,213,645	5,213,645	1,576,844	76.78%	882,778	713,451	49,644	456,928	64.0%	67,852	544,617	5,422
2038	6,858,257	5,551,237	5,551,237	1,307,020	80.94%	916,311	719,230	51,507	460,629	64.0%	68,327	550,084	5,558
2039	6,928,870	5,913,431	5,913,431	1,015,439	85.34%	950,762	725,297	53,489	464,514	64.0%	68,827	554,816	5,697
2040	7,004,110	6,303,861	6,303,861	700,249	90.00%	985,798	731,897	55,576	468,741	64.0%	69,362	558,180	5,839
2041	7,083,241	6,374,917	6,374,917	708,324	90.00%	1,022,091	738,356	57,373	124,025	16.8%	69,955	562,348	5,985

[1] *Contribution receivable to be paid in the following year. The funded ratio includes receivable contribution.*
[2] *Plan Year end December 31, 2016, statutory contribution as a percentage of payroll as calculated in the December 31, 2014, valuation.*

TABLE 2B
DEVELOPMENT OF STATUTORY CONTRIBUTION (CONT'D)

	Pension		Health Ins. Supplement[2]		Total	
(1) Normal Cost for 2017	$	89,889,804	$	-	$	89,889,804
(2) Actuarial Accrued Liability (AAL) at 12/31/2016 [1]	$	4,751,347,625	$	-	$	4,751,347,625
(3) Unfunded AAL (UAAL)						
(a) Actuarial Value of Assets at 12/31/2016	$	1,185,590,989	$	-	$	1,185,590,989
(b) UAAL [2-3(a)]	$	3,565,756,636	$	-	$	3,565,756,636
(4) Estimated Member Contributions during 2017	$	46,251,116	$	-	$	46,251,116
(5) Estimated City Contribution for Tax Levy Year 2017	$	311,244,012	$	-	$	311,244,012

[1] *Pension liabilities were discounted at 7.5% per year, and liabilities are based on the Projected Unit cost method.*
[2] *Health insurance supplemental benefits are expected to expire December 31, 2016, and therefore no contribution is required for fiscal year 2017.*

TABLE 2C
DEVELOPMENT OF ACTUARIALLY DETERMINED CONTRIBUTION UNDER GASB # 67/68 AND ANNUAL REQUIRED CONTRIBUTION UNDER GASB #43/45 FOR 2016[1]

	Pension	Health Ins. Supplement	Total
(1) Normal Cost for 2016	$ 81,226,061	$ -	$ 81,226,061
(2) Actuarial Accrued Liability (AAL) at 12/31/2015 [1]	$ 4,664,402,867	$ 2,398,609	$ 4,666,801,476
(3) Unfunded AAL (UAAL)			
(a) Actuarial Value of Assets at 12/31/2015	$ 1,081,041,796	$ -	$ 1,081,041,796
(b) UAAL [2-3(a)]	$ 3,583,361,071	$ 2,398,609	$ 3,585,759,680
(4) Amortization (Level $) Payable at Beginning of Year[2]	$ 282,239,637	$ 2,398,609	$ 284,638,246
(5) Minimum Actuarially Calculated Contributions			
(a) Interest Adjustment for Semimonthly Payment	$ 13,869,683	$ 55,427	$ 13,925,110
(b) Total Contribution [1+4+5(a)]; but not less than zero	$ 377,335,381	$ 2,454,036	$ 379,789,417
(c) Total Contribution (Percent of Pay)	81.11%	0.52%	81.63%
(6) Estimated Member Contributions	$ 43,383,090	$ -	$ 43,383,090
(7) Actuarially Determined Contribution (ADC)			
(a) Annual Required Contribution [5(b)-6]	$ 333,952,291	$ 2,454,036	$ 336,406,327
(b) Annual Required Contribution (Percent of Pay)	71.78%	0.53%	72.31%
(8) Estimated City Contribution for 2016	$ 281,633,655	$ 2,452,257 [3]	$ 284,085,912
(9) City Contribution Deficiency/(Excess) for 2016			
(a) in Dollars [(7(a)-8]	$ 52,318,637	$ 1,779	$ 52,320,415
(b) as a Percentage of Pay	11.25%	0.00%	11.25%
(10) Combined City/Member Contributions Deficiency/(Excess) for 2016			
(a) in Dollars [5(b)-6-8]	$ 52,318,637	$ 1,779	$ 52,320,415
(b) as a Percentage of Pay	11.25%	0.00%	11.25%

[1] *Pension liabilities were discounted at 7.5% per year, and OPEB liabilities were discounted at 4.5% per year. Based on Entry-Age Normal cost method.*
[2] *Pension UAAL is amortized over a 30-year period and healthcare UAAL is amortized over a three-year period as of December 31, 2013.*
[3] *Represents expected health insurance supplemental benefits for 2016.*

TABLE 3
RECONCILIATION OF UNFUNDED LIABILITY

	2014	2015
(1) Unfunded Actuarial Accrued Liability - Beginning of Year	$3,097,992,557	$3,305,589,171
(2) Gains (Losses) During the Year Attributable to:		
Employer Cost in Excess of Contributions	(171,624,507)	(61,686,438)
Gain (Loss) on Investment Return (AVA)	33,572,040	12,293,312
Gain (Loss) from Salary Changes	(36,309,844)	28,703,796
Gain (Loss) from Demographic Assumptions	(33,184,825)	(9,113,459)
Gain (Loss) from Assumption Changes	-	(188,206,498)
Gain (Loss) from All Other Sources	(49,478)	(9,042,995)
Total Actuarial Gain (Loss)	$ (207,596,614)	$ (227,052,281)
(3) Unfunded Actuarial Accrued Liability - End of Year (1)-(2)	$3,305,589,171	$3,532,641,452

TABLE 4
SUMMARY OF BASIC ACTUARIAL VALUES
AS OF DECEMBER 31, 2015

	APV of Projected Benefits	Actuarial Accrued Liability (AAL)[1]
(1) Values for Active Members	$2,577,586,255	$1,737,748,965
(2) Values for Inactive Members		
(a) Retired	2,311,435,940	2,311,435,940
(b) Spouse Annuitants	185,628,274	185,628,274
(c) Compensation Widows	60,460,491	60,460,491
(d) Ordinary Disability	1,034,277	1,034,277
(e) Occupational Disease Disability	103,869,029	103,869,029
(f) Duty Disability	198,196,894	198,196,894
(g) Inactive (Deferred Vested)	8,236,191	8,236,191
(h) Children	6,983,285	6,983,285
(i) Parent Annuitants	89,901	89,901
Total for Inactives	$2,875,934,283	$2,875,934,283
(3) Grand Totals	$5,453,520,538	$4,613,683,248
(4) Normal Cost for Active Members for 2016	$ 88,462,359	
(5) Actuarial Present Value of Future Compensation	$4,531,076,935	

[1]Results include health income supplement of $0 in normal cost, $2,398,610 in actuarial accrued liability and $2,398,610 in present value of projected benefits. Results are based on projected unit credit cost method and a discount rate of 7.50% for pension benefits and 4.50% for healthcare benefits.

TABLE 5
ACTIVE ACCRUED LIABILITY AS OF DECEMBER 31, 2015, AND NORMAL COST FOR 2016 BY TIER
INCLUDES PENSION AND HEALTHCARE

	Tier 1 Members	Tier 2 Members	Total
(1) Active Members	4,123	612	4,735
(2) Payroll	$ 421,962,678	$ 43,268,916	$ 465,231,594
(3) Average Payroll	$ 102,344	$ 70,701	$ 98,254
(4) Active Actuarial Accrued Liability (AAL) [1]	$ 1,726,778,811	$ 10,970,154	$ 1,737,748,965
(5) Normal Cost for 2016	$ 81,513,090	$ 6,949,269	$ 88,462,359
(6) Normal Cost as a Percent of Pay for 2016	19.3%	16.1%	19.0%
(7) Estimated Member Contributions for 2016	$ 39,343,092	$ 4,039,998	$ 43,383,090
(8) Net Normal Cost for 2016	$ 42,169,998	$ 2,909,271	$ 45,079,269
(9) Net Normal Cost as a Percent of Pay for 2016	10.0%	6.7%	9.7%

[1] *The normal cost and liabilities are based on a discount rate of 7.5% for pension benefits and 4.5% for healthcare benefits.*

TABLE 6
HISTORY OF RECOMMENDED EMPLOYER MULTIPLES

Year of Report	Statutory Multiple	Normal Cost Plus Interest	Normal Cost Plus Amortization[6] Level $	Normal Cost Plus Amortization[6] Level % of Salary
1987 [1]	2.26	4.39	4.54	3.47
1988	2.26	4.53	4.68	3.58
1989 [1,2]	2.26	4.39	4.52	3.41
1990 [1,2]	2.26	4.41	4.55	3.43
1991	2.26	4.55	4.69	3.53
1992 [2]	2.26	4.75	4.89	3.69
1993 [2]	2.26	4.89	5.03	3.81
1994 [1,2]	2.26	4.92	5.09	3.71
1995 [2]	2.26	5.16	5.33	3.78
1996	2.26	5.02	5.19	3.78
1997 [1,2,3]	2.26	3.95	4.08	3.00
1998 [2,4]	2.26	4.31	4.22	2.91
1999	2.26	3.56	3.49	2.41
2000 [1]	2.26	4.39	4.30	2.99
2001 [4]	2.26	4.61	4.44	3.12
2002	2.26	4.07	4.19	2.93
2003 [1,2]	2.26	4.90	5.08	3.18
2004 [2,5]	2.26	4.99	5.19	3.22
2005 [1,7]	2.26	4.35	4.54	3.09
2006	2.26	5.14	5.61	4.05
2007 [5]	2.26	4.93	5.39	3.89
2008	2.26	5.24	5.72	4.13
2009	2.26	5.70	6.24	4.47
2010	2.26	6.35	6.94	4.98
2011 [1]	2.26	6.81	7.47	5.30
2012	2.26	5.94	6.52	4.60
2013 [2]	2.26	5.90	6.45	4.53
2014	2.26	7.98	8.74	6.10
2015 [1]	N/A	7.12	7.90	5.72

