

Policemen's Annuity and Benefit Fund of Chicago

Actuarial Valuation Report for the Year Ending
December 31, 2017



May 29, 2018

Board of Trustees
Policemen's Annuity and Benefit Fund
City of Chicago
221 North LaSalle Street, Suite 1626
Chicago, Illinois 60601-1404

Subject: Actuarial Valuation Report for the Year Ending December 31, 2017

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Policemen's Annuity and Benefit Fund of Chicago ("the PABF" or "the Fund") as of December 31, 2017. This actuarial valuation has been performed to measure the funded status of the Fund as of December 31, 2017, based on the statutes in effect as of December 31, 2017. This report also provides the development of the plan year end 2018 Actuarially Determined Contribution ("ADC") as required by GASB Statement Nos. 67 and 68. Other information required under GASB Statement Nos. 67 and 68 is provided in a separate report. The actuarial assumptions and methods used were recommended by the actuary and approved by the Board.

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

- Summary of Actuarial Valuation Methods and Assumptions;
- Schedule of Active Member Data;
- Retirements and Beneficiaries Added to and Removed from Rolls;
- Prioritized Solvency (Termination) Test;
- Development of Actuarially Determined Contributions under GASB Statement Nos. 67 and 68;
- Development of Actuarial Gains and Losses; and
- Summary of Basic Actuarial Values.

We have also provided the following schedule for the financial section of the report:

- Development of the projected Statutory Contribution Requirements based on the statutes in effect as of December 31, 2017

This actuarial valuation is based upon:

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

Asset Values – The actuarial value of assets is used in the development of the statutory contribution requirements. In each future fiscal year, gains and losses will be phased in over a five-year period.

Actuarial Method – The actuarial method utilized by the Fund, as required by statute, is the Entry-Age Normal cost method. The objective of this method is to recognize the costs of Fund benefits over the entire career of each member as a level percentage of compensation. Any Unfunded Actuarial Accrued Liability (UAAL) under this method is separately financed. All actuarial gains and losses under this method are reflected in the UAAL.

Actuarial Assumptions – All actuarial assumptions remain unchanged from the prior actuarial valuation and reflect the results of the experience study performed for the period of January 1, 2009 through December 31, 2013, approved by the Board on March 16, 2015, and the investment return and inflation assumptions first effective with the December 31, 2016, actuarial valuation. The assumptions used are set forth in Appendix 4: Actuarial Methods and Assumptions of the Valuation Report.

Plan Provisions – The actuarial valuation is based on plan provisions and statutes in effect as of December 31, 2017.

The funding objective of the Fund is to provide employer and employee contributions sufficient to provide the benefits of the Fund when due. Pursuant to Public Act ("P.A.") 99-0506, effective May 30, 2016, the funding policy was amended and requires City contributions to be equal to \$420 million in payment year 2016, \$464 million in payment year 2017, \$500 million in payment year 2018, \$557 million in payment year 2019 and \$579 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. The projections are based on an open group, level percent of pay financing and the Entry-Age Normal cost method.

This is a severely underfunded plan. The funded ratio is only 23.7% (using actuarial value of assets) and the unfunded liability is approximately \$10 billion as of December 31, 2017. The funded ratio is not projected to even reach 50% funded for another 26 years until 2043.

The funding policy defined in P.A. 99-0506 significantly defers contributions when compared to the provisions of the prior funding policy defined in P.A. 96-1495. The amount of annual contributions defined under P.A. 99-0506 does not even cover normal cost plus interest on the unfunded liability for the next 14 years. This means the unfunded liability is actually projected to increase to a high of \$11.8 billion in 2031, when contributions are finally sufficient to start reducing the unfunded liability.

We understand that P.A. 99-0506 defines the amount of City Contributions to the PABF. Nevertheless, we continue to recommend that the plan sponsor seriously consider making additional contributions (in



excess of the statutory requirement) to ensure that there are sufficient assets available in the fund in all years to pay the promised benefits.

We also recommend that the Board perform projections which include pessimistic scenarios such as investment return lower than assumed, lower contributions received than expected, higher benefit payments than expected, etc. to more fully understand the impact of less than optimal future expectations.

This actuarial valuation assumes that the City will be able to make future contributions on a timely basis. We did not perform an analysis of the ability of the City to make future contributions. Such an analysis is not within the scope of our assignment or within our analytical skill set. Failure to receive City contributions on a timely basis could jeopardize the sustainability of the Fund.

The funding actuarial valuation results contained in this report were prepared based on the statutes in effect as of December 31, 2017. The projected contributions contained in this report will be used to develop the blended discount rate under GASB Statement Nos. 67 and 68.

The actuarial 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 actuarial 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, 2017, and fairly presents the actuarial position of the Fund as of December 31, 2017. 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.

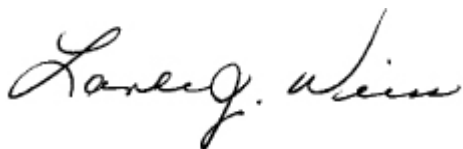
This report may be provided to parties other than the Fund only in its entirety and only with the permission of the Fund. GRS is not responsible for unauthorized use of this report.



Lance J. Weiss and Alex Rivera 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.

Respectfully yours,



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



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



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Summary of Valuation Results

This report sets forth the results of the actuarial valuation of the Policemen’s Annuity and Benefit Fund of the City of Chicago (“the PABF” or “the Fund”) as of December 31, 2017. This actuarial valuation is based on the funding provisions in effect as of December 31, 2017. The purposes of this actuarial valuation are:

1. To estimate the projected statutory contributions for plan years after 2020 based on the provisions of Public Act 99-0506.
2. To estimate the projected statutory contributions, after plan year 2020, based on the provisions of Public Act 99-0506, for purposes of developing the blended discount rate under GASB Statement Nos. 67 and 68.
3. To develop the actuarially determined contributions (ADC) under GASB Statement Nos. 67 and 68 for plan year 2018.
4. To review the funded status of the Fund, based on the statutes in effect as of December 31, 2017.

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

Funded status is measured differently for 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	Entry-Age Normal	Actuarial (Market-Related) Value of Assets
Fund reporting after 2014 (GASB Statement No. 67 for pension benefits)	Entry-Age Normal	Market Value of Assets
City reporting after 2015 (GASB Statement No. 68 for pension benefits)	Entry-Age Normal	Market Value of Assets

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 actuarial 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 all three measures, with the exception of the investment return assumption.

Summary of Valuation Results

Comments on Results

P.A. 99-0506, effective as of May 30, 2016, changed the City's contribution policy to a fixed dollar contribution of \$420 million in payment year 2016, \$464 million in payment year 2017, \$500 million in payment year 2018, \$557 million in payment year 2019, and \$579 million in payment year 2020. For payment years after 2020, the City is required to make level percent of pay contributions for plan years 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.

Under the current statutory funding policy the funded ratio is projected to increase slowly over the next 14 years from 23.7% in 2017 to 33.9% in 2030. The funded ratio is projected to increase to 46.4% in 2040, 70.4% in 2050, and 90.0% in 2055. The statutory funding policy generates "back-loaded" City contributions with slow growth in the funded ratio. Underfunding the Fund creates the risk that the long-term investment return cannot be supported, minimal investment income is available to pay benefits, or worse that benefit obligations cannot be met from the trust.

The calculations in this report were prepared based on the funding policy methods required by Public Act 99-0506. In light of the current funded status of this Retirement Fund, 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 future generations of taxpayers.

We recommend a funding policy that contributes the net normal cost plus amortization of the unfunded actuarial liability over a reasonable period. For example, contributing the net normal cost plus amortization of the unfunded actuarial liability on a level dollar basis over a 30-year period in our opinion would produce a reasonable growth pattern in the funded ratio. Using this basis, the City's Actuarially Determined Contribution ("ADC") for plan year end 2018, net of member contributions, is approximately \$924.7 million or 78.0% of payroll which compares to the current statutory contribution of \$557 million or 47.0% of payroll. The ADC is a required disclosure item under GASB Statement Nos. 67 and 68.

Effective with Fiscal Year Ending December 31, 2014, GASB Statement No. 67 replaced GASB Statement No. 25 for pension plan financial reporting requirements. GASB Statement No. 68 replaced GASB Statement No. 27 for employer financial reporting effective with fiscal year ending December 31, 2015. The discount rate used for GASB Statement Nos. 67 and 68 reporting purposes will be based on a single equivalent discount rate using a combination of 7.25% 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 Statement Nos. 67 and 68, the unfunded liabilities and pension expense will be much higher and more volatile than under the prior GASB standards. The measurements required under GASB Statement Nos. 67 and 68 are provided in a separate report.

Summary of Valuation Results

Total actuarial liabilities decreased by approximately \$159 million less than expected. The key factors affecting the decrease in actuarial liability include actual salary increases less than assumed and other favorable demographic experience.

The unfunded liability, under the methods used to develop the projected statutory contributions, decreased from an expected value of \$10.14 billion to \$9.99 billion. The key reasons for the decrease include favorable demographic experience and favorable investment performance.

Using the market value of assets produced an unfunded liability of \$9.97 billion and a funded ratio 23.8%. Using the book value of assets produced an unfunded liability of \$10.34 billion and a funded ratio of 21.0%. Using the actuarial value of assets produced an unfunded liability of \$9.99 billion and a funded ratio of 23.7%.

There was a gain on invested assets due to an approximate return of 14.77% on market value compared with the assumed return of 7.25%.

Please note the highlighted area on page 29 showing the age/service distribution for active members. A large portion of the population is at or nearing retirement. We should continue to monitor this as the ratio of actives to retirees has been steadily declining, which can ultimately have a large impact on contribution requirements. A more thorough examination of these and other factors can be found in the Analysis of Actuarial Assumptions explanation and the gain/loss information in Table 5.

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

Summary of Valuation Results

Valuation at:	12/31/2016		12/31/2017	
	\$ in Millions	% of Pay	\$ in Millions	% of Pay ¹
Contribution Levels				
Statutory Contribution ²	\$ 500.00	43.50%	\$ 557.00	47.00%
(Tax Levy Year)	(2017)		(2018)	
(Payment Year)	(2018)		(2019)	
Actuarially Determined Contribution ³	910.94	81.37	924.65	78.03
(Plan Year)	(2017)		(2018)	
Funded Status - Actuarial Value				
Actuarial Value of Assets	\$ 3,052.06	272.62%	\$ 3,103.99	269.82%
Actuarial Liability	12,856.55	1,148.39	13,093.88	1,138.20
Funded Ratio	23.74%	N/A	23.71%	N/A
Funded Status - Market Value				
Market Value of Assets	\$ 2,865.02	255.91%	\$ 3,122.07	271.39%
Actuarial Liability	12,856.55	1,148.39	13,093.88	1,138.20
Funded Ratios	22.28%	N/A	23.84%	N/A
Funded Status - ADC Value				
Actuarial Value of Assets	\$ 3,052.06	272.62%	\$ 3,103.99	269.82%
Actuarial Liability - Entry Age ⁴	12,856.55	1,148.39	13,093.88	1,138.20
Funded Ratios	23.74%	N/A	23.71%	N/A

¹ Payroll was \$1,120 million in 2016, \$1,150 million in 2017, and estimated to be \$1,185 in 2018.