[1] *Change in actuarial assumptions.*
[2] *Change in benefits.*
[3] *Change in asset valuation method to GASB.*
[4] *Change in actuary.*
[5] *To reflect long-term funding requirements, we have excluded $10,182,825 and $3,229,938 from the 2003 and 2006 employee contributions in the calculation of the respective recommended multiples. This amount is employee contributions for the retroactive pay increases.*
[6] *Prior to 2005, 40-year amortization used. In 2005, OPEB based on 30-year amortization and pension on 40-year amortization. In 2006, 30-year amortization used for both pension and OPEB.*
[7] *There was a significant decrease in the multiple from 2004 to 2005. This change is primarily due to the significant increase in employee contributions.*

TABLE 7
ORDINARY DEATH BENEFIT RESERVE
AS OF DECEMBER 31, 2015

ASSETS

Fund Balance	$ 17,741,308
Present Values of Future Contributions:	
Contributions by Members at $30.00 a Year	1,428,627
Annual City Contribution of $142,000	1,428,124
Unfunded Liability	(5,188,314)
TOTAL ASSETS	$ 15,409,745

LIABILITIES

Present Value of Future Death Benefits (3%, Plan Mortality Basis)	
Active Members	$ 3,168,470
Retired Members	12,241,275
TOTAL LIABILITIES	$ 15,409,745

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

TABLE 8
ACTUARIAL ACCRUED LIABILITY
PRIORITIZED SOLVENCY TEST

Valuation Date 12/31	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (ER Financed Portion)	Actuarial Value of Assets	Portion (%) of Present Value Covered by Assets (1)	(2)	(3)
1996	$302,854,182	$ 928,790,813	$344,144,574	$ 845,432,187	100.00%	58.42%	0.00%
1997 [a,b]	320,757,406	992,967,015	326,296,251	978,313,319	100.00%	66.22%	0.00%
1998 [b,c]	335,026,373	1,075,922,284	372,620,521	1,066,891,190	100.00%	68.02%	0.00%
1999	357,739,707	1,146,375,517	375,551,644	1,145,215,019	100.00%	68.69%	0.00%
2000 [a]	354,336,276	1,279,911,268	419,092,931	1,219,486,962	100.00%	67.59%	0.00%
2001 [c]	379,067,821	1,294,672,267	394,977,813	1,245,129,955	100.00%	66.89%	0.00%
2002	394,531,369	1,329,341,162	364,833,686	1,209,768,204	100.00%	61.33%	0.00%
2003 [a,b]	422,940,367	1,458,548,217	635,779,523	1,194,007,767	100.00%	52.87%	0.00%
2004 [b]	443,541,204	1,588,594,240	761,388,911	1,182,578,954	100.00%	46.52%	0.00%
2005 [a]	467,820,652	1,686,377,622	728,737,443	1,203,654,052	100.00%	43.63%	0.00%
2006	501,048,807	1,766,921,009	865,171,711	1,264,497,434	100.00%	43.21%	0.00%
2007	530,027,472	1,859,630,135	873,313,282	1,374,960,353	100.00%	45.44%	0.00%
2008	563,953,942	1,891,673,504	902,950,885	1,335,695,474	100.00%	40.80%	0.00%
2009	581,786,867	2,004,957,552	890,026,376	1,269,231,178	100.00%	34.29%	0.00%
2010	614,377,840	2,069,533,040	1,019,336,955	1,198,113,789	100.00%	28.21%	0.00%
2011 [a]	637,938,254	2,261,555,896	999,405,074	1,101,741,862	100.00%	20.51%	0.00%
2012	644,629,930	2,459,787,835	961,926,046	993,283,741	100.00%	14.17%	0.00%
2013 [a,b]	661,062,321	2,535,327,207	892,816,311	991,213,282	100.00%	13.02%	0.00%
2014	670,825,942	2,675,919,242	946,985,303	988,141,316	100.00%	11.86%	0.00%
2015 [a]	692,657,194	2,875,934,283	1,045,091,771	1,081,041,796	100.00%	13.50%	0.00%

[a] *Change in actuarial assumptions or methods.*
[b] *Change in benefits.*
[c] *Change in actuary.*

APPENDIX 2

ASSETS OF THE PLAN

ASSETS OF THE PLAN

The book value of the plan assets, net of accounts payable, increased from $917 million as of December 31, 2014, to $1,002 million as of December 31, 2015. The market value of the plan assets increased from $1,036 million as of December 31, 2014, to $1,045 million as of December 31, 2015. Table 9 details the reconciliation of asset values during 2015 and Table 10 shows the development of the actuarial value of assets as of December 31, 2015.

TABLE 9
RECONCILIATION OF ASSET VALUES [1]
AS OF DECEMBER 31, 2015

	Market Value	Book Value
1. Value of assets as of 12/31/2014	$ 1,036,008,401	$ 917,273,656
2. Income for plan year:		
a) Member contributions	$ 46,552,247	$ 46,552,247
b) City contributions	238,485,820	238,485,820
c) Investment income net of expenses [2]	7,595,562	83,622,630
d) Miscellaneous revenue	7,141	7,141
e) Total income	$ 292,640,770	$ 368,667,838
3. Disbursements for plan year:		
a) Benefit payments		
i) Pension	$ 274,459,754	$ 274,459,754
ii) OPEB	2,381,458	2,381,458
iii) Total	276,841,212	276,841,212
b) Refunds	3,557,317	3,557,317
c) Administration	3,149,549	3,149,549
d) Total disbursements	$ 283,548,078	$ 283,548,078
4. Value of assets as of 12/31/2015	$ 1,045,101,093	$ 1,002,393,416
5. Approximate rate of return in 2015: [3]		
a) Gross (Investment expense of $5,459,951)	1.26%	9.73%
b) Net of investment expense	0.73%	9.11%

[1] *The assets provided by the Fund are still in draft form pending finalization of alternative investment balances. The Fund and their auditor do not anticipate a material change in the asset value.*
[2] *Includes interest received due to Lewis Settlement contributions.*
[3] *Method used for calculating approximate rate of return does not reflect specific timing of income and outflows. It is also based on total assets, including contribution receivables, not invested assets.*

TABLE 10
DEVELOPMENT OF ACTUARIAL (MARKET-RELATED) VALUE OF ASSETS
AS OF DECEMBER 31, 2015

Year Ending December 31	**2015**	**2016**	**2017**	**2018**	**2019**
Beginning of Year:					
(1) Market Value of Assets	$1,036,008,401				
(2) Actuarial Value of Assets	988,141,316				
End of Year:					
(3) Market Value of Assets	1,045,101,093				
(4) Contributions and Disbursements					
(4a) City Contributions & Misc.	238,492,961				
(4b) Member Contributions	46,552,247				
(4c) Benefit Payouts & Refunds	(280,398,529)				
(4d) Administrative Expenses	(3,149,549)				
(4e) Net of Contributions and Disbursements	1,497,130				
(5) Total Investment Income					
=(3)-(1)-(4e)	7,595,562				
(6) Projected Rate of Return	8.00%				
(7) Projected Investment Income					
=(1)x(6)+([1+(6)]^.5-1)x(4e)	82,939,405				
(8) Investment Income in					
Excess of Projected Income	(75,343,843)				
(9) Excess Investment Income Recognized					
This Year (5-year recognition)					
(9a) From This Year	$ (15,068,769)				
(9b) From One Year Ago	(10,818,355)	$ (15,068,769)			
(9c) From Two Years Ago	22,438,368	(10,818,355)	$ (15,068,769)		
(9d) From Three Years Ago	11,912,701	22,438,368	(10,818,355)	$ (15,068,769)	
(9e) From Four Years Ago	0	11,912,700	22,438,369	(10,818,356)	$ (15,068,767)
(9f) Total Recognized Investment Gain	8,463,945	8,463,944	(3,448,755)	(25,887,125)	(15,068,767)
(10) Change in Actuarial Value of Assets					
=(4e)+(7)+(9f)	92,900,480				
End of Year:					
(3) Market Value of Assets	**$1,045,101,093**				
(11) Actuarial Value of Assets = (2)+(10)	**$1,081,041,796**				

APPENDIX 3

DATA REFLECTING PLAN MEMBERS

EXHIBIT A
SUMMARY OF CHANGES IN ACTIVE PARTICIPANTS
FOR FISCAL YEAR ENDING DECEMBER 31, 2015

	Male	Female	Total
Number of Participants at Beginning of Fiscal Year[1]	4,448	360	4,808
Increases:			
Participants Added During Year	79	24	103
Participants Returning From Inactive or Disability Status	5	0	5
Totals	4,532	384	4,916
Decreases:			
Terminations During Year	164	20	184
Number of Participants at End of Fiscal Year	4,368	364	4,732
Total Inactive Participants	53	23	76
Decreases:			
Withdrawal (With Refunds)[2]	4	0	4
Withdrawal (Without Refunds)	7	4	11
Ordinary Disability Benefit	3	0	3
Occupational Disease Disability Benefit	11	1	12
Duty Disability Benefit	10	1	11
Retirements	123	14	137
Deaths (Occupational)	1	0	1
Deaths (Non-occupational)	5	0	5
Totals	**164**	**20**	**184**

[1] *Includes one active member reclassified as female.*

[2] *This total differs from the total of 20 shown in Exhibit D due to the fact that only 4 of the refunds were paid to participants who were considered to be active as of December 31, 2014.*