² Pursuant to P.A. 99-0506, the fiscal year 2017 tax levy, payable in fiscal year 2018, is equal to \$500,000,000 and the fiscal year 2018 tax levy, payable in fiscal year 2019, is equal to \$557,000,000. The statutory contribution expressed as a percentage of pay is based on projected payroll for the respective tax levy year.

³ The ADC for fiscal year December 31, 2018, was based on a 30-year level dollar amortization policy.

⁴ Used to determine the Actuarially Determined Contribution under GASB Statement Nos. 67 and 68.

Summary of Valuation Results

Five-Year Projection of Statutory Contributions

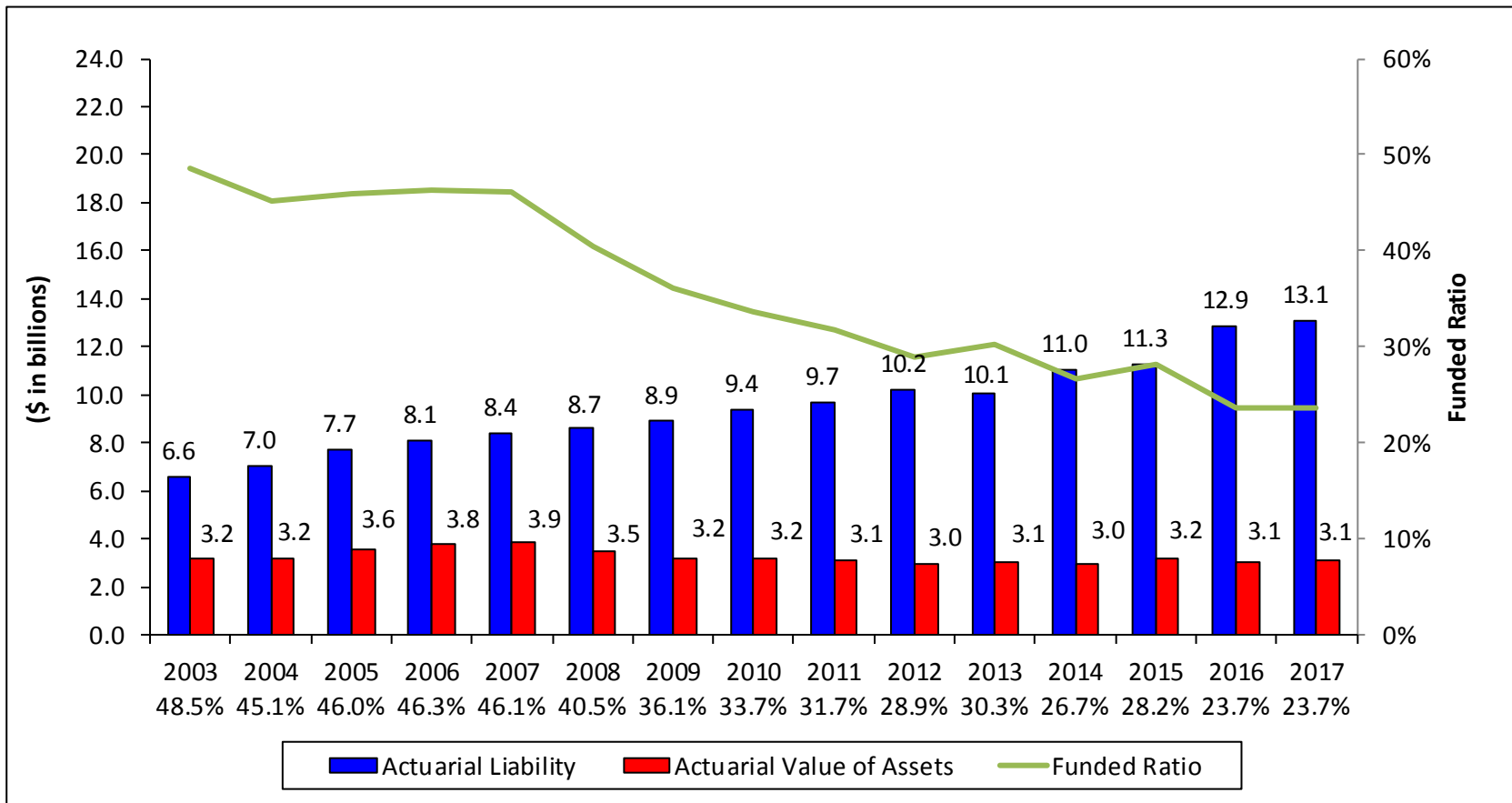
Following is a five-year projection of the statutory contributions based on fixed contributions for payment years 2018 through 2020 and statutory actuarial projections after 2020.

Projected City Contribution as of December 31, 2017 \$ in thousands	
Payment Year	Statutory Contribution
2018	\$ 500,000
2019	557,000
2020	579,000
2021	749,033
2022	769,013
2021 & Thereafter as % of Projected Pay	59.3%

The projected contribution for payment year 2021 is \$749.0 million, which is approximately 59.3% of projected payroll in 2021. After 2021, the projected city contribution is 59.3% of projected payroll but will increase as a dollar amount as payroll increases. Full projection results through 2055 are shown in Table 3a. The Statutory contributions set forth in this report represent the contribution amount determined consistent with the state Statute.

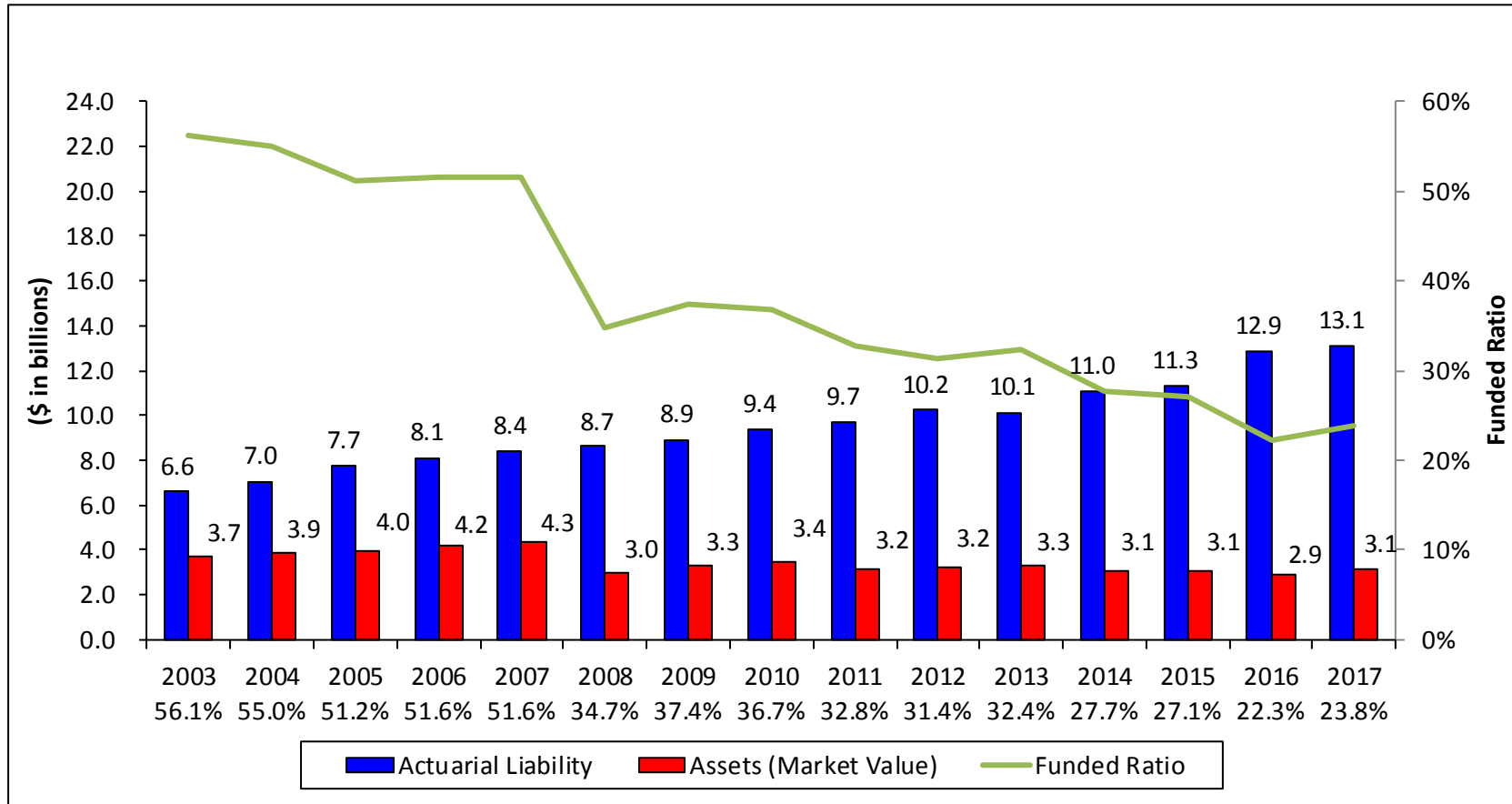
Summary of Valuation Results

SUMMARY OF VALUATION RESULTS (CONT'D) COMPONENTS OF FUNDED RATIO STATE REPORTING



State reporting for 2016 and 2017 uses the Entry-Age Normal cost method. Years 2013 through 2015 used Projected Unit Credit for Actuarial Liabilities. Actuarial Liabilities prior to 2013 also use the Entry-Age Normal cost method. State reporting of assets is based on Actuarial (Market-Related) Value for Assets beginning in 2013 and Book Value of assets prior to 2013.