EXHIBIT B
SUMMARY OF CHANGES IN ANNUITANTS AND BENEFICIARIES
FOR FISCAL YEAR ENDING DECEMBER 31, 2015

	Number at Beginning of Year	Additions During Year	Decreases During Year	Number at End of Year
Service Retirement Annuities	2,977	175	108	3,044
Widow Annuities	1,222	61	85	1,198
Children's Annuities	82	5	8	79
Parent Annuities	1	0	0	1
Ordinary Disability Benefit (Non-Occupational)	1	3	1	3
Occupational Disease Disability Benefit	108	13	14	107
Duty Disability Benefit (Occupational)	220	13	21	212
Widows' Compensation Annuities (Service Connected Death)	93	0	5	88
Totals	4,704	270	242	4,732

EXHIBIT C
PART I – TOTAL LIVES AND ANNUAL SALARIES OF ACTIVE MALE PARTICIPANTS CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2015

	Years of Service										
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**	
											$ 0
20 to 24		2								**2**	
		131,892									**131,892**
25 to 29	17	85	30							**132**	
	919,938	5,753,382	2,582,640								**9,255,960**
30 to 34	43	218	226	12						**499**	
	2,326,902	15,075,330	19,454,088	1,117,506							**37,973,826**
35 to 39	18	114	211	77	31					**451**	
	974,052	7,901,646	18,159,156	7,134,462	3,105,342						**37,274,658**
40 to 44	1	15	143	244	367	6				**776**	
	54,114	1,074,918	12,239,214	21,901,578	36,226,284	719,592					**72,215,700**
45 to 49		2	80	247	331	48	28			**736**	
		131,892	6,778,506	21,930,816	32,767,314	5,059,500	3,037,284				**69,705,312**
50 to 54			40	109	179	197	477	14		**1,016**	
			3,389,838	9,671,118	17,097,012	20,015,976	54,237,168	1,895,856			**106,306,968**
55 to 59			12	48	59	115	240	44	96	**614**	
			1,018,356	4,283,310	5,611,818	11,387,928	26,653,176	5,422,998	11,806,866		**66,184,452**
60 to 64			2	8	10	20	34	17	46	**137**	
			173,214	711,654	969,054	1,942,758	3,648,936	2,199,558	6,098,844		**15,744,018**
65 and over			1			1	1	1	1	**5**	
			87,534			120,264	123,948	93,594	135,480		**560,820**
W/O DOB										**0**	
											0
Total Active	**79**	**436**	**745**	**745**	**977**	**387**	**780**	**76**	**143**	**4,368**	
Annual Salary[1]	**$4,275,006**	**$30,069,060**	**$63,882,546**	**$66,750,444**	**$95,776,824**	**$39,246,018**	**$87,700,512**	**$9,612,006**	**$18,041,190**		**$ 415,353,606**

[1] *The number of participants and annual salary listed includes information on active participants only. Hence, information on the three male ordinary disability participants, who continue to earn benefit service, is not included in this exhibit. Excludes duty availability pay.*

EXHIBIT C
PART II – TOTAL LIVES AND ANNUAL SALARIES OF ACTIVE FEMALE PARTICIPANTS CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2015

	Years of Service										
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**	
											$ 0
20 to 24										**0**	
											0
25 to 29	2	15								**17**	
	108,228	1,007,880									**1,116,108**
30 to 34	5	39	16							**60**	
	270,570	2,730,396	1,387,938								**4,388,904**
35 to 39	3	25	13	11	5					**57**	
	194,748	1,768,086	1,125,996	976,470	523,782						**4,589,082**
40 to 44	2	4	16	13	20	1				**56**	
	173,040	271,134	1,376,466	1,182,390	2,025,996	97,044					**5,126,070**
45 to 49	3		4	15	22	10	3			**57**	
	227,154		334,770	1,346,928	2,289,240	1,011,180	317,430				**5,526,702**
50 to 54	6		1	9	16	14	31	2		**79**	
	519,120		80,778	795,096	1,594,830	1,476,738	3,774,180	243,942			**8,484,684**
55 to 59	2			2	8	8	10	2	1	**33**	
	173,040			241,392	819,360	841,836	1,084,098	259,428	185,352		**3,604,506**
60 to 64				1		1	2	1		**5**	
				90,456		131,562	229,866	156,360			**608,244**
65 and over										**0**	
											0
W/O DOB										**0**	
											0
Total Active	**23**	**83**	**50**	**51**	**71**	**34**	**46**	**5**	**1**	**364**	
Annual Salary[1]	**$1,665,900**	**$5,777,496**	**$4,305,948**	**$4,632,732**	**$7,253,208**	**$3,558,360**	**$5,405,574**	**$659,730**	**$185,352**		**$ 33,444,300**

[1] *The number of participants and annual salary listed includes information on active participants only. Excludes duty availability pay.*

EXHIBIT C
PART III – TOTAL LIVES AND ANNUAL SALARIES OF ALL ACTIVE PARTICIPANTS CLASSIFIED BY AGE AND YEARS OF SERVICE AS OF DECEMBER 31, 2015

	Years of Service										
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**	
											$ 0
20 to 24		2								**2**	
		131,892									**131,892**
25 to 29	19	100	30							**149**	
	1,028,166	6,761,262	2,582,640								**10,372,068**
30 to 34	48	257	242	12						**559**	
	2,597,472	17,805,726	20,842,026	1,117,506							**42,362,730**
35 to 39	21	139	224	88	36					**508**	
	1,168,800	9,669,732	19,285,152	8,110,932	3,629,124						**41,863,740**
40 to 44	3	19	159	257	387	7				**832**	
	227,154	1,346,052	13,615,680	23,083,968	38,252,280	816,636					**77,341,770**
45 to 49	3	2	84	262	353	58	31			**793**	
	227,154	131,892	7,113,276	23,277,744	35,056,554	6,070,680	3,354,714				**75,232,014**
50 to 54	6		41	118	195	211	508	16		**1,095**	
	519,120		3,470,616	10,466,214	18,691,842	21,492,714	58,011,348	2,139,798			**114,791,652**
55 to 59	2		12	50	67	123	250	46	97	**647**	
	173,040		1,018,356	4,524,702	6,431,178	12,229,764	27,737,274	5,682,426	11,992,218		**69,788,958**
60 to 64			2	9	10	21	36	18	46	**142**	
			173,214	802,110	969,054	2,074,320	3,878,802	2,355,918	6,098,844		**16,352,262**
65 and over			1			1	1	1	1	**5**	
			87,534			120,264	123,948	93,594	135,480		**560,820**
W/O DOB										**0**	
											0
Total Active	**102**	**519**	**795**	**796**	**1,048**	**421**	**826**	**81**	**144**	**4,732**	
Annual Salary[1]	**$5,940,906**	**$35,846,556**	**$68,188,494**	**$71,383,176**	**$103,030,032**	**$42,804,378**	**$93,106,086**	**$10,271,736**	**$18,226,542**		**$ 448,797,906**

[1] *The number of participants and annual salary listed includes information on active participants only. Hence, information on the three ordinary disability participants, who continue to earn benefit service, is not included in this exhibit. Excludes duty availability pay.*

EXHIBIT D – PART I
NUMBER OF REFUND PAYMENTS MADE DURING YEAR TO MALE EMPLOYEES FOR FISCAL YEAR ENDING DECEMBER 31, 2015 [1]

Age at Date of Refund	Length of Service at Date of Refund: Under 1 Year	Between 1 and 2	Between 2 and 3	Between 3 and 4	Between 4 and 5	5 and over	Total
Without Record							**0**
Under 20	3						**3**
20 to 24							**0**
25 to 29		1					**1**
30 to 34		1				1	**2**
35 to 39		1	1	1		1	**4**
40 to 44						2	**2**
45 to 49						3	**3**
50 to 54							**0**
55 to 59						2	**2**
60 & over							**0**
Totals	**3**	**3**	**1**	**1**	**0**	**9**	**17**

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

EXHIBIT D – PART II
NUMBER OF REFUND PAYMENTS MADE DURING YEAR TO FEMALE EMPLOYEES FOR FISCAL YEAR ENDING DECEMBER 31, 2015 [1]

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

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

EXHIBIT E
STATISTICS ON SERVICE RETIREMENT ANNUITIES CLASSIFIED BY AGE AS OF DECEMBER 31, 2015

	MALE		FEMALE		TOTAL	
AGE	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 50	1	$ 6,895	0	$ 0	**1**	**$ 6,895**
50	7	493,029	0	0	**7**	**493,029**
51	10	402,120	2	118,724	**12**	**520,844**
52	12	682,013	6	367,795	**18**	**1,049,808**
53	8	511,592	2	74,949	**10**	**586,541**
54	17	1,002,732	1	53,514	**18**	**1,056,246**
55	22	1,563,113	0	0	**22**	**1,563,113**
56	52	3,927,513	9	593,967	**61**	**4,521,480**
57	107	7,854,765	10	673,803	**117**	**8,528,568**
58	101	7,637,853	4	276,790	**105**	**7,914,643**
59	109	8,001,942	5	392,131	**114**	**8,394,073**
60	104	7,868,949	10	638,458	**114**	**8,507,407**
61	138	11,615,560	7	368,888	**145**	**11,984,448**
62	138	10,724,304	3	221,551	**141**	**10,945,855**
63	168	12,689,069	8	541,825	**176**	**13,230,894**
64	135	10,536,800	2	80,690	**137**	**10,617,490**
65	114	8,830,647	4	272,044	**118**	**9,102,692**
66	93	7,169,968	3	202,143	**96**	**7,372,111**
67	73	5,536,093	0	0	**73**	**5,536,093**
68	92	7,362,153	3	226,997	**95**	**7,589,150**
69	104	8,388,430	1	53,675	**105**	**8,442,105**
70	69	5,355,739	1	66,535	**70**	**5,422,274**
71	70	5,140,084	2	103,345	**72**	**5,243,429**
72	86	6,469,010	1	64,845	**87**	**6,533,855**
73	118	9,265,595	2	111,030	**120**	**9,376,624**
74	103	7,770,861	0	0	**103**	**7,770,861**
75	108	7,463,989	0	0	**108**	**7,463,989**
76	60	4,288,102	1	90,980	**61**	**4,379,082**
77	58	4,009,475	0	0	**58**	**4,009,475**
78	51	3,348,654	1	56,866	**52**	**3,405,520**
79	78	5,265,386	0	0	**78**	**5,265,386**
80	61	4,117,742	0	0	**61**	**4,117,742**
81	51	3,776,671	0	0	**51**	**3,776,671**
82	55	3,550,535	0	0	**55**	**3,550,535**
83	55	3,687,544	0	0	**55**	**3,687,544**
84	63	3,656,882	0	0	**63**	**3,656,882**
85	55	2,995,583	0	0	**55**	**2,995,583**
86	52	2,732,678	0	0	**52**	**2,732,678**
87	37	1,918,413	0	0	**37**	**1,918,413**
88	33	1,580,236	0	0	**33**	**1,580,236**
89	32	1,487,113	0	0	**32**	**1,487,113**
90	19	849,468	0	0	**19**	**849,468**
91	20	814,064	0	0	**20**	**814,064**
92	2	87,975	0	0	**2**	**87,975**
93	5	178,694	0	0	**5**	**178,694**
94	6	240,968	0	0	**6**	**240,968**
95+	4	119,700	0	0	**4**	**119,700**
Totals	**2,956**	**$212,976,700**	**88**	**$5,651,545**	**3,044**	**$218,628,245**

EXHIBIT F
STATISTICS ON WIDOW'S ANNUITIES
CLASSIFIED BY AGE AS OF DECEMBER 31, 2015

Age	No. [1]	Annual Payments	Age	No. [1]	Annual Payments
Under 30	0	$ 0	63	9	$ 251,792
30	0	0	64	10	288,966
31	0	0	65	24	560,092
32	0	0	66	9	230,682
33	0	0	67	18	472,502
34	0	0	68	24	614,350
35	0	0	69	21	552,159
36	0	0	70	19	496,888
37	0	0	71	28	733,249
38	1	20,275	72	37	986,972
39	0	0	73	47	1,313,595
40	0	0	74	40	1,036,281
41	1	20,888	75	36	982,856
42	2	51,344	76	42	969,805
43	0	0	77	37	871,568
44	1	13,675	78	37	925,946
45	0	0	79	58	1,339,597
46	0	0	80	45	997,225
47	2	62,987	81	37	834,925
48	2	39,566	82	47	962,415
49	4	92,183	83	51	1,009,071
50	1	24,884	84	51	958,059
51	7	175,939	85	47	839,177
52	7	140,934	86	55	953,346
53	8	188,905	87	41	672,630
54	10	238,891	88	33	598,543
55	6	169,476	89	39	604,560
56	5	155,880	90	19	332,499
57	11	245,561	91	25	370,248
58	11	251,046	92	19	305,062
59	12	289,377	93	18	238,028
60	10	249,463	94	18	225,773
61	14	391,663	95+	32	440,072
62	10	241,977			
			Total	**1,198**	**$26,033,844**

[1] *Excludes Parent Annuitants and Compensation Annuitants.*

EXHIBIT G
STATISTICS ON MISCELLANEOUS ANNUITIES
FOR FISCAL YEAR ENDING DECEMBER 31, 2015

	No.	Annual Payments
Children's Annuities	79	892,581
Widows' Compensation Annuities	88	6,316,607
Ordinary Disability Benefits	3	119,994
Occupational Disease Disability Benefits	107	7,039,546
Duty Disability Benefits	212	13,369,149
Parent Annuities	1	14,540
Totals	**490**	**$27,752,417**

EXHIBIT H – PART I
MALE PARTICIPANTS RECEIVING DUTY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2015

	Length of Service as of December 31, 2015													
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total	
ATTAINED AGE	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													**0**	**$ 0**
30 to 34					1	62,550							**1**	**62,550**
35 to 39					1	57,657							**1**	**57,657**
40 to 44			1	43,911	1	58,093							**2**	**102,004**
45 to 49					6	341,806	8	516,056	5	343,189	2	184,112	**21**	**1,385,163**
50 to 54			4	152,448	4	187,095	6	291,939	7	427,962	14	1,076,218	**35**	**2,135,662**
55 to 59			1	37,368	4	183,609	7	378,018	9	497,262	40	3,033,180	**61**	**4,129,437**
60 & over					7	296,235	7	306,657	6	337,555	37	2,674,057	**57**	**3,614,504**
Totals	**0**	**$ 0**	**6**	**$ 233,727**	**24**	**$ 1,187,045**	**28**	**$ 1,492,670**	**27**	**$ 1,605,968**	**93**	**$ 6,967,567**	**178**	**$ 11,486,977**

EXHIBIT H – PART II
FEMALE PARTICIPANTS RECEIVING DUTY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2015

	Length of Service as of December 31, 2015													
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total	
ATTAINED AGE	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													**0**	**$ 0**
30 to 34													**0**	**0**
35 to 39													**0**	**0**
40 to 44													**0**	**0**
45 to 49							3	174,393					**3**	**174,393**
50 to 54			2	79,572	1	49,587	2	107,239	5	278,198	2	156,851	**12**	**671,447**
55 to 59					4	180,747	1	43,767	2	127,815	3	248,150	**10**	**600,479**
60 & over					1	40,389	5	219,621	2	129,094	1	46,749	**9**	**435,853**
Totals	**0**	**$ 0**	**2**	**$ 79,572**	**6**	**$ 270,723**	**11**	**$ 545,020**	**9**	**$ 535,107**	**6**	**$ 451,750**	**34**	**$ 1,882,172**

EXHIBIT I – PART I
MALE PARTICIPANTS RECEIVING ORDINARY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2015

Length of Service as of December 31, 2015

	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total	
ATTAINED AGE	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**
UNDER 30													**0**	**$ 0**
30 to 34													**0**	**0**
35 to 39													**0**	**0**
40 to 44							1	35,685					**1**	**35,685**
45 to 49											1	41,215	**1**	**41,215**
50 to 54													**0**	**0**
55 to 59									1	43,094			**1**	**43,094**
60 & over													**0**	**0**
Totals	**0**	**$ 0**	**0**	**$ 0**	**0**	**$ 0**	**1**	**$ 35,685**	**1**	**$ 43,094**	**1**	**$ 41,215**	**3**	**$ 119,994**

EXHIBIT I – PART II
FEMALE PARTICIPANTS RECEIVING ORDINARY DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2015

Length of Service as of December 31, 2015

	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total	
ATTAINED AGE	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**	**No.**	**Annual Payments**
UNDER 30													**0**	**$ 0**
30 to 34													**0**	**0**
35 to 39													**0**	**0**
40 to 44													**0**	**0**
45 to 49													**0**	**0**
50 to 54													**0**	**0**
55 to 59													**0**	**0**
60 & over													**0**	**0**
Totals	**0**	**$ 0**	**0**	**$ 0**	**0**	**$ 0**		**$ 0**		**$ 0**	**0**	**$ 0**	**0**	**$ 0**

EXHIBIT J – PART I
MALE PARTICIPANTS RECEIVING OCCUPATIONAL DISEASE DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2015

	Length of Service as of December 31, 2015													
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total	
ATTAINED AGE	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													**0**	**$ 0**
30 to 34													**0**	**0**
35 to 39	1	56,896											**1**	**56,896**
40 to 44													**0**	**0**
45 to 49	3	172,503											**3**	**172,503**
50 to 54	11	727,348					4	198,614	2	111,609	1	63,238	**18**	**1,100,809**
55 to 59	14	970,539							3	151,276	20	1,261,407	**37**	**2,383,222**
60 & over	11	911,308					2	94,106	1	51,229	26	1,717,024	**40**	**2,773,667**
Totals	**40**	**$ 2,838,594**	**0**	**$ 0**	**0**	**$ 0**	**6**	**$ 292,720**	**6**	**$ 314,114**	**47**	**$ 3,041,669**	**99**	**$ 6,487,097**

EXHIBIT J – PART II
FEMALE PARTICIPANTS RECEIVING OCCUPATIONAL DISEASE DISABILITY
CLASSIFIED BY AGE AND LENGTH OF SERVICE AS OF DECEMBER 31, 2015

	Length of Service as of December 31, 2015													
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over		Total	
ATTAINED AGE	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 30													**0**	**$ 0**
30 to 34													**0**	**0**
35 to 39													**0**	**0**
40 to 44													**0**	**0**
45 to 49	1	67,869					1	43,548					**2**	**111,417**
50 to 54													**0**	**0**
55 to 59	3	209,682											**3**	**209,682**
60 & over					1	45,507					2	185,843	**3**	**231,350**
Totals	**4**	**$ 277,551**	**0**	**$ 0**	**1**	**$ 45,507**	**1**	**$ 43,548**		**$ 0**	**2**	**$ 185,843**	**8**	**$ 552,449**