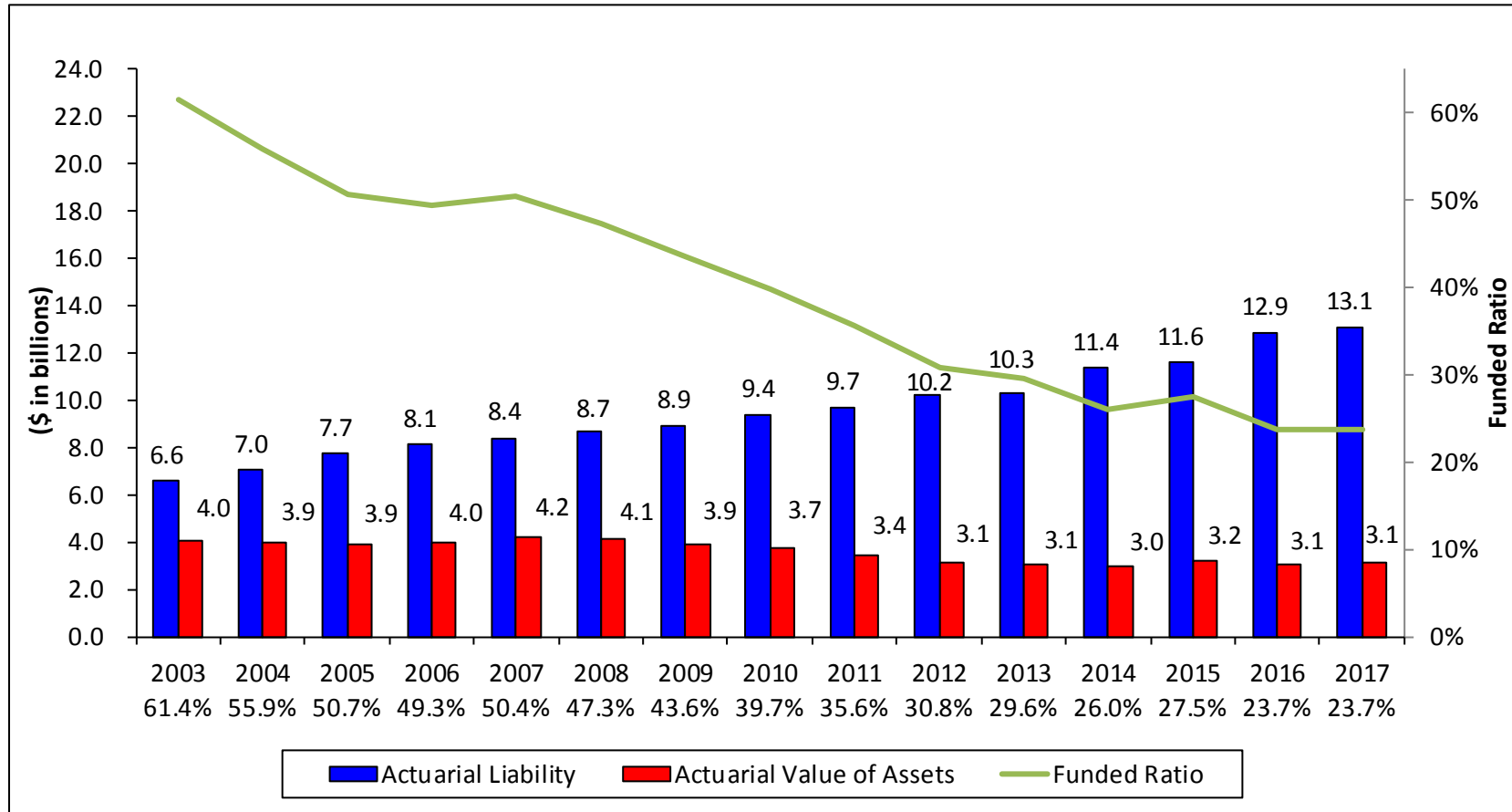
Summary of Valuation Results



Years 2013 through 2015 used Projected Unit Credit for Actuarial Liabilities and Actuarial Liabilities for 2016, 2017 and all years prior to 2013 used the Entry-Age Normal cost method. Market Value of Assets used for all years.

Summary of Valuation Results

Components of Funded Ratio Based on ADC under GASB Statement Nos. 67 and 68



ADC (under GASB) Actuarial Value of Assets based on five-year smoothing for all years. Actuarial Liabilities uses Entry-Age Normal cost method for all years.

Summary of Valuation Results

Participants

	<u>December 31, 2016</u>	<u>December 31, 2017</u>
Active Participants		
Number	12,177	12,633
Average Age	43.5	42.6
Average Service	15.2	14.4
Average Annual Salary	\$91,938 ¹	\$91,064 ²
Retirees		
Number	9,603	9,899
Average Age	69.4	69.4
Average Monthly Benefit	\$5,282	\$5,468
Survivors		
Number	3,166	3,122
Average Age	76.2	76.3
Average Monthly Benefit	\$1,786	\$1,913

¹ Average annual salary would have been \$88,670 without the addition of duty availability pay.

² Average annual salary would have been \$87,985 without the addition of duty availability pay.

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

A large portion of the active participant population is nearing or is eligible for retirement; 37.6% of the workforce is between the ages of 45 and 54, while 29.9% have 20 or more years of service. Total participants receiving benefits under the Fund, including retirees, disabilities, survivors and children increased 1.75% during 2017 from 13,394 to 13,628. The total retiree count increased by 3.1% during 2017. Total expenditures for benefits increased from \$716.4 million in 2016 to \$747.9 million during 2017, or 4.40%. There are now more participants receiving benefits under the Fund than active members accruing benefits.

Changes in Provisions of the Fund

The following Public Act, passed in 2017 by the 100th General Assembly, included changes to the Fund Provisions.

P.A. 100-0334, effective August 25, 2017

Provides for the forfeiture of benefits for any person who otherwise would receive a survivor benefit who is convicted of any felony relating to or arising out of or in connection with the service of the member from whom the benefit results.

Summary of Valuation Results

A detailed description of the provisions in the Public Acts passed in 2017 can be found in the Historical Information section of this report.

Analysis of Actuarial Assumptions

Actuarial assumptions are used to project future demographic and economic expectations for purposes of valuing the liabilities of the plan. The assumptions should reflect current patterns. However, their primary orientation is the long-term outlook for each factor affecting the valuation. Thus, while actual experience will fluctuate over the short run, actuarial assumptions are chosen in an attempt to model the future long run experience.

There are two general types of actuarial assumptions:

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

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

2017 Gain/Loss Analysis

We performed a gain/loss analysis of the major factors which contributed to the change in the unfunded actuarial liability between December 31, 2016 and December 31, 2017. A discussion by source follows.

Turnover

We reviewed withdraws in 2017 from the Fund for reasons other than retirement, death or disability for members with less than 20 years of service. The ratio of actual withdraws to expected withdraws was 117% (17% more than expected). The overall result is a small actuarial loss.

Retirement

The number of retirements during 2017 was greater than expected. The ratio of actual retirements to expected retirements was 146%, resulting in an actuarial loss to the Fund.

Disability

The number of new disabled participants during 2017 was less than expected. The ratio of actual to expected disability was 62%, resulting in an actuarial gain to the Fund.

Summary of Valuation Results

Mortality

There were more active member deaths and more annuitant deaths than expected during 2017, which resulted in a net actuarial gain to the Fund.

Pay Increase

Average salaries for continuing active members in the 2016 and 2017 actuarial valuations increased by 3.94%. This was less than the expected increase of 5.19% from the 2016 salary. The smaller than expected salary increases resulted in an actuarial gain to the Fund.

Investment Return

During 2017, assets earned 14.77% on a market basis, 7.54% on a book basis and 6.96% on an actuarial basis which compares to the 2017 assumed return of 7.25%. During the year, the fund experienced a market value asset gain due to investment performance, and an actuarial loss on an actuarial (smoothed) value basis.

Data and Other Sources

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

Plan Provision Changes

The legislative changes to the Fund during calendar year 2017 did not directly impact the actuarial accrued liability as of December 31, 2017.

Assumption Changes

There were no changes to the actuarial assumptions during the plan year ending December 31, 2017.

Conclusion

Overall, we believe that the actuarial assumptions are reasonable for the purpose of the measurement of the Fund's costs in effect as of December 31, 2017, under the provisions of P.A. 99-0506. Table 5 of Appendix 1 shows a more detailed development of the actuarial gains and losses for the plan year ending December 31, 2017.

APPENDIX 1

RESULTS OF ACTUARIAL VALUATION

Summary

Table 1A

	December 31,	
	2016	2017
Assets		
Book Value - Beginning of Year	\$ 2,935,266,948	\$ 2,706,810,585
Income		
Investment Income Net of Expenses	\$ 108,172,994	\$ 198,345,714
Employer Contributions	281,583,230	494,483,191
Employee Contributions	101,475,864	103,011,250
Miscellaneous	1,412,770	97,239
Subtotal	\$ 492,644,858	\$ 795,937,394
<u>Outgo (Refunds, Benefits, & Administration)</u>	<u>\$ 721,101,221</u>	<u>\$ 752,734,595</u>
Book Value - End of Year	\$ 2,706,810,585	\$ 2,750,013,384
Market Value - End of Year	2,865,018,804	3,122,066,293
Actuarial Value - End of Year	3,052,056,555	3,103,989,602
Member Counts		
Active	12,177	12,633
Retirees	9,603	9,899
Survivors	3,166	3,122
Disabilities	275	268
Inactives	606	640
Children	350	339
Payroll Data		
Valuation Payroll	\$ 1,119,526,987	\$ 1,150,406,094
Average Salary	91,938	91,064

Summary

Table 1B

ACTUARIAL VALUES	December 31,	
	2016	2017
<u>Statutory Funding</u>		
Actuarial Liability	\$ 12,856,550,399	\$ 13,093,882,568
Assets - Actuarial Value	3,052,056,555	3,103,989,602
Unfunded Liability	9,804,493,844	9,989,892,966
Funded Ratio	23.74%	23.71%
Statutory Employer Contribution ¹ (Tax Levy Year)	\$ 500,000,000 (2017)	\$ 557,000,000 (2018)
<u>Book Value Funding</u>		
Actuarial Liability	\$ 12,856,550,399	\$ 13,093,882,568
Assets - Book Value	2,706,810,585	2,750,013,384
Unfunded Liability	10,149,739,814	10,343,869,184
Funded Ratio	21.05%	21.00%
<u>Termination Values</u>		
Liability	\$ 9,588,445,338	\$ 9,908,323,446
Deficiency	6,881,634,753	7,158,310,062
Quick Ratio	28.23%	27.75%
<u>Market Value Funding</u>		
Actuarial Liability	\$ 12,856,550,399	\$ 13,093,882,568
Assets - Market Value	2,865,018,804	3,122,066,293
Unfunded Liability	9,991,531,595	9,971,816,275
Funded Ratio	22.28%	23.84%
<u>ADC Values</u>		
Actuarial Liability - Entry Age ²	\$ 12,856,550,399	\$ 13,093,882,568
Assets - Actuarial Value	3,052,056,555	3,103,989,602
Unfunded Liability ²	9,804,493,844	9,989,892,966
Funded Ratio	23.74%	23.71%
Actuarially Determined Contribution (ADC) (Plan Year End)	910,938,497 (2017)	924,653,899 (2018)

¹Pursuant to P.A. 99-0506, effective May 30, 2016, the fiscal year 2018 tax levy, payable in fiscal year 2019, is equal to \$557,000,000 and the fiscal year 2019, tax levy, payable in fiscal year 2020, is equal to \$579,000,000.

²Used to develop the Actuarially Determined Contribution under GASB Statement Nos. 67 and 68.

Summary

Table 1C

**Active Accrued Liability and Normal Cost by Tier
As of December 31, 2017**

	<u>Tier 1 Members</u>	<u>Tier 2 Members¹</u>	<u>Total</u>
(1) Count	9,240	3,393	12,633
(2) Payroll	\$ 914,008,739	\$ 236,397,354	\$ 1,150,406,093
(3) Average Payroll	\$ 98,919	\$ 69,672	\$ 91,064
(4) Actuarial Accrued Liability (AAL)	\$ 4,608,123,731	\$ 105,720,728	\$ 4,713,844,459
(5) Total Normal Cost	\$ 184,320,598	\$ 39,917,770	\$ 224,238,368
(6) Total Normal Cost as a Percent of Pay	20.2%	16.9%	19.5%
(7) Estimated Member Contributions	\$ 84,066,181	\$ 21,772,801	\$ 105,838,982
(8) Net Normal Cost	\$ 100,254,417	\$ 18,144,969	\$ 118,399,386
(9) Net Normal Cost as a Percent of Pay	11.0%	7.7%	10.3%

¹Members hired on or after January 1, 2011.