EXHIBIT K
HISTORY OF AVERAGE ANNUAL SALARIES

Year End	Members in Service[1]	Increase	Current Year Salary	Increase	Average Salary	Increase	Actuarial Assumption	CPI Chicago
1986	5,103	1.1 %	$ 176,451,816	12.1 %	$ 34,578	10.9 %	6.0%	2.1 %
1987	5,183	1.6 %	186,840,432	5.9 %	36,049	4.3 %	6.0%	4.1 %
1988	5,233	1.0 %	188,093,568	0.7 %	35,944	(0.3)%	6.0%	3.9 %
1989	5,231	0.0 %	194,241,480	3.3 %	37,133	3.3 %	6.0%	5.0 %
1990	5,337	2.0 %	211,869,720	9.1 %	39,698	6.9 %	6.0%	5.4 %
1991	5,323	(0.3)%	227,649,000	7.4 %	42,767	7.7 %	6.0%	4.0 %
1992	5,204	(2.2)%	223,578,000	(1.8)%	42,963	0.5 %	6.0%	3.0 %
1993	5,124	(1.5)%	221,600,136	(0.9)%	43,247	0.7 %	6.0%	3.0 %
1993 [2]	4,710	(8.1)%	202,080,072	(8.8)%	42,904	(0.8)%	6.0%	3.0 %
1994	4,753	0.9 %	226,703,496	12.2 %	47,697	11.2 %	6.0%	2.2 %
1995	4,678	(1.6)%	228,604,584	0.8 %	48,868	2.5 %	6.0%	3.2 %
1996	4,806	2.7 %	233,033,832	1.9 %	48,488	(0.8)%	6.0%	2.7 %
1997	4,856	1.0 %	234,726,936	0.7 %	48,338	(0.3)%	5.0%	2.7 %
1998	4,783	(1.5)%	262,248,978	11.7 %	54,829	13.4 %	5.0%	1.5 %
1999	4,855	1.5 %	271,335,540	3.5 %	55,888	1.9 %	5.0%	2.6 %
2000	4,878	0.5 %	275,106,756	1.4 %	56,397	0.9 %	5.0%	4.0 %
2001	4,930	1.1 %	277,964,912	1.0 %	56,382	0.0 %	5.0%	0.8 %
2002	4,910	(0.4)%	277,053,144	(0.3)%	56,426	0.1 %	5.0%	2.5 %
2003	4,909	0.0 %	335,170,501	21.0 %	68,277	21.0 %	5.0%	1.7 %
2004	4,856	(1.1)%	334,423,753	(0.2)%	68,868	0.9 %	5.0%	2.2 %
2005	4,999	2.9 %	341,252,492	2.0 %	68,264	(0.9)%	5.0%	3.6 %
2006	5,078	1.6 %	387,442,074	13.5 %	76,298	11.8 %	5.0%	0.7 %
2007	4,938	(2.8)%	388,881,954	0.4 %	78,753	3.2 %	5.0%	4.7 %
2008	5,037	2.0 %	396,181,778	1.9 %	78,654	(0.1)%	5.0%	(0.6)%
2009	5,137	2.0 %	400,912,173	1.2 %	78,044	(0.8)%	5.0%	2.5 %
2010	5,052	(1.7)%	400,404,320	(0.1)%	79,257	1.6 %	5.0%	1.2 %
2011	4,842	(4.2)%	425,385,354	6.2 %	87,853	10.8 %	5.0%	2.1 %
2012	4,740	(2.1)%	418,964,763	(1.5)%	88,389	0.6 %	5.0%	1.7 %
2013	4,685	(1.2)%	416,491,784	(0.6)%	88,899	0.6 %	5.0%	0.5 %
2014	4,809	2.6 %	443,743,202	6.5 %	92,273	3.8 %	5.0%	1.5 %
2015 [3]	4,735	(1.5)%	449,037,894	1.2 %	94,834	2.8 %	5.0%	0.0 %
Average Increase (Decrease) for the last 5 years:		**(1.3)%**		**2.4 %**		**3.7 %**		**1.1 %**

[1] *Includes those members who were on disability through 1993.*

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

[3] *Average annual increase in average salary 1985-2015, is about 3.4% compounded. The average annual increase in the Chicago CPI for the same period is about 2.5% compounded.*

EXHIBIT L
NEW ANNUITIES GRANTED DURING 2015

	Annuitants	Widows/ Widowers of Deceased Employees[2]	Widows/ Widowers of Deceased Annuitants	Compensation Widows/ Widowers[3]
Number retired/deceased	175	5	56	0
Average age attained [Employee]	58.4	56.6	80.1	N/A
Average length of service	28.7	27.7	52.0	N/A
Average spouse age	57.1	58.2	75.0	N/A
Average annual salary [4 out of 10]	$ 105,311	N/A	N/A	N/A
Average annual final salary	$ 109,241	N/A	N/A	N/A
Total annual annuity	$ 12,869,734	188,202	1,840,245	N/A
Average annual annuity	$ 73,541	37,640	32,862	N/A
Total statutory liability	$ 210,942,789	2,623,334	15,043,709	N/A
Average liability	$ 1,205,387	524,667	268,638	N/A
Total investment [Employee-paid for tax purposes]	$ 25,966,941	N/A	N/A	N/A
Average investment [1]	$ 148,383	N/A	N/A	N/A
Liability/cost	8.12	N/A	N/A	N/A
Liability/final pay	11.03	N/A	N/A	N/A

[1] *Based on previously taxed contributions.*
[2] *Not including compensation or supplemental.*
[3] *Does not include transfers from supplemental widows.*

EXHIBIT M
RETIREES AND BENEFICIARIES BY TYPE OF BENEFIT

Years	ANNUITANTS						DISABILITY			Widow/ Widower Comp.	Total
	Employee	Disability Pensioner	Spouse	Supplemental Widow(er)	Child	Parent	Ordinary	Duty	Occup.		
1986	2,025	1	1,233	75	126	2	5	226	158	56	3,907
1987	2,080	1	1,236	87	121	2	7	233	143	46	3,956
1988	2,180	1	1,245	83	115	2	9	216	117	43	4,011
1989	2,235	1	1,237	68	108	1	8	235	122	55	4,070
1990	2,242	0	1,248	67	106	1	11	253	133	51	4,112
1991	2,226	0	1,264	65	121	1	14	267	143	49	4,150
1992	2,261	0	1,277	68	113	1	11	286	147	40	4,204
1993	2,257	0	1,291	69	114	1	10	274	140	35	4,191
1994	2,207	0	1,316	66	114	2	6	284	142	36	4,173
1995	2,248	0	1,332	62	110	1	8	297	144	40	4,242
1996	2,257	0	1,328	61	110	1	8	292	169	44	4,270
1997	2,235	0	1,348	60	111	1	11	296	194	46	4,302
1998	2,251	0	1,360	56	125	2	8	295	197	49	4,343
1999	2,351	0	1,450	56	139	2	5	295	203	49	4,550
2000	2,538	0	1,440	51	132	2	6	257	139	49	4,614
2001 [1]	2,422	0	1,330	0	116	2	2	262	147	89	4,370
2002	2,411	0	1,330	0	121	1	2	257	144	85	4,351
2003	2,412	0	1,322	0	119	1	3	249	121	82	4,309
2004	2,441	0	1,352	0	114	1	7	244	113	81	4,353
2005	2,442	0	1,330	0	111	1	7	254	107	105	4,357
2006	2,459	0	1,322	0	110	1	6	257	113	114	4,382
2007	2,488	0	1,300	0	105	1	4	266	114	113	4,391
2008	2,471	0	1,306	0	98	1	4	269	124	108	4,381
2009	2,556	0	1,292	0	89	1	4	262	121	107	4,432
2010	2,577	0	1,261	0	83	1	4	259	124	100	4,409
2011	2,665	0	1,253	0	85	1	4	249	121	100	4,478
2012	2,821	0	1,260	0	83	1	2	232	116	98	4,613
2013	2,883	0	1,242	0	83	1	2	220	112	99	4,642
2014	2,977	0	1,222	0	82	1	1	220	108	93	4,704
2015	3,044	0	1,198	0	79	1	3	212	107	88	4,732

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

EXHIBIT N
AVERAGE EMPLOYEE RETIREMENT BENEFITS PAYABLE

Years Ended	Average Annual Benefit	Average Current Age of Retirees	Average Annual Benefit at Retirement Current Year	Average Age at Retirement Current Year	Average Years of Service at Retirement Current Year
1986	$ 15,635	68	$ 24,826	58.6	29.8
1987	16,833	68	26,342	59.1	30.4
1988	18,476	68	28,166	61.4	31.1
1989	19,732	68	29,967	60.4	31.1
1990	20,853	68	30,038	60.3	30.9
1991	21,942	69	30,983	60.0	31.4
1992	23,503	69	32,758	59.9	31.3
1993	25,031	69	34,267	61.6	31.7
1994	26,262	70	34,391	59.8	31.2
1995	27,935	70	38,872	60.3	32.1
1996	29,304	70	40,406	60.4	32.0
1997	30,787	70	41,543	59.8	31.6
1998	32,503	71	43,905	60.1	32.1
1999	34,067	71	44,001	60.4	31.4
2000	36,458	71	48,534	63.5	34.2
2001	38,048	71	45,768	60.2	30.9
2002	40,052	71	45,346	59.7	30.8
2003	42,131	71	50,943	60.2	31.7
2004	45,675	71	59,608	60.0	32.1
2005	47,917	71	59,117	59.2	31.4
2006	50,171	71	61,172	57.7	30.1
2007	52,446	71	64,076	58.1	30.0
2008	54,492	71	61,577	57.4	29.6
2009	57,023	71	67,310	57.8	30.3
2010	59,133	71	67,386	59.0	29.7
2011	61,879	71	70,893	58.5	29.4
2012	64,860	70	75,675	58.5	30.4
2013	67,286	70	73,808	57.6	30.2
2014	69,977	70	78,042	57.4	30.5
2015	71,823	70	73,541	58.4	28.7

EXHIBIT O – PART I
HISTORY OF ANNUITIES 1985-2015
EMPLOYEE ANNUITANTS (MALE AND FEMALE)

Year End	Number of Annuitants	Total Annuities	Average Annuities
1986	2,026	$ 31,676,856	$ 15,635
1987	2,081	35,030,176	16,833
1988	2,181	40,296,025	18,476
1989	2,235	44,101,893	19,732
1990	2,242	46,752,084	20,853
1991	2,226	48,843,715	21,942
1992	2,261	53,140,074	23,503
1993	2,257	56,495,862	25,031
1994	2,207	57,960,522	26,262
1995	2,248	62,797,419	27,935
1996	2,257	66,139,690	29,304
1997	2,235	68,808,890	30,787
1998	2,251	73,163,601	32,503
1999	2,351	80,090,897	34,067
2000	2,538	92,529,624	36,458
2001	2,422	92,152,832	38,048
2002	2,411	96,565,842	40,052
2003	2,412	101,620,962	42,131
2004	2,441	111,491,737	45,675
2005	2,442	117,014,053	47,917
2006	2,459	123,371,713	50,171
2007	2,488	130,485,435	52,446
2008	2,471	134,649,295	54,492
2009	2,556	145,751,375	57,023
2010	2,577	152,385,721	59,133
2011	2,665	164,908,801	61,879
2012	2,821	182,970,558	64,860
2013	2,883	193,984,459	67,286
2014	2,977	208,322,397	69,977
2015	3,044	218,628,245	71,823

EXHIBIT O – PART II
HISTORY OF ANNUITIES 1985-2015
WIDOW/WIDOWER ANNUITANTS
(INCLUDING PARENT BUT NOT COMPENSATION ANNUITANTS)

Year End	Number of Annuitants	Total Annuities	Average Annuities
1986	1,310	$ 5,843,911	$ 4,461
1987	1,325	6,273,158	4,734
1988	1,330	6,617,019	4,975
1989	1,319	7,743,932	5,871
1990	1,316	8,031,199	6,103
1991	1,330	9,316,132	7,005
1992	1,346	10,774,709	8,005
1993	1,361	12,121,722	8,906
1994	1,384	13,680,765	9,885
1995	1,395	14,495,633	10,391
1996	1,389	14,709,232	10,590
1997	1,409	15,397,832	10,928
1998	1,418	15,969,975	11,262
1999	1,508	18,136,173	12,027
2000	1,493	18,352,906	12,293
2001	1,332	16,516,021	12,399
2002	1,331	17,006,519	12,777
2003	1,323	17,490,584	13,220
2004	1,353	19,297,527	14,263
2005	1,331	20,481,794	15,388
2006	1,323	21,123,202	15,966
2007	1,301	21,290,764	16,365
2008	1,307	22,164,269	16,958
2009	1,293	22,652,897	17,520
2010	1,262	22,832,364	18,092
2011	1,254	23,449,616	18,700
2012	1,261	24,681,837	19,573
2013	1,243	25,252,147	20,315
2014	1,223	25,524,937	20,871
2015	1,199	26,048,384	21,725

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

	Added to Payroll		Removed from Payroll		Payroll End of Year		Average Annual	Increase to Avg.
Yr.	No.	Annual Benefits.	No.	Annual Benefits	No.	Annual Benefits	Benefits	Benefits
Employee Annuitants (Male and Female)								
2001	114	$5,171,784	230	$5,548,576	2,422	$92,152,832	$38,048	440.0%
2002	107	4,851,988	118	438,978	2,411	96,565,842	40,052	5.3
2003	134	6,826,357	133	1,771,237	2,412	101,620,962	42,131	5.2
2004	147	14,053,559	118	4,182,784	2,441	111,491,737	45,675	8.4
2005	126	10,248,119	125	4,725,803	2,442	117,014,053	47,917	4.9
2006	123	10,689,546	106	4,331,886	2,459	123,371,713	50,171	4.7
2007	126	11,168,192	97	4,054,470	2,488	130,485,435	52,446	4.5
2008	109	9,696,869	126	5,533,009	2,471	134,649,295	54,492	3.9
2009	185	15,610,755	100	4,508,675	2,556	145,751,375	57,023	4.6
2010	117	11,242,038	96	4,607,692	2,577	152,385,721	59,133	3.7
2011	197	18,074,820	109	5,551,740	2,665	164,908,801	61,879	4.6
2012	275	24,560,716	119	6,498,959	2,821	182,970,558	64,860	4.8
2013	187	17,780,058	125	6,766,157	2,883	193,984,459	67,286	3.7
2014	211	20,629,503	117	6,291,565	2,977	208,322,397	69,977	4.0
2015	175	17,023,263	108	6,717,414	3,044	218,628,245	71,823	2.6
Widow/Widower Annuitants (Not Including Compensation)								
2001	127	$1,865,460	288	$3,702,345	1,332	$16,516,021	$12,399	90.0%
2002	73	1,316,617	74	826,119	1,331	17,006,519	12,777	3.0
2003	87	1,475,058	95	990,993	1,323	17,490,584	13,220	3.5
2004	92	2,595,350	62	788,407	1,353	19,297,527	14,263	7.9
2005	94	2,596,899	116	1,412,632	1,331	20,481,794	15,388	7.9
2006	84	1,964,568	92	1,323,160	1,323	21,123,202	15,966	3.8
2007 [1]	59	1,341,091	81	1,173,529	1,301	21,290,764	16,365	2.5
2008 [1]	77	1,796,751	71	923,246	1,307	22,164,269	16,958	3.6
2009 [1]	66	1,605,852	80	1,117,224	1,293	22,652,897	17,520	3.3
2010 [1]	55	1,404,275	86	1,224,808	1,262	22,832,364	18,092	3.3
2011 [1]	62	1,661,849	70	1,044,597	1,254	23,449,616	18,700	3.4
2012 [1]	79	2,361,949	72	1,129,728	1,261	24,681,837	19,573	4.7
2013 [1]	71	2,032,935	89	1,462,625	1,243	25,252,147	20,315	3.8
2014 [1]	59	1,675,707	79	1,402,917	1,223	25,524,937	20,871	2.7
2015 [1]	61	2,029,302	85	1,505,855	1,199	26,048,384	21,725	4.1

[1] *Including Parent Annuitants but not Compensation Annuitants.*

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

	Number of		
Year	Employee	Beneficiary [1]	Total
2006	2,095	1,021	3,116
2007	2,152	1,006	3,158
2008	2,133	1,017	3,150
2009	2,159	1,031	3,190
2010	2,148	1,006	3,154
2011	2,149	1,004	3,153
2012	2,133	1,002	3,135
2013	2,056	983	3,039
2014	1,983	956	2,939
2015	1,899	924	2,823

[1] *Includes children.*

APPENDIX 4

ACTUARIAL METHODS AND ASSUMPTIONS AS OF DECEMBER 31, 2015

ACTUARIAL METHODS AND ASSUMPTIONS
AS OF DECEMBER 31, 2015

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 statutory funding and State reporting purposes is the Projected Unit Credit cost method. The Actuarial Cost Method used for GASB accounting purposes is the Entry-Age Normal cost method.

Under the Projected Unit Credit cost method, each participant's projected benefit is allocated in proportion to service as of the valuation date. The Actuarial Accrued Liability is the present value of the portion of benefits allocated for periods of service prior to the valuation date. The Normal Cost is the present value of benefits allocated for service during the current plan year.

Under the Entry Age Normal cost method, each participant's projected benefit is allocated on a level percent of pay basis from entry age to assumed exit age. The Actuarial Accrued Liability is the portion of the present value of benefits associated with pay prior to the valuation date. The Normal Cost is the present value of benefits associated with pay during the current plan year.

To the extent that current assets are less than the Actuarial Accrued Liability, 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. The total contribution developed under this method is the sum of the Normal Cost and the payment toward the UAAL.

II. CURRENT ACTUARIAL ASSUMPTIONS

On May 11, 2016, the Board approved a reduction in the discount rate assumption to 7.50 percent and the assumed inflation rate was lowered to 2.50 percent. The other current actuarial assumptions were adopted and became effective for the December 31, 2011, valuation, and were based on an experience study for the period January 1, 2003, to December 31, 2010.

A. Demographic Assumptions

Mortality:	RP-2000 Combined Healthy Mortality Table, sex distinct. The mortality table used is a static table and provides an estimated margin of 15 percent for future mortality improvements as of the experience study performed as of December 31, 2011.
Disabled Mortality:	RP-2000 Combined Healthy Mortality Table, sex distinct, set forward six years.

Pre-Retirement Mortality: Pre-retirement mortality is 80 percent of the post-retirement rates.

Rates of Disability: Rate at which members are assumed to become disabled under the provisions of the Fund. The rates assumed are as follows:

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

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

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

For members hired before January 1, 2011:

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

For members hired on or after January 1, 2011:

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

Rate of Termination: The following are sample rates from the table:

Years of Service	Rate
1	0.020
5	0.006
10	0.006
15	0.005
20	0.005
25	0.005
30	0.000

B. Economic Assumptions

Investment Return Rate: 7.50 percent per annum for pensions and 4.50 percent for OPEB. Pension rate effective December 31, 2015, OPEB rate effective as of December 31, 2005.

General Inflation: 2.50 percent per annum.

Future Salary Increases: Assumed rates of individual salary increase at 3.75 percent per year, plus an additional percentage based on the following service scale:

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

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

For the GASB #67 and #68 Actuarially Determined Contribution, the actuarial value of assets is smoothed by using a five-year average market value.

C. Other Assumptions

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

Group Health Insurance: It is assumed for valuation purposes that the current health insurance supplement will only continue through December 31, 2016, for all employee annuitants (and their future widows). The amount of the Fund-paid health insurance after June 30, 2008, is $95.00 per month for each annuitant (employees and widows) not qualified to receive Medicare benefits and $65.00 if qualified. It is assumed that all annuitants age 65 and over will be eligible for Medicare and all annuitants less than age 65 will not be eligible for Medicare. Future widows of retirees are assumed to be eligible for Medicare at age 65, as well as widow annuitants that are currently receiving a health insurance supplement.

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

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

D. Projection Assumptions

Active Population: Active members who terminate, retire, become disabled or die during the year are replaced by new entrants such that the number of active members remains level during the projection period based on the most recent actuarial valuation. The number of active members as of the valuation at December 31, 2015, is 4,735.