Summary of Basic Actuarial Values

Table 2

	APV of Projected Benefits <u>As of 12/31/2017</u>	Actuarial Accrued Liability (AAL) <u>As of 12/31/2017</u>
<u>(1) Values for Active Members</u>		
(a) Retirement	\$6,228,485,149	\$4,486,405,419
(b) Termination	95,437,499	13,992,469
(c) Disability	468,401,865	184,119,061
(d) Death	64,695,264	29,327,510
Total for Actives	\$6,857,019,777	\$4,713,844,459
<u>(2) Values for Inactive Members</u>		
(a) Retired	7,452,219,126	7,452,219,126
(b) Survivor	612,502,601	612,502,601
(c) Disability	271,205,470	271,205,470
(d) Inactive (Deferred Vested)	35,135,605	35,135,605
(e) Children	8,975,307	8,975,307
Total for Inactives	8,380,038,109	8,380,038,109
<u>(3) Grand Totals</u>	\$15,237,057,886	\$13,093,882,568
<u>(4) Normal Cost for Active Members</u>	\$ 224,238,368	
<u>(5) Actuarial Present Value of Future Compensation</u>	\$12,411,705,639	

Development of Statutory Contribution

Table 3a

Actuarial Valuation Projection Results as of December 31, 2017												
Discount Rate of 7.25%												
(\$ in Thousands)												
Year Ending	Actuarial Accrued Liability	Market Value of Assets	Actuarial Value of Assets	Unfunded Liability	Actuarial Value Funded Ratio	Capped Payroll	Employer Normal Cost	Statutory Contribution ¹	Contribution as % of Pay	Employee Contributions	Benefit Payments	Admin Expenses
2017	\$13,093,883	\$3,122,066	\$3,103,990	\$ 9,989,893	23.71%	\$1,150,406	\$119,539	\$ 494,580	43.0%	\$103,011	\$747,892	\$ 4,843
2018	13,488,350	3,205,491	3,156,234	10,332,116	23.40%	1,185,021	118,402	557,000	47.0%	105,839	767,984	4,976
2019	13,883,984	3,295,966	3,226,830	10,657,154	23.24%	1,224,329	110,637	579,000	47.3%	117,569	798,581	5,113
2020	14,279,415	3,533,433	3,491,433	10,787,982	24.45%	1,263,437	110,655	749,033	59.3%	121,345	830,403	5,254
2021	14,672,985	3,774,483	3,774,483	10,898,502	25.72%	1,297,139	110,329	769,013	59.3%	124,632	862,948	5,398
2022	15,063,060	4,021,074	4,021,074	11,041,985	26.69%	1,331,499	109,984	789,384	59.3%	127,932	896,936	5,547
2023	15,448,013	4,272,144	4,272,144	11,175,869	27.65%	1,365,822	109,690	809,733	59.3%	131,286	932,359	5,699
2024	15,825,741	4,525,555	4,525,555	11,300,186	28.60%	1,398,672	109,263	829,208	59.3%	134,536	969,207	5,856
2025	16,193,334	4,779,077	4,779,077	11,414,256	29.51%	1,431,397	108,786	848,609	59.3%	137,883	1,008,411	6,017
2026	16,548,233	5,031,665	5,031,665	11,516,568	30.41%	1,464,849	107,994	868,441	59.3%	141,149	1,048,964	6,182
2027	16,888,319	5,282,225	5,282,225	11,606,094	31.28%	1,498,036	106,885	888,116	59.3%	144,296	1,090,224	6,352
2028	17,212,662	5,531,835	5,531,835	11,680,827	32.14%	1,532,994	105,743	908,841	59.3%	147,527	1,131,397	6,527
2029	17,521,709	5,782,129	5,782,129	11,739,580	33.00%	1,568,187	104,603	929,706	59.3%	150,720	1,170,999	6,707
2030	17,816,323	6,036,069	6,036,069	11,780,254	33.88%	1,605,466	103,723	951,807	59.3%	154,169	1,209,232	6,891
2031	18,097,483	6,297,390	6,297,390	11,800,093	34.80%	1,645,300	102,875	975,422	59.3%	157,779	1,245,708	7,080
2032	18,366,284	6,569,674	6,569,674	11,796,610	35.77%	1,687,326	102,287	1,000,337	59.3%	161,691	1,280,767	7,275
2033	18,623,321	6,855,812	6,855,812	11,767,510	36.81%	1,730,318	101,642	1,025,825	59.3%	165,629	1,314,355	7,475
2034	18,869,949	7,159,371	7,159,371	11,710,578	37.94%	1,773,917	100,983	1,051,673	59.3%	169,566	1,345,796	7,681
2035	19,108,063	7,482,510	7,482,510	11,625,553	39.16%	1,814,333	100,201	1,075,634	59.3%	173,197	1,374,233	7,892
2036	19,338,239	7,822,066	7,822,066	11,516,173	40.45%	1,844,078	98,966	1,093,269	59.3%	175,859	1,400,045	8,109
2037	19,561,758	8,178,318	8,178,318	11,383,440	41.81%	1,868,549	97,519	1,107,776	59.3%	177,968	1,423,273	8,332
2038	19,780,073	8,553,319	8,553,319	11,226,754	43.24%	1,891,097	96,081	1,121,144	59.3%	179,951	1,444,509	8,561
2039	19,994,226	8,949,600	8,949,600	11,044,626	44.76%	1,913,108	94,595	1,134,193	59.3%	181,804	1,464,191	8,797
2040	20,205,313	9,370,329	9,370,329	10,834,985	46.38%	1,935,832	93,288	1,147,665	59.3%	183,740	1,482,796	9,039
2041	20,414,932	9,820,025	9,820,025	10,594,907	48.10%	1,960,340	92,085	1,162,195	59.3%	185,746	1,499,823	9,287
2042	20,624,438	10,301,689	10,301,689	10,322,749	49.95%	1,984,300	91,078	1,176,400	59.3%	187,789	1,515,679	9,542
2043	20,834,709	10,818,617	10,818,617	10,016,091	51.93%	2,008,736	90,245	1,190,886	59.3%	189,832	1,530,862	9,805
2044	21,046,474	11,374,289	11,374,289	9,672,185	54.04%	2,033,966	89,605	1,205,844	59.3%	192,003	1,545,723	10,075
2045	21,259,827	11,972,039	11,972,039	9,287,787	56.31%	2,060,540	89,182	1,221,599	59.3%	194,307	1,560,963	10,352
2046	21,475,278	12,615,994	12,615,994	8,859,284	58.75%	2,088,653	88,951	1,238,265	59.3%	196,727	1,576,141	10,636
2047	21,693,201	13,310,023	13,310,023	8,383,178	61.36%	2,117,770	88,969	1,255,528	59.3%	199,284	1,591,504	10,929
2048	21,913,553	14,058,012	14,058,012	7,855,541	64.15%	2,148,113	89,197	1,273,517	59.3%	201,938	1,607,399	11,229
2049	22,135,935	14,863,459	14,863,459	7,272,476	67.15%	2,179,199	89,663	1,291,946	59.3%	204,697	1,624,204	11,538
2050	22,359,870	15,730,072	15,730,072	6,629,797	70.35%	2,210,995	90,347	1,310,797	59.3%	207,514	1,641,899	11,855
2051	22,585,629	16,662,670	16,662,670	5,922,959	73.78%	2,243,498	91,196	1,330,066	59.3%	210,368	1,659,648	12,181
2052	22,813,750	17,666,592	17,666,592	5,147,158	77.44%	2,276,569	92,201	1,349,672	59.3%	213,261	1,677,209	12,516
2053	23,045,039	18,747,805	18,747,805	4,297,234	81.35%	2,310,231	93,366	1,369,629	59.3%	216,193	1,694,363	12,861
2054	23,280,279	19,912,560	19,912,560	3,367,719	85.53%	2,344,420	94,718	1,389,898	59.3%	219,164	1,711,217	13,214
2055	23,520,127	21,167,449	21,167,449	2,352,678	90.00%	2,379,156	96,204	1,410,492	59.3%	222,175	1,727,893	13,578

¹ Contribution receivable to be paid in the following fiscal year. The funded ratio includes receivable contributions.

Development of Statutory Contribution

Table 3b

	<u>Total</u>
<u>(1) Total Normal Cost for 2019</u>	\$ 228,206,817
<u>(2) Actuarial Accrued Liability (AAL) at 12/31/2018¹</u>	\$ 13,488,350,144
<u>(3) Unfunded AAL (UAAL)</u>	
(a) Actuarial Value of Assets at 12/31/2018	\$ 3,156,234,353
(b) UAAL (2-3(a))	10,332,115,791
<u>(4) Estimated Member Contributions during 2019</u>	\$ 117,569,000
<u>(5) Estimated City Contribution for Tax Levy Year 2019</u>	\$ 579,000,000

¹ Pension liabilities were discounted at 7.25% per year.

Development of Actuarially Determined Contribution under GASB Statement Nos. 67 and 68 for 2018

Table 4

	Total
<u>(1) Total Normal Cost for 2018</u>	\$ 224,238,368
<u>(2) Actuarial Accrued Liability (AAL) at 12/31/2017</u>	\$ 13,093,882,568
<u>(3) Unfunded AAL (UAAL)</u>	
(a) Actuarial Value of Assets at 12/31/2017	\$ 3,103,989,602
(b) UAAL (2-3(a))	9,989,892,966
<u>(4) Amortization Payable at Beginning of Year ¹</u>	\$ 769,567,507
<u>(5) Estimated Member Contributions in 2018</u>	\$ 105,838,982
<u>(6) Actuarially Determined Contribution (ADC) for 2018</u>	
(a) Interest Adjustment for Semimonthly Payment	36,687,006
(b) Annual Required Contribution (1 + 4 - 5 + 6(a))	\$ 924,653,899
(c) Annual Required Contribution (Percent of Pay)	78.03%
<u>(7) Estimated City Contribution for Tax Levy Year 2018</u>	
(a) in Dollars	\$ 557,000,000
(b) as a Percentage of Pay	47.00%
<u>(8) Estimated Deficiency/(Excess) for 2018</u>	
(a) in Dollars (6(b)-7(a))	\$ 367,653,899
(b) as a Percentage of Pay	31.03%

¹ Amortization is over a 30-year period as a level dollar amount.

Development of Actuarial Gains and Losses for 2017

Table 5

<u>UNFUNDED ACTUARIAL ACCRUED LIABILITY - BEGINNING OF 2017</u>	
(1) Actuarial Accrued Liability - 12/31/2016	\$12,856,550,399
(2) Actuarial Value of Assets - 12/31/2016	<u>3,052,056,555</u>
(3) Unfunded Accrued Actuarial Liability - 12/31/2016	\$9,804,493,844
 <u>EXPECTED UNFUNDED ACTUARIAL ACCRUED LIABILITY - END OF 2017</u>	
(4) Normal Cost for 2017	\$ 222,550,241
(5) Total Contributions for 2017	597,591,680
(6) Interest on (3), (4), & (5) at Valuation Rates	<u>705,677,015</u>
(7) Expected Unfunded Actuarial Accrued Liability - 12/31/2017	\$10,135,129,420
((3)+(4)-(5)+(6))	
 <u>DEVIATIONS FROM EXPECTED</u>	
(8) (Gain)/Loss on Investment Return (Smoothed (Actuarial) Value)	\$13,688,105
(9) (Gain)/Loss from Salary Changes	(91,757,062)
(10) (Gain)/Loss from Retirement	26,129,948
(11) (Gain)/Loss from Turnover	495,409
(12) (Gain)/Loss from Mortality	(29,431,371)
(13) (Gain)/Loss from Disability	(11,432,824)
(14) (Gain)/Loss from New Entrants and Rehired Members	2,809,568
(15) (Gain)/Loss from All Other Sources	<u>(55,738,227)</u>
(16) Composite Actuarial (Gain)/Loss	(\$145,236,454)
(17) (Gain)/Loss as a percentage of Expected UAAL (16)/(7)	(1.4)%
(18) (Gain)/Loss from Actuarial Cost Method Change	\$0
(19) (Gain)/Loss from Provision Changes	\$0
(20) (Gain)/Loss from Assumption Changes	\$0
 <u>UNFUNDED ACTUARIAL ACCRUED LIABILITY - END OF 2017</u>	
(21) Unfunded Accrued Actuarial Liability - 12/31/2017	\$9,989,892,966
((7)+(16)+(18)+(19)+(20))	

History of Recommended Employer Multiples*

Table 6

Year of Report	Statutory Multiple	P.A. 99-0506 Multiple	Normal Cost Plus Interest	Normal Cost Plus Amortization ⁴	
				Level \$	Level % of Salary
1988	2.00	N/A	4.16	4.32	3.18
1989 ^{1,2}	2.00	N/A	3.79	3.91	2.85
1990 ³	2.00	N/A	3.58	3.68	2.73
1991	2.00	N/A	3.80	3.91	2.98
1992 ¹	2.00	N/A	3.23	3.36	2.11
1993	2.00	N/A	3.23	3.37	2.10
1994	2.00	N/A	3.05	3.18	1.98
1995	2.00	N/A	3.34	3.49	2.17
1996	2.00	N/A	3.19	3.32	2.10
1997	2.00	N/A	3.10	3.23	2.04
1998 ^{1,2}	2.00	N/A	3.63	3.77	2.56
1999	2.00	N/A	3.15	3.27	2.24
2000 ¹	2.00	N/A	3.27	3.39	2.32
2001 ²	2.00	N/A	3.63	3.78	2.56
2002	2.00	N/A	4.62	4.79	3.33
2003 ^{1,2}	2.00	N/A	4.46	4.63	3.23
2004 ²	2.00	N/A	4.99	5.18	3.60
2005 ^{1,2}	2.00	N/A	5.33	5.56	3.85
2006	2.00	N/A	4.95	5.40	3.94
2007	2.00	N/A	4.98	5.43	3.97
2008	2.00	N/A	5.43	5.94	4.30
2009 ¹	2.00	N/A	5.87	6.42	4.61
2010	2.00	N/A	6.19	6.78	4.85
2011	2.00	N/A	5.71	6.26	4.45
2012 ¹	2.00	N/A	6.73	7.43	5.25
2013 ²	2.00	N/A	6.92	7.60	5.44
2014 ¹	2.00	N/A	7.94	8.88	6.49
2015 ⁵	N/A	4.57	7.76	8.68	6.35
2016 ^{1,2,6}	N/A	4.49	7.89	8.82	6.33
2017 ⁶	N/A	5.13	8.49	9.49	6.80

¹Change in actuarial assumptions.

²Change in benefits.

³Change in actuary.

⁴Prior to 2005, amortizations were over a 40-year period. In 2005, pension unfunded liability was amortized over a 40-year period and OPEB liability over a 30-year period. Starting in 2006, both pension and OPEB amortizations are over a 30-year period. Starting in 2013, OPEB amortizations are over a closed 3-year period as a level percent of pay.

⁵Funding based on P.A. 96-1495, plan provisions in effect as of December 31, 2015.

⁶Funding based on P.A. 99-0506.

*Based on book value of assets through 2013, then Actuarial Value of assets starting in 2014.

Ordinary Death Benefit Reserve

Table 7

Actuarial Balance Sheet – 6% Basis

December 31, 2017

ASSETS

Fund Balance	(36,229,226)
Present Values of Future Contributions:	
Contributions by Members at \$30.00 a Year	4,603,046
Annual City Contribution of \$224,000	2,720,605
Unfunded Liability	64,104,528
TOTAL ASSETS	\$ 35,198,953

LIABILITIES

Present Value of Future Death Benefits (6%, 83 GAM)	
Active & Disabled Members	6,511,226
Retired Members	28,687,727
TOTAL LIABILITIES	\$ 35,198,953

Actuarial Accrued Liability Prioritized Solvency Test

Table 8

Valuation Date 12/31	(1)	(2)	(3)	Actuarial Value of Assets	Portion (%) of Present Value Covered By Assets		
	Active and Inactive Member Contribution	Retirees and Beneficiaries	Active and Inactive Members (ER Financed Portion)		(1)	(2)	(3)
2003 ^{1,2}	\$ 893,425,839	\$ 3,856,262,804	\$ 1,831,744,607	\$ 4,039,695,590	100.00%	81.59%	0.00%
2004 ²	910,480,098	4,313,531,046	1,810,260,330	3,933,031,342	100.00%	70.07%	0.00%
2005 ^{1,2}	950,764,942	4,677,632,909	2,094,339,296	3,914,431,654	100.00%	63.36%	0.00%
2006	1,016,217,810	4,858,554,051	2,241,771,313	3,997,990,919	100.00%	61.37%	0.00%
2007	1,082,742,927	5,006,931,293	2,309,718,259	4,231,681,817	100.00%	62.89%	0.00%
2008	1,144,380,257	5,208,199,833	2,299,966,099	4,093,719,894	100.00%	56.63%	0.00%
2009 ¹	1,217,645,647	5,391,373,730	2,291,882,108	3,884,978,241	100.00%	49.47%	0.00%
2010	1,251,147,487	5,717,654,520	2,406,050,870	3,718,954,539	100.00%	43.16%	0.00%
2011	1,286,345,939	6,041,684,411	2,360,319,555	3,444,690,362	100.00%	35.72%	0.00%
2012 ¹	1,309,825,828	6,475,282,318	2,435,530,363	3,148,929,770	100.00%	28.40%	0.00%
2013 ²	1,358,193,244	6,594,792,197	2,127,620,103	3,053,881,777	100.00%	25.71%	0.00%
2014 ¹	1,410,544,951	7,159,705,456	2,477,941,780	2,954,318,954	100.00%	21.56%	0.00%
2015	1,484,316,625	7,279,289,531	2,524,630,892	3,186,423,762	100.00%	23.38%	0.00%
2016 ^{1,2}	1,518,846,208	8,018,211,337	3,319,492,854	3,052,056,555	100.00%	19.12%	0.00%
2017	1,532,514,218	8,344,902,504	3,216,465,846	3,103,989,602	100.00%	18.83%	0.00%

¹Change in actuarial assumptions.

²Change in benefits.

APPENDIX 2

ASSETS OF THE PLAN

Reconciliation of Assets as of December 31, 2017

The book value of the plan assets, net of accounts payable, increased from \$2.707 billion as of December 31, 2016, to \$2.750 billion as of December 31, 2017. The market value of the plan assets, net of accounts payable, increased from \$2.865 billion as of December 31, 2016, to \$3.122 billion as of December 31, 2017. Table 9 details the development of asset values during 2017 and Table 10 shows the development of the actuarial value of assets as of December 31, 2017. In each future fiscal year, investment gains and losses will be phased in over a five-year period to determine the actuarial value of assets.

Table 9

	2016	2017
1. Market Value of assets beginning of year ¹	\$3,058,949,037	\$2,865,018,804
2. Income for plan year:		
a) Member contributions	\$ 101,475,864	\$ 103,011,250
b) City contributions	281,583,230	494,483,191
c) Investment income net of expenses ¹	142,699,124	412,190,404
d) Miscellaneous revenue	1,412,770	97,239
e) Total income	\$ 527,170,988	\$ 1,009,782,084
3. Disbursements for plan year:		
a) Benefit payments		
i) Pension, disability and death benefit payments	\$ 696,491,103	\$ 737,873,928
ii) Healthcare premiums	9,155,514	-
b) Refunds	10,704,842	10,017,655
c) Administration	4,749,762	4,843,012
d) Total disbursements	\$ 721,101,221	\$ 752,734,595
4. Market Value of assets end of year ¹	\$2,865,018,804	\$3,122,066,293
5. Estimated rate of return in 2017: ²		
a) Gross	5.26%	15.16%
b) Net of investment expense (Investment expense of \$9,348,521 in 2016 and \$10,129,378 in 2017)	4.93%	14.77%

¹Book value of assets as of December 31, 2016, is \$2,706,810,585, Investment income net of expenses used for Book value for plan year 2017 is \$198,345,714 and book value as of December 31, 2017, is \$2,750,013,384.

²Method used for calculating rate of return does not reflect specific timing of income and outflows. It is also based on total assets, not invested assets.

Development of Actuarial (Market-Related) Value of Assets as of December 31, 2017

Table 10

Year Ending December 31	2016	2017	2018	2019	2020	2021
Beginning of Year:						
(1) Market Value of Assets	\$3,058,949,037	\$2,865,018,804				
(2) Actuarial Value of Assets	3,186,423,762	3,052,056,555				
End of Year:						
(3) Market Value of Assets	2,865,018,804	3,122,066,293				
(4) Contributions and Disbursements						
(4a) City Contributions & Misc.	282,996,000	494,580,430				
(4b) Member Contributions	101,475,864	103,011,250				
(4c) Benefit Payouts & Refunds	(716,351,459)	(747,891,583)				
(4d) Administrative Expenses	(4,749,762)	(4,843,012)				
(4e) Net of Contributions and Disbursements	(336,629,357)	(155,142,915)				
(5) Total Investment Income						
=(3)-(1)-(4e)	142,699,124	412,190,404				
(6) Projected Rate of Return	7.50%	7.25%				
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] ⁵ -1)x(4e)	217,025,789	202,188,331				
(8) Investment Income in Excess of Projected Income	(74,326,665)	210,002,073				
(9) Excess Investment Income Recognized						
This Year (5-year recognition)						
(9a) From This Year	(\$14,865,333)	\$42,000,415				
(9b) From One Year Ago	(47,013,680)	(14,865,333)	\$42,000,415			
(9c) From Two Years Ago	(11,301,607)	(47,013,680)	(14,865,333)	\$42,000,415		
(9d) From Three Years Ago	36,067,836	(11,301,607)	(47,013,680)	(14,865,333)	\$42,000,415	
(9e) From Four Years Ago	22,349,145	36,067,836	(11,301,608)	(47,013,680)	(14,865,333)	\$42,000,413
(9f) Total Recognized Investment Gain	(14,763,639)	4,887,631	(31,180,206)	(19,878,598)	27,135,082	42,000,413
(10) Change in Actuarial Value of Assets						
=(4e)+(7)+(9f)	(134,367,207)	51,933,047				
End of Year:						
(3) Market Value of Assets	\$2,865,018,804	\$3,122,066,293				
(11) Actuarial Value of Assets = (2)+(10)	\$3,052,056,555	\$3,103,989,602				

APPENDIX 3

DATA REFLECTING PLAN MEMBERS

Exhibit A

Summary of Changes in Active Participants For Fiscal Year Ending December 31, 2017

	Male	Female	Total
Number of Active Participants at Beginning of Fiscal Year ²	9,432	2,745	12,177
Increases:			
Participants Added During Year	826	286	1,112
Participants Returning From Inactive or Disability Status	17	5	22
Totals	10,275	3,036	13,311
Decreases:			
Terminations During Year	503	175	678
Number of Active Participants at End of Fiscal Year	9,772	2,861	12,633
Total Inactive Participants			640
<u>Terminations:</u>			
Withdrawal (With Refunds) ¹	17	3	20
Withdrawal (Without Refunds)	75	16	91
Ordinary Disability Benefit	10	6	16
Occupational Disease Disability Benefit	3	0	3
Duty Disability Benefit	1	4	5
Retirements	384	140	524
Deaths (Occupational)	0	0	0
Deaths (Non-occupational)	13	6	19
Totals	503	175	678

¹ This total differs from the total of 37 shown in Exhibit D due to the fact that only 20 of the refunds were paid to participants who were considered to be active as of December 31, 2016.