New Entrant Profile: The entry age of future new entrants, which is summarized below, is based on the profile of current active members hired over the last five years with one or more years of service as of December 31, 2015. These members were hired from January 1, 2010, through December 31, 2013. The group hired due to the Lewis Settlement was excluded from the development of the new entrant profile.

Entry Age	Number
Less than 25	8
25 to 30	200
30 to 35	222
35 to 40	71
40 to 45	7
45 and Over	2

Approximately 84 percent of the new entrants are assumed to be male.

New Entrant Pay:	Based on the most recent employment contract, new entrants were assumed to earn $54,654 for the plan year ending December 31, 2016. The new entrant pay for members hired after 2016 is assumed to increase by the wage inflation assumption of 3.75 percent.
New Entrant Pay Increases:	Pay for a specific new entrant is assumed to increase in the future by the wage inflation and the service based increase assumptions. The projections assume a pay cap of $111,571.63 for plan year 2015, and a pay cap of $111,571.63 for plan year 2016, increasing by 1.25 percent per year after plan year 2016. The annual increase of 1.25 percent per year is based on 50 percent of the CPI-U increase which is assumed to be 2.50 percent per year.

APPENDIX 5

SUMMARY OF PROVISIONS OF THE FUND AS OF DECEMBER 31, 2015

SUMMARY OF
PRINCIPAL ELIGIBILITY AND BENEFIT PROVISIONS
AS OF DECEMBER 31, 2015

PARTICIPANTS

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

SERVICE

In computing service, the following periods shall be counted:

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

RETIREMENT ANNUITY

Eligibility

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

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

Mandatory

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

Accumulation Annuity

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

Minimum Formula Annuity

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

***Retirement at Age 63 with Less than 20 Years of Service*[1]**

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

Minimum Annuity

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

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

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

Automatic Increase in Annuity

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

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

WIDOW/WIDOWER ANNUITY

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

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

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

Death in Service (Non-Duty)

(1) If the firefighter dies with at least 1.5 years of service, 30 percent of the salary attached to the rank of a first class firefighter in the classified career service at the time of the firefighter's death; or,

(2) 50 percent of the annuity the deceased firefighter would have received if he had retired just prior to the date of death; or,

(3) Money purchase based on the total salary deductions and City contributions for age and service annuity and widow/widower's annuity.

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

Death In Service (Duty Related)

Compensation Annuity[2]

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

Death In Service (Duty Disability)

Compensation Annuity

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

Death after Retirement

(1) If the firefighter dies after retirement, the annuity is 50 percent of the retirement annuity that the deceased firefighter was receiving at the time of his or her death; or,

(2) Money purchase based on the sums accumulated for the spouse annuity plus 10 percent of the accumulated City contributions for each year of service from 10 to 20 years, and full accumulated City contributions after 20 years of service.

Maximum Annuity

No maximum dollar amount.

Minimum Annuity

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

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

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

CHILD ANNUITY

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

FAMILY MAXIMUM

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

PARENT ANNUITY

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

DISABILITIES

***Duty Disability Benefit*[3]**
Injury incurred in the performance of duty. The amount of the benefit is 75 percent of salary at the time the disability is allowed payable to employee's compulsory retirement age plus $30 per month for each unmarried child less than age 18 (except where the child is so physically or mentally handicapped as to be unable to support him/herself), but the total amount of child benefits shall not exceed 25 percent of salary. Effective January 1, 1994, the minimum benefit, if the employee has been on disability at least 10 years, is 50 percent of current salary at the rank held by the employee when he was removed from the Department payroll. Salary deductions are contributed by the City. There are no age or service requirements for retirement on money purchase annuity and receiving full contributions.

***Occupational Disease Disability*[3]**
A firefighter who has 10 or more years of service and is unable to perform his or her duties by reason of heart disease, tuberculosis or any disease of the lungs or respiratory tract, resulting solely from his or her service as a firefighter. Occupational disease also includes disabling cancer of the type which may be caused by exposure to heat, radiation or a known carcinogen as defined by the International Agency for Research on Cancer. The amount of the benefit is 65 percent of salary at the time of the employee's removal from the Department payroll payable to compulsory retirement

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

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

Ordinary Disability Benefit

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

DEATH BENEFIT

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

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

GROUP HEALTH HOSPITAL AND SURGICAL INSURANCE PREMIUMS

The pension fund shall provide payments in the amount of $95 per month for non-Medicare eligible city annuitants and $65 per month for Medicare eligible city annuitants from July 1, 2008, through December 31, 2016.

REFUNDS

To Firefighters

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

FOR WIDOW/WIDOWER ANNUITY

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

REFUNDS OF REMAINING AMOUNTS

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

DEDUCTIONS AND CONTRIBUTIONS

	Deductions	City Contributions[1]
Employee	7.125%	8.500%
Spouse	1.500%	2.000%
Ordinary Disability	0.125%	0.000%
Annuity Increase	0.375%	0.000%
	9.125%	10.500%

[1] *Credited to participant's Accumulation Annuity and Widow's Annuity accounts*

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

Beginning in tax levy year 2015, annual employer contributions combined with member contributions and other Fund revenue must equal the amount, as a level percentage of payroll, that is sufficient to produce 90 percent funding by the end of fiscal year 2040.

DEATH BENEFIT

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

TAX SHELTER OF EMPLOYEE SALARY DEDUCTIONS

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

COMPULSORY RETIREMENT AGE

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

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

COMPENSATION WIDOWS

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

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

Year Ending	CPI-U	½ CPI-U	COLA	Maximum Annual Pensionable Earnings
2011			3.00%	$ 106,800.00
2012	3.90%	1.95%	1.95%	108,882.60
2013	2.00%	1.00%	1.00%	109,971.43
2014	1.20%	0.60%	0.60%	110,631.26
2015	1.70%	0.85%	0.85%	111,571.63
2016	0.00%	0.00%	0.00%	111,571.63

APPENDIX 6

LEGISLATIVE CHANGES 1968 THROUGH 2015

1968 to 1979 Sessions

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

1979 Session

SB 854
Recall of elective members of the Board of Trustees.

HB 291
Authorizes investment in Time Deposits of Certificate of Deposit.

HB 2012
Employer may pick up, under IRS Code Section 414(h), the employee contributions for all compensation earned after December 31, 1980, by a reduction in the cash salary, an offset to a future salary increase or by a combination of both.

1980 Session

Transfer of credit to the General Assembly System.

HB 3635
Reversed all changes made by HB 2012 and put the pick up section as a new paragraph. They are treated as employee contributions for all purposes including refunds and determination of the tax levy.

1981 Session

SB 21
Actuarial Reporting Standards.

SB 851
Authorizes investments in conventional mortgage pass-through securities.

SB 879
Financial statement required by Department of Insurance within 6 months and actuarial statement within 9 months. $100 penalty per day if late.

HB 291
Increase minimum survivor's annuity from $200 to $250.

Spring 1982 Session

SB 740
Three percent post-retirement increase for employees born before January 1, 1930. All increases begin at age 60 instead of age 63 effective July 1, 1982.

SB 1127
Group health hospital and surgical insurance premium $55 for annuitant not qualified to receive Medicare; $21 if annuitant is qualified, effective January 1, 1983.

SB 1579
Expanded fiduciary standards, prohibited transactions, civil action may be brought by Attorney General or by a participant. List of permitted investments moved to general section of the statute.

HB 2361
Election by mail ballot.

Spring 1983 Session

SB 22
Delegation of investment authority restrictions.

SB 1147
Minimum reporting and actuarial information for 1984.

HB 366, SB 288
Changes fiduciary standards: party in interest definition; reasonable care of co-fiduciary; eliminates civil action.

HB 377
Cancer as occupational disability.

HB 380
Paramedics as members July 1, 1983.

HB 455
Bill of Rights.

HB 483
Temporary position defined.

HB 514
10 percent prudent person investment category.

HB 755
Change in lump sum death benefit: $6,000 if retired, $12,000 if active and under age 50, reduced by $400 each year age 50 or older.

HB 758
Vote by mail.

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

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

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

City Ordinance

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

Changes compulsory retirement from 63 to 70.

1984 Session

Direct deposit.

Illinois Public Employees' Pension Laws Commission abolished.

1985 Session

HB 164
Occupational disability benefits from 50 percent to 65 percent of salary for new disabilities.

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

Removes alcoholism and venereal disease prohibition against paying ordinary disability.

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

1986 Session

HB 2630
Removes the age 18 limitation for handicapped children of duty and occupational disease disability recipients.

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

1987 Session

None.

1988 Session—City Ordinance

Compulsory retirement changed to age 63.

1989 Session

HB 332
$325 minimum widow/widower annuity effective January 1, 1988.

SB 95
Changed the amount of fund paid health insurance "supplement" from January 1, 1988, until December 31, 1992, to $65 per month for each annuitant not qualified to receive Medicare benefits (and $35 if qualified) and from January 1, 1993, until December 31, 1997, the amounts are $75 and $45, respectively. Widow/widowers will now be eligible for supplement. The City will be required to pay 50 percent of the aggregate cost of health care claims for the retired group under all health care plans offered by the City. A procedure was established for the City to determine, with the help of an independent actuary, the aggregate cost of claims and premiums for each calendar year from 1989 through 1998 for the retired group.

$475 minimum employee annuity effective January 1, 1990.

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

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

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

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

1990 Session

SB 136
Amends Chapter 120, Paragraph 671 of the Revenue Act to provide for a separate listing on the tax bill of the dollar amount of tax due from the person assessed, which is allocable to a tax levied under the Illinois Pension Code, or any other tax levied by a municipality or township for public pension or retirement purposes. Effective January 1, 1990.

SB 1951
Signed January 14, 1991. Service credit will be given for any periods prior to January 14, 1993 that an active firefighter who is a member of the General Assembly is absent to perform his legislative duties. No payment is required for this service credit. The current salary of the rank would be used for average salary for annuity purposes.