² Includes three active members reclassified from male to female and seven active members reclassified from female to male.

Exhibit B

Summary of Changes in Annuitants and Beneficiaries For Fiscal Year Ending December 31, 2017

	Number at Beginning of Year	Additions During Year	Terminations During Year	Number at End of Year
Service Retirement Annuities	9,603	581	285	9,899
Widow Annuities	3,102	158 ¹	201	3,059
Children's Annuities	186	12	13	185
Ordinary Disability Benefit (Non-Occupational)	40	19	19	40
Occupational Disease Disability Benefit	33	3	5	31
Duty Disability Benefit (Occupational)	202	17	22	197
Children's Disability Benefit	164	16	26	154
Widows' Compensation Annuities (Service Connected Death)	64	0	1	63
Totals	13,394	806	572	13,628
Annual Benefits	\$693,853,997	\$ 66,203,945	\$ 21,597,267	\$738,460,675

¹ Includes two widows whose benefit was previously classified as suspended annuities.

Exhibit C – Part I
Total Lives and Annual Salaries of Active Male Participants
Classified by Age and Years of Service as of December 31, 2017

AGE	Years of Service									Total	Annual Salary
	Under 1 year	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 and over		
Under 20										0	\$ 0
20 to 24	227 10,913,706	91 6,465,132								318	17,378,838
25 to 29	361 17,355,684	502 38,009,238	10 880,782							873	56,245,704
30 to 34	153 7,380,366	495 39,674,496	311 27,578,310	119 11,029,134						1,078	85,662,306
35 to 39	69 3,307,680	259 20,931,708	227 20,128,422	763 70,973,274	211 20,947,278					1,529	136,288,362
40 to 44	11 564,834	79 6,549,348	85 7,497,558	434 39,933,318	824 80,962,296	102 10,691,292				1,535	146,198,646
45 to 49	1 84,054		28 2,487,612	251 22,975,914	743 72,059,958	896 92,696,796	185 20,242,716			2,104	210,547,050
50 to 54			4 341,554	80 7,316,262	290 27,749,598	584 58,983,678	521 56,577,336	136 15,725,860		1,615	166,694,288
55 to 59				2 181,212	104 9,918,192	186 18,627,978	164 17,849,040	78 9,385,846	3 405,334	537	56,367,602
60 to 63				2 181,212	31 2,917,176	55 5,480,598	50 5,197,644	36 4,223,944	9 1,203,732	183	19,204,306
Total Active	822	1,426	665	1,651	2,203	1,823	920	250	12	9,772	
Annual Salary	\$39,606,324	\$111,629,922	\$58,914,238	\$152,590,326	\$214,554,498	\$186,480,342	\$99,866,736	\$29,335,650	\$ 1,609,066		\$ 894,587,102

Exhibit C – Part II
Total Lives and Annual Salaries of Active Female Participants
Classified by Age and Years of Service as of December 31, 2017

AGE	Years of Service									Total	Annual Salary
	Under 1 year	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 and over		
Under 20										0	\$ 0
20 to 24	58 2,788,524	18 1,277,058								76	4,065,582
25 to 29	86 4,179,678	127 9,530,556								213	13,710,234
30 to 34	99 4,759,722	142 11,100,576	60 5,308,668	27 2,501,118						328	23,670,084
35 to 39	42 2,045,550	99 7,788,792	80 7,064,496	230 21,131,820	43 4,246,284					494	42,276,942
40 to 44	2 96,156	26 2,136,792	33 2,913,792	152 13,944,132	231 22,548,762	18 1,887,180				462	43,526,814
45 to 49			10 876,540	101 9,260,688	209 20,168,616	218 22,011,180	50 5,208,060			588	57,525,084
50 to 54				36 3,261,816	111 10,564,632	150 15,175,456	121 13,070,554	26 2,911,300		444	44,983,758
55 to 59				1 90,606	47 4,457,640	67 6,653,898	45 4,829,166	21 2,426,112	1 99,660	182	18,557,082
60 to 63				1 90,606	22 2,081,748	30 2,953,890	15 1,616,874	4 469,908	2 290,386	74	7,503,412
Total Active	287	412	183	548	663	483	231	51	3	2,861	
Annual Salary	\$13,869,630	\$31,833,774	\$16,163,496	\$50,280,786	\$64,067,682	\$48,681,604	\$24,724,654	\$5,807,320	\$ 390,046		\$ 255,818,992

Exhibit C – Part III
Total Lives and Annual Salaries of All Active Participants
Classified by Age and Years of Service as of December 31, 2017

AGE	Years of Service									Total	Annual Salary
	Under 1 year	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 and over		
Under 20										0	\$ 0
20 to 24	285 13,702,230	109 7,742,190								394	21,444,420
25 to 29	447 21,535,362	629 47,539,794	10 880,782							1,086	69,955,938
30 to 34	252 12,140,088	637 50,775,072	371 32,886,978	146 13,530,252						1,406	109,332,390
35 to 39	111 5,353,230	358 28,720,500	307 27,192,918	993 92,105,094	254 25,193,562					2,023	178,565,304
40 to 44	13 660,990	105 8,686,140	118 10,411,350	586 53,877,450	1,055 103,511,058	120 12,578,472				1,997	189,725,460
45 to 49	1 84,054		38 3,364,152	352 32,236,602	952 92,228,574	1,114 114,707,976	235 25,450,776			2,692	268,072,134
50 to 54			4 341,554	116 10,578,078	401 38,314,230	734 74,159,134	642 69,647,890	162 18,637,160		2,059	211,678,046
55 to 59				3 271,818	151 14,375,832	253 25,281,876	209 22,678,206	99 11,811,958	4 504,994	719	74,924,684
60 to 63				3 271,818	53 4,998,924	85 8,434,488	65 6,814,518	40 4,693,852	11 1,494,118	257	26,707,718
Total Active	1,109	1,838	848	2,199	2,866	2,306	1,151	301	15	12,633	
Annual Salary	\$53,475,954	\$143,463,696	\$75,077,734	\$202,871,112	\$278,622,180	\$235,161,946	\$124,591,390	\$35,142,970	\$ 1,999,112		\$ 1,150,406,094

Exhibit D – Part I
Showing Number of Refund Payments Made during Year
To Male Employees for Fiscal Year Ending December 31, 2017

Age at Date of Refund	Length of Service at Date of Refund						Total
	Under 1 Year	Between 1 and 2	Between 2 and 3	Between 3 and 4	Between 4 and 5	5 and over	
Under 20							0
20 to 24							0
25 to 29	1		2				3
30 to 34	1			1	2	1	5
35 to 39	1		1		2	7	11
40 to 44					1	3	4
45 to 49						6	6
50 to 54							0
55 to 59						1	1
60 to 63						1	1
Totals	3	0	3	1	5	19	31

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

Exhibit D – PART II
Showing Number of Refund Payments Made during Year
To Female Employees for Fiscal Year Ending December 31, 2017

Age at Date of Refund	Length of Service at Date of Refund						Total
	Under 1 Year	Between 1 and 2	Between 2 and 3	Between 3 and 4	Between 4 and 5	5 and over	
Under 20							0
20 to 24							0
25 to 29							0
30 to 34						1	1
35 to 39				1			1
40 to 44	1					1	2
45 to 49						1	1
50 to 54							0
55 to 59							0
60 to 63	1						1
Totals	2	0	0	1	0	3	6

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

Exhibit E

Showing Statistics on Service Retirement Annuities Classified by Age as of December 31, 2017

AGE	MALE		FEMALE		TOTAL	
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments
UNDER 50	3	\$ 42,300	3	\$ 42,300	6	\$ 84,600
50	25	1,428,022	7	348,965	32	1,776,987
51	27	1,349,860	11	643,235	38	1,993,095
52	42	2,596,889	29	1,676,599	71	4,273,488
53	69	4,266,780	31	1,808,388	100	6,075,168
54	69	4,459,649	28	1,567,559	97	6,027,208
55	114	7,577,833	54	3,405,381	168	10,983,214
56	154	10,313,646	80	5,279,261	234	15,592,907
57	188	13,187,198	81	5,479,816	269	18,667,014
58	169	12,003,787	77	4,954,023	246	16,957,810
59	138	9,760,651	84	5,561,241	222	15,321,892
60	171	12,009,170	93	6,156,530	264	18,165,700
61	138	9,601,033	83	5,098,263	221	14,699,296
62	164	11,909,640	69	4,189,231	233	16,098,871
63	242	17,694,686	90	5,542,759	332	23,237,445
64	255	17,967,526	90	5,758,713	345	23,726,239
65	276	19,525,295	99	6,294,570	375	25,819,865
66	387	28,458,465	97	6,159,964	484	34,618,429
67	420	31,208,721	107	6,520,961	527	37,729,682
68	443	31,638,282	76	4,648,174	519	36,286,456
69	481	34,501,861	102	5,885,786	583	40,387,647
70	540	38,290,158	70	4,152,594	610	42,442,752
71	498	34,317,741	45	2,172,073	543	36,489,814
72	316	21,390,022	34	1,806,876	350	23,196,898
73	327	21,956,335	36	2,000,155	363	23,956,490
74	350	22,907,896	35	1,635,488	385	24,543,384
75	296	18,875,349	22	1,089,753	318	19,965,102
76	265	16,212,375	16	909,415	281	17,121,790
77	212	13,039,638	14	731,359	226	13,770,997
78	191	11,448,089	2	46,789	193	11,494,878
79	190	11,221,953	3	186,869	193	11,408,822
80	138	7,720,205	4	221,967	142	7,942,172
81	114	6,360,253	5	302,662	119	6,662,915
82	105	6,020,739	1	44,468	106	6,065,207
83	85	4,865,930	0	0	85	4,865,930
84	91	4,937,948	0	0	91	4,937,948
85 to 89	387	20,005,311	0	0	387	20,005,311
90 to 94	120	5,426,489	0	0	120	5,426,489
95 to 99	21	707,143	0	0	21	707,143
100+	0	0	0	0	0	0
Totals	8,221	\$547,204,868	1,678	\$102,322,187	9,899	\$649,527,055

Exhibit F
Showing Statistics on Widow's Annuities
Classified by Age as of December 31, 2017

<u>Age</u>	<u>No.</u>	<u>Annual Payments</u>	<u>Age</u>	<u>No.</u>	<u>Annual Payments</u>
Under 30	0	\$ 0	65	48	\$ 1,247,523
30	0	0	66	63	1,482,670
31	1	24,490	67	72	1,812,890
32	0	0	68	96	2,322,323
33	1	29,239	69	97	2,518,824
34	3	71,215	70	107	2,624,137
35	1	20,953	71	118	2,827,298
36	0	0	72	97	2,234,281
37	1	20,905	73	83	1,955,033
38	1	19,399	74	114	2,676,711
39	0	0	75	119	2,692,412
40	2	50,519	76	96	2,296,113
41	1	55,111	77	94	2,161,605
42	3	62,088	78	95	2,101,178
43	3	98,422	79	124	2,456,493
44	2	40,828	80	119	2,464,001
45	5	107,532	81	112	2,409,180
46	7	178,950	82	86	1,766,225
47	8	192,537	83	91	1,977,064
48	9	174,990	84	86	1,788,254
49	7	184,781	85	90	1,816,493
50	10	215,756	86	95	1,834,221
51	7	198,320	87	91	1,717,533
52	14	379,689	88	68	1,297,460
53	13	310,467	89	65	1,184,479
54	15	402,927	90	70	1,288,414
55	8	202,755	91	67	1,228,386
56	15	322,559	92	39	656,984
57	22	533,488	93	38	673,399
58	21	497,017	94	35	601,836
59	27	657,945	95	19	324,794
60	32	790,581	96	15	240,121
61	31	721,878	97	22	339,937
62	33	810,753	98	7	119,219
63	55	1,354,920	99	3	45,955
64	52	1,434,396	100+	8	120,600
			Total	3,059	\$67,469,456

Exhibit G
Showing Statistics on Miscellaneous Annuities
For Fiscal Year Ending December 31, 2017

	<u>No.</u>	<u>Annual Payments</u>
Children's Annuities	185	\$1,285,263
Widows' Compensation Annuities	63	4,199,193
Ordinary Disability Benefits	40	1,890,181
Occupational Disease Disability Benefits	31	1,802,351
Duty Disability Benefits	197	12,097,963
Children's Disability Benefits	154	189,213
Totals	670	\$21,464,164

Exhibit H – Part I
Showing Male Participants Receiving Duty Disability
Classified by Age and Length of Service as of December 31, 2017

ATTAINED AGE	Length of Service as of December 31, 2017												Total Annual Payments	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39					4	236,944	3	158,822					7	395,766
40 to 44			1	56,012	3	178,625	5	324,649	2	112,280	1	46,569	12	718,135
45 to 49			3	168,037	6	336,852	10	602,034	13	839,371	2	132,633	34	2,078,927
50 to 54			4	240,082	2	112,187	6	353,921	12	783,500	9	654,061	33	2,143,751
55 to 59			3	169,661			7	427,505	5	327,732	4	265,594	19	1,190,492
60 to 63			2	95,572	1	58,172	5	289,001	5	328,730	4	214,492	17	985,967
Totals	0	\$0	13	\$ 729,364	16	\$ 922,780	36	\$ 2,155,932	37	\$ 2,391,613	20	\$ 1,313,349	122	\$ 7,513,038

Exhibit H – Part II
Showing Female Participants Receiving Duty Disability
Classified by Age and Length of Service as of December 31, 2017

ATTAINED AGE	Length of Service as of December 31, 2017												Total Annual Payments	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39			1	52,204			1	63,338					2	115,542
40 to 44			2	108,801			4	240,867	1	67,518			7	417,186
45 to 49			3	164,203	4	210,044	5	297,642	6	389,553	3	210,423	21	1,271,865
50 to 54			2	111,650	1	72,716	4	240,074	6	369,822	4	284,507	17	1,078,769
55 to 59					5	283,309	6	357,162	4	252,191	4	274,654	19	1,167,316
60 to 63					1	72,045	6	332,521	2	129,681			9	534,247
Totals	0	\$0	8	\$436,858	11	\$638,114	26	\$1,531,604	19	\$1,208,765	11	\$769,584	75	\$ 4,584,925

Exhibit I – Part I
Showing Male Participants Receiving Ordinary Disability
Classified by Age and Length of Service as of December 31, 2017

ATTAINED AGE	Length of Service as of December 31, 2017												Total Annual Payments	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39					2	84,198	1	43,350					3	127,548
40 to 44							1	43,104	1	51,432			2	94,536
45 to 49									1	43,104	4	219,023	5	262,127
50 to 54									2	91,737	3	159,036	5	250,773
55 to 59											2	93,632	2	93,632
60 to 63									1	46,812			1	46,812
Totals	0	\$0	0	\$0	2	\$84,198	2	\$86,454	5	\$233,085	9	\$471,691	18	\$ 875,428

Exhibit I– Part II
Showing Female Participants Receiving Ordinary Disability
Classified by Age and Length of Service as of December 31, 2017

ATTAINED AGE	Length of Service as of December 31, 2017												Total Annual Payments	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39					1	43,827	1	43,104	2	93,624			4	180,555
40 to 44							1	43,518	2	91,782	8	379,472	11	514,772
45 to 49									3	134,447	2	96,837	5	231,284
50 to 54											1	43,601	1	43,601
55 to 59											1	44,541	1	44,541
60 to 63													0	0
Totals	0	\$0	0	\$0	1	\$43,827	2	\$86,622	7	\$319,853	12	\$564,451	22	\$ 1,014,753

Exhibit J – Part I
Showing Male Participants Receiving Occupational Disease Disability
Classified by Age and Length of Service as of December 31, 2017

ATTAINED AGE	Length of Service as of December 31, 2017												Total Annual Payments	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44							1	61,019					1	61,019
45 to 49											1	58,516	1	58,516
50 to 54											4	255,926	4	255,926
55 to 59									6	311,281	7	426,512	13	737,793
60 to 63							1	49,830			6	377,854	7	427,684
Totals	0	\$0	0	\$0	0	\$0	2	\$110,849	6	\$311,281	18	\$1,118,808	26	\$ 1,540,938

Exhibit J– Part II
Showing Female Participants Receiving Occupational Disease Disability
Classified by Age and Length of Service as of December 31, 2017

ATTAINED AGE	Length of Service as of December 31, 2017												Total Annual Payments	
	Under 1 Year		1 to 4		5 to 9		10 to 14		15 to 19		20 & Over			
	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments	No.	Annual Payments		
UNDER 30													0	\$ 0
30 to 34													0	0
35 to 39													0	0
40 to 44									1	60,267			1	60,267
45 to 49											1	56,609	1	56,609
50 to 54							1	46,677					1	46,677
55 to 59							1	48,030	1	49,830			2	97,860
60 to 63													0	0
Totals	0	\$0	0	\$0	0	\$0	2	\$94,707	2	\$110,097	1	\$56,609	5	\$ 261,413

Exhibit K

History of Average Annual Salaries

Year End	Members in Service	Increase	Current Year		Average		Actuarial Assumptions	CPI Chicago
			Salary	Increase	Salary	Increase		
1988 ¹	12,495	(0.8)%	\$ 443,669,520	0.1 %	\$ 35,508	1.0 %	6.00	3.9 %
1989	12,060	(3.5)	437,121,504	(1.5)	36,246	2.1	6.00	5.1
1990	12,039	(0.2)	471,544,173	7.9	39,168	8.1	6.00	5.5
1991	12,513	3.9	520,015,930	10.3	41,558	6.1	6.00	3.0
1992	12,570	0.5	538,404,098	3.5	42,832	3.1	5.80	3.3
1993	12,591	0.2	561,156,282	4.2	44,568	4.1	5.80	2.3
1994	13,095	4.0	599,073,276	6.8	45,748	2.6	5.80	2.9
1995	13,437	2.6	622,413,737	3.9	46,321	1.3	5.80	2.2
1996	13,475	0.3	654,149,310	5.1	48,545	4.8	5.80	3.8
1997	13,435	(0.3)	675,515,532	3.7	50,280	3.6	5.80	1.7
1998 ²	13,586	1.1	736,401,756	9.0	54,203	7.8	5.50	1.5
1999	13,829	1.8	755,303,667	2.6	54,617	0.8	5.50	2.6
2000	13,858	0.2	759,343,026	0.5	54,795	0.3	5.50	4.0
2001	13,889	0.2	763,352,475	0.5	54,961	0.3	5.50	0.8
2002	13,720	(1.2)	866,531,789	13.5	63,158	14.9	5.50	2.5
2003	13,746	0.2	887,555,791	2.4	64,568	2.2	5.50	1.7
2004	13,569	(1.3)	874,301,958	(1.5)	64,434	(0.2)	5.50	2.2
2005	13,462	(0.8)	948,973,732	8.5	70,493	9.4	5.50	3.6
2006	13,749	2.1	1,012,983,635	6.7	73,677	4.5	5.50	0.7
2007	13,748	0.0	1,038,957,026	2.6	75,572	2.6	5.50	4.7
2008	13,373	(2.7)	1,023,580,667	(1.5)	76,541	1.3	5.50	(0.6)
2009	13,154	(1.6)	1,011,205,359	(1.2)	76,874	0.4	5.50	2.5
2010	12,737	(3.2)	1,048,084,301	3.6	82,287	7.0	5.50	1.2
2011	12,236	(3.9)	1,034,403,526	(1.3)	84,538	2.7	5.50	2.1
2012	12,026	(1.7)	1,015,170,686	(1.9)	84,415	(0.1)	5.50	1.7
2013	12,161	1.1	1,015,426,126	0.0	83,499	(1.1)	5.50	0.5
2014	12,020	(1.2)	1,074,333,318	5.8	89,379	7.0	4.80	1.5
2015	12,061	0.3	1,086,607,979	1.1	90,093	0.8	4.80	0.0
2016	12,177	1.0	1,119,526,987	3.0	91,938	2.0	4.80	1.9
2017	12,633	3.7	1,150,406,094 ⁴	2.8	91,064	(1.0)	4.80 ³	1.7
Average Increase (Decrease) for the last 5 years:		1.0 %		2.5 %		1.5 %		1.1 %

¹ Members in service does not include those age 63 and over who are still working.

² Figures do not include retroactive raise.

³ See Appendix 4 for a complete description of the current assumptions.

⁴ Pay definition changed to include duty availability pay. Of the \$1,150,406,094 current year salary, \$38,893,500 is duty availability pay.

Exhibit L

New Annuities Granted during 2017

	Annuitants	Widows/ Widowers of Deceased Employees ¹	Widows/ Widowers of Deceased Annuitants ⁴	Compensation Widows/ Widowers
Number retired/deceased	581	10	148	0
Average age attained	57.5	50.9	73.8	N/A
Average length of service	26.6	N/A	N/A	N/A
Average annual salary ²	\$ 97,099	N/A	N/A	N/A
Average annual final salary	\$ 101,487	N/A	N/A	N/A
Total annual annuity	37,792,420	286,823	4,495,317	0
Average annual annuity	65,047	28,682	30,373	0
Total liability	\$ 556,402,976	5,082,288	39,660,087	0
[(Based on 3% Comb. and 4% Amer. Exp.)]				
Average liability	\$ 957,664	508,229	267,974	0
Total investment [Employee-paid for tax purposes]	\$ 251,827	N/A	N/A	N/A
Average investment ³	\$ 433	N/A	N/A	N/A
Liability/cost	2,209.5	N/A	N/A	N/A
Liability/final pay	\$ 9.44	N/A	N/A	N/A

¹ Not including compensation or supplemental.