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

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

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

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

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

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

1991 Session

None.

1992 Session

HB 969
Approved March 26, 1992. Beginning January 1992, the minimum retirement annuity (requires retirement at age 50 or over with at least 20 years of service) was increased to $650 per month and the minimum widow/widower annuity was increased to $500 for those receiving annuity and those who will be eligible in the future (requires retirement or death in service at age 50 or over with at least 20 years of service).

SB 1650
Approved January 25, 1993.

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

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

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

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

1993 Session

SB 358
Approved January 10, 1994. Beginning January 1, 1994, minimum Duty and Occupational Disease Disabilities have been established, if the employee has been on the disability for 10 years: 50 percent of current salary of rank at removal from Department payroll.

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

1994 Session

None.

1995 Session

SB 114
Approved July 14, 1995.

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

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

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

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

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

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

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

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

SB 424
Approved July 7, 1995.

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

1996 Session

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

Treatment of governmental plans under Code Section 415:
Rule limiting annual benefit to 100 percent of the average of the highest 3-year compensation no longer applies.

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

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

The definition of compensation now includes elective deferrals.

Taxation of distributions:
$5,000 death benefit exclusion was repealed for deaths after August 20, 1996.

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

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

1997 Session

HB 313
Signed June 27, 1997.

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

1998 Union Contract Cost of Living Increases

The following salary increases are scheduled:
1.5 percent effective July 1, 1995.

1.5 percent effective January 1, 1996.

1.5 percent effective July 1, 1996.

3.5 percent effective January 1, 1997.

3.75 percent effective January 1, 1998.

2.25 percent effective January 1, 1999.

1998 Session

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

1999 Session

None.

2000 Session

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

2001 Session

None.

2002 Session
HB 5168
Effective June 28, 2002.

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

2003 Session
SB 1701
Effective July 1, 2003.

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

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

2004 Session
PA 93-0654
Effective January 16, 2004.

Changes to the definition of salary used for benefit calculation.

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

PA 93-0654 (continued)

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

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

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

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

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

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

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

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

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

Bertucci court opinion
Effective June 29, 2004.

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

PA 93-0917 (HB 378)
Effective August 12, 2004

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

PA 93-0917(continued)

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

2005 Session
SB 23
Approved June 27, 2005.

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

2006 Session

None.

2007 Session

PA 95-0279

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

2008 Session

None.

2009 Session

PA 95-1036
Effective February 17, 2009.

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

PA 96-0006
Effective April 3, 2009.

The Illinois Governmental Ethics Act.

PA 96-260
Effective August 11, 2009.

A fireman may purchase up to 24 months of service credit attributed to service in the armed forces of the United States prior to employment as a firefighter by making contributions to the Fund equal to (i) employee contributions during the period served, (ii) employer normal costs during the period served, and (iii) compound interest at the actuarially assumed rate from date of membership in the Fund until date of payment.

PA 96-727
Effective August 25, 2009.

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

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

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

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

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

PA 96-753
Effective August 25, 2009.

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

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

2010 Session

PA 96-1466
Effective August 20, 2010.

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

PA 96-1495 (HB 3538)
Effective January 1, 2011.

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

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

2011 Session

P.A. 97-530 (SB 1672)
Effective August 23, 2011.

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

P.A. 97-609 (SB 1831)
Effective August 26, 2011.

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

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

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.

2013 Session

P.A. 98-0043 (SB 1584)
Approved and effective June 28, 2013.

Changes the duration of health insurance supplement payments to eligible employee annuitants to "Beginning July 1, 2008 and until such time as the city no longer provides a health care plan for such annuitants or December 31, 2016, whichever comes first."

P.A. 98-0443 (HB 2620)
Approved and effective August 16, 2013.

Allows for an additional exception to the RFP process for obtaining investment services for "contracts for follow-on funds with the same sponsor through close-end funds."

2014 Session

No legislative changes.

2015 Session

No legislative changes.

APPENDIX 7

ADDITIONAL EXHIBITS – GASB DISCLOSURES

EXHIBIT A-1
GASB NOS. 43 AND 45 DISCLOSURES

Prior to fiscal year ending December 31, 2014, the accounting policies of the City of Chicago relative to its retirement funds were based on the terms of GASB Statements Nos. 25 and 27. Effective with fiscal year ending December 31, 2014, GASB Statement No. 67 replaced GASB Statement No. 25 for pension plan financial reporting. Effective with fiscal year ending December 31, 2015, GASB Statement No. 68 replaced GASB Statement No. 27 for employer financial reporting. A separate report containing the information required under GASB Statements Nos. 67 and 68 has been provided to the Fund. GASB has issued Statement No. 43 – Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans and Statement No. 45 – Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions. GASB Statements Nos. 43 and 45 pertain to postretirement benefits other than pensions

This report includes the following exhibits with information required to be reported under GASB Statements Nos. 43 and 45. **This information is subject to review by the Fund's auditor. Please let us know if the Fund's auditor recommends any changes.**

Exhibit A-2: Schedule of Funding Progress for GASB #43
This exhibit shows a six-year history of funding progress. The funding progress is a comparison of Actuarial Value of Assets with the Actuarial Accrued Liability (AAL), and a comparison of the unfunded AAL (UAAL) with compensation.

Exhibit A-3: Schedule of Employer Contributions for GASB #43
This exhibit shows the Annual Required Contribution (ARC) as computed under GASB #43 and the percent of this amount actually received. This exhibit includes a six-year history.

Exhibit A-4: Supplementary Information for GASB #43 and #45
This exhibit has certain information required in the notes to the Fund and City financial reports.

Exhibit A-5: History of Annual OPEB Cost and Contributions Made for GASB #45
This exhibit shows a summary of annual OPEB cost, percentage of annual OPEB cost contributed that year and NOO at the end of the year.

Exhibit A-6: OPEB Cost Summary for GASB #45
This exhibit shows the components of annual OPEB cost (ARC, interest on the Net OPEB Obligation (NOO), and the adjustment to the ARC), increase or decrease in the NOO, and the NOO at the end of 2015. The exhibit also includes the dollar amount of City contributions made to pay current year health insurance supplement benefits.

EXHIBIT A-2
SCHEDULE OF FUNDING PROGRESS
FOR GASB #43

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2015	$ 0	$ 2,398,609	$ 2,398,609	0.00 %	$ 465,231,594	0.52 %
12/31/2014	0	4,994,927	4,994,927	0.00 %	460,189,982	1.09
12/31/2013	0	7,691,833	7,691,833	0.00 %	416,491,784	1.85
12/31/2012	0	46,205,891	46,205,891	0.00 %	418,964,763	11.03
12/31/2011	0	46,980,335	46,980,335	0.00 %	425,385,354	11.04
12/31/2010	0	48,221,878	48,221,878	0.00 %	400,404,320	12.04

EXHIBIT A-3
SCHEDULE OF EMPLOYER CONTRIBUTIONS
FOR GASB #43

For Year Ending December 31	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2016	$ 2,454,036	TBD	TBD
2015	2,611,401	2,381,458	91.19%
2014	2,739,506	2,471,055	90.20%
2013	4,213,697	2,550,785	60.54%
2012	4,275,669	2,622,445	61.33%
2011	4,469,292	2,628,163	58.80%
2010	4,427,729	2,644,290	59.72%

EXHIBIT A-4
SUPPLEMENTARY INFORMATION FOR
GASB #43 AND GASB #45

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

Valuation date	December 31, 2015
Actuarial Cost Method	Entry Age Normal
Actuarial Value of Assets	No assets (Pay-as-you-go)
Amortization Method	Level dollar
Remaining Amortization Period	3 year closed period commencing December 31, 2013
Actuarial Assumptions:	
Healthcare Investment Rate of Return	4.5%
OPEB Investment Rate of Return	4.5%
Projected Salary Increases	3.75% per year, plus an additional percentage related to service and promotion
Healthcare Cost Trend Rate	0.0% [1]

Actuarial Accrued Liability (AAL)

	2014	2015
Payable to Retirees and Beneficiaries	$ 4,521,539	$ 2,233,001
Current Employees:		
Accumulated Employee Contributions Including Statutory Interest	-	-
Payable to Vested and Non-Vested Employees	473,388	165,608
Total Actuarial Accrued Liability	$ 4,994,927	$ 2,398,609
Net Plan Actuarial Assets	-	-
Unfunded AAL (assets in excess of AAL)	$ 4,994,927	$ 2,398,609
Percent Funded	0.00%	0.00%
Unfunded AAL as Percent of Payroll	1.09%	0.52%
Payroll	$ 460,189,982	$ 465,231,594

[1] *Trend not applicable - fixed dollar subsidy.*

EXHIBIT A-5
HISTORY OF ANNUAL OPEB COST AND CONTRIBUTIONS MADE FOR GASB #45

Year Ended December 31	Annual OPEB Cost	% of Annual OPEB Cost Contributed	Net OPEB Obligation
2015	$ (1,378,695)	-172.73%	$ 4,802,241
2014	(867,892)	-284.72%	8,562,394
2013	4,070,979	62.66%	11,901,341
2012	4,154,005	63.13%	10,381,147

EXHIBIT A-6
OPEB COST SUMMARY FOR GASB #45

Contribution Rates		
City		Pay-as-you-go
Plan Members		None
Annual OPEB Cost for 2015		
Annual Required Contribution (ARC)	$	2,611,401
Interest on Net OPEB Obligation		385,308
Adjustment to ARC		(4,375,404)
Total	$	(1,378,695)
Contributions Made in 2015	$	2,381,458
Net OPEB Obligation (NOO):		
NOO at 12/31/2014	$	8,562,394
Increase/(Decrease) in NOO		(3,760,153)
NOO at 12/31/2015	$	4,802,241