² Average annual salary is 4 out of 10 years for members hired before January 1, 2011, and 8 out of 10 years for members hired on or after January 1, 2011.

³ Based on previously-taxed contributions.

⁴ Excludes two widows whose benefit was previously classified as suspended.

Exhibit M

Retirees and Beneficiaries by Type of Benefit

Years	ANNUITANTS			DISABILITY				Widow	Total
	Employee	Spouse ¹	Child	Ordinary	Duty	Occup.	Child ²	Comp.	
1988	4,595	3,184	350	63	167			78	8,437
1989	4,772	3,202	335	58	179			71	8,617
1990	4,936	3,214	335	51	187			66	8,789
1991	5,033	3,137	329	75	192			68	8,834
1992	5,109	3,129	310	83	204			66	8,901
1993	5,195	3,151	294	59	211		160	66	9,136
1994	5,309	3,123	281	51	221		159	64	9,208
1995	5,510	3,133	254	51	231	1	144	60	9,384
1996	5,714	3,120	252	67	256	12	158	59	9,638
1997	5,945	3,104	240	59	270	36	130	59	9,843
1998	6,241	3,093	228	56	279	57	150	57	10,161
1999	6,520	3,118	249	57	291	76	150	58	10,519
2000	6,876	3,107	267	48	274	87	149	59	10,867
2001	7,192	3,114	255	52	265	95	143	59	11,175
2002	7,392	3,092	235	38	289	103	150	59	11,358
2003	7,498	3,083	247	29	285	97	139	63	11,441
2004	7,815	3,133	249	44	287	85	130	65	11,808
2005	8,026	3,107	247	35	298	82	139	65	11,999
2006	8,083	3,093	255	39	291	69	132	64	12,026
2007	8,155	3,137	242	52	284	65	136	64	12,135
2008	8,210	3,148	237	39	286	58	139	66	12,183
2009	8,227	3,111	232	44	284	52	138	66	12,154
2010	8,495	3,079	222	37	284	40	155	69	12,381
2011	8,763	3,091	214	43	270	36	176	70	12,663
2012	9,035	3,122	214	47	263	36	180	69	12,966
2013	9,194	3,130	206	46	269	35	213	66	13,159
2014	9,311	3,109	197	48	259	36	204	66	13,230
2015	9,385	3,078	198	41	230	35	178	65	13,210
2016	9,603	3,102	186	40	202	33	164	64	13,394
2017	9,899	3,059	185	40	197	31	154	63	13,628

¹ Includes reversionary.

² Children's Disability Benefit not tracked before 1993.

Exhibit N

Average Employee Retirement Benefits Payable

Years Ended	Average Annual Benefit	Average Current Age of Retirees	Average Age at Retirement Current Year ¹	Average Years of Benefit Service at Retirement Current Year ¹
1988	\$ 17,855	67	58.8	30.9
1989	19,315	67	58.6	30.7
1990	21,120	68	58.9	30.2
1991	21,782	68	58.4	30.8
1992	23,128	68	57.7	30.3
1993	24,724	68	56.9	29.6
1994	25,636	68	55.7	29.5
1995	26,996	67	55.3	29.2
1996	28,412	67	55.5	29.8
1997	29,867	67	55.0	29.3
1998	31,682	66	54.6	30.0
1999	33,220	66	54.8	29.9
2000	34,880	66	56.3	31.6
2001	36,428	66	56.4	29.8
2002	38,199	66	55.6	29.4
2003	38,998	66	57.1	30.2
2004	41,914	66	57.5	30.4
2005	43,930	67	57.3	30.6
2006	45,680	67	58.0	29.6
2007	47,392	67	58.1	29.3
2008	49,239	68	58.3	29.4
2009	50,799	68	59.2	28.6
2010	53,060	68	59.1	28.1
2011	55,104	68	59.5	27.4
2012	56,896	69	58.7	26.7
2013	58,556	69	58.2	26.1
2014	60,111	69	57.6	26.2
2015	61,702	69	57.5	26.5
2016	63,381	69	57.5	26.9
2017	65,615	69	57.5	26.6

¹ Averages for New Annuitants in 2017.

Exhibit O

History of Annuities Employee Annuitants (Male and Female)

Year End	Number of Annuitants	Total Annuities	Average Annuities
1988	4,595	\$ 82,044,371	\$ 17,855
1989	4,772	92,170,354	19,315
1990	4,936	104,221,349	21,114
1991	5,033	109,629,175	21,782
1992	5,109	118,162,135	23,128
1993	5,195	128,443,550	24,724
1994	5,309	136,102,089	25,636
1995	5,510	148,748,836	26,996
1996	5,714	162,343,898	28,412
1997	5,945	177,557,655	29,867
1998	6,241	197,728,489	31,682
1999	6,520	216,593,933	33,220
2000	6,876	239,833,436	34,880
2001	7,192	261,991,891	36,428
2002	7,392	282,368,164	38,199
2003	7,498	292,407,321	38,998
2004	7,815	327,560,253	41,914
2005	8,026	352,579,199	43,930
2006	8,083	369,228,619	45,680
2007	8,155	386,485,701	47,392
2008	8,210	404,254,060	49,239
2009	8,227	417,924,766	50,799
2010	8,495	450,742,884	53,060
2011	8,763	482,875,300	55,104
2012	9,035	514,053,838	56,896
2013	9,194	538,368,228	58,556
2014	9,311	559,689,145	60,111
2015	9,385	579,069,731	61,702
2016	9,603	608,646,498	63,381
2017	9,899	649,527,055	65,615

Exhibit O – Part II

History of Annuities Spouse Annuitants (Not Including Compensation Widows)

Year End	Number of Annuitants	Total Annuities	Average Annuities
1988	3,184	\$ 13,701,678	\$ 4,303
1989	3,202	16,304,771	5,092
1990	3,214	16,779,894	5,221
1991	3,137	17,342,488	5,528
1992	3,129	20,773,699	6,639
1993	3,151	24,711,076	7,842
1994	3,123	28,041,269	8,979
1995	3,133	28,792,959	9,190
1996	3,120	30,778,518	9,865
1997	3,104	31,492,268	10,146
1998	3,093	32,285,743	10,438
1999	3,118	36,134,606	11,589
2000	3,107	37,022,962	11,916
2001	3,114	38,316,493	12,305
2002	3,092	40,086,748	12,965
2003	3,083	39,924,324	12,950
2004	3,133	44,609,535	14,239
2005	3,107	47,658,776	15,339
2006	3,093	49,187,928	15,903
2007	3,137	51,646,225	16,464
2008	3,148	53,489,665	16,992
2009	3,111	53,381,986	17,159
2010	3,079	53,621,501	17,415
2011	3,091	55,323,666	17,898
2012	3,122	57,650,477	18,466
2013	3,130	59,360,519	18,965
2014	3,109	60,248,462	19,379
2015	3,078	61,439,136	19,961
2016	3,102	63,731,123	20,545
2017	3,059	67,469,456	22,056

Exhibit P

Counts of Retirees and Beneficiaries with Healthcare Coverage Subsidies

Year End	Employee	Spouse ¹	Total
2007	7,637	2,253	9,890
2008	7,731	2,286	10,017
2009	7,763	2,285	10,048
2010	7,878	2,240	10,118
2011	8,111	2,257	10,368
2012	8,458	2,280	10,738
2013	8,539	2,270	10,809
2014	8,450	2,226	10,676
2015	8,278	2,127	10,405
2016	8,189	2,079	10,268
2017	0	0	0

¹ Includes children.

Exhibit Q

Schedule of Retired Members by Types of Benefit and Monthly Benefit Levels

Monthly Benefit	Retirement		Disability		Widow ¹		Child		Totals	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under \$100	5							1	5	1
\$100 to under \$250	9	3					95	76	104	79
\$250 to under \$500	21	9					28	20	49	29
\$500 to under \$750	20	5					47	41	67	46
\$750 to under \$1,000	7	4					14	5	21	9
\$1,000 to under \$2,000	59	38			41	1,966	8	4	108	2,008
\$2,000 to under \$3,000	217	22			18	857			235	879
\$3,000 to under \$4,000	782	239	18	22	2	148			802	409
\$4,000 to under \$5,000	1,644	511	73	44		38			1,717	593
\$5,000 to under \$6,000	2,274	408	61	26	3	30			2,338	464
\$6,000 to under \$7,000	2,120	299	11	10		13			2,131	322
\$7,000 to under \$8,000	679	91	3			3			682	94
\$8,000 to under \$9,000	197	25				1			197	26
\$9,000 to under \$10,000	78	9				1			78	10
\$10,000 and over	109	15				1			109	16
Totals:	8,221	1,678	166	102	64	3,058	192	147	8,643	4,985

¹ Includes reversionary.

Exhibit R

Schedule of Average Benefit Payments for New Annuities Granted during 2017

Years of Service:		0-9	10-14	15-19	20-24	25-29	30-34	>= 35	Total
	Number of Retired Members	0	1	13	105	161	140	131	551
2010	Average annual salary used	\$0	\$81,122	\$70,339	\$80,639	\$88,735	\$91,739	\$92,194	\$88,330
	Average Monthly Benefit	\$0	\$2,535	\$2,667	\$3,837	\$5,385	\$5,734	\$5,762	\$5,199
	Number of Retired Members	1	8	16	95	175	103	102	500
2011	Average annual salary used	\$18,730	\$76,848	\$70,140	\$82,778	\$92,829	\$93,780	\$98,280	\$91,097
	Average Monthly Benefit	\$390	\$2,158	\$2,728	\$3,949	\$5,497	\$5,861	\$6,142	\$5,257
	Number of Retired Members	0	9	22	123	217	88	80	539
2012	Average annual salary used	\$0	\$72,245	\$65,305	\$85,175	\$92,825	\$94,854	\$98,415	\$90,773
	Average Monthly Benefit	\$0	\$2,066	\$2,511	\$4,002	\$5,408	\$5,928	\$6,151	\$5,108
	Number of Retired Members	0	6	20	118	161	62	34	401
2013	Average annual salary used	\$0	\$62,730	\$75,088	\$86,979	\$94,193	\$99,759	\$102,980	\$92,252
	Average Monthly Benefit	\$0	\$1,809	\$2,857	\$4,164	\$5,427	\$6,235	\$6,436	\$5,084
	Number of Retired Members	0	4	18	122	180	44	24	392
2014	Average annual salary used	\$0	\$64,795	\$72,985	\$87,586	\$95,372	\$94,991	\$104,035	\$92,097
	Average Monthly Benefit	\$0	\$1,907	\$2,815	\$4,230	\$5,746	\$6,052	\$6,634	\$5,189
	Number of Retired Members	0	7	14	105	184	42	11	363
2015	Average annual salary used	\$0	\$34,263	\$85,670	\$90,037	\$100,124	\$104,876	\$102,529	\$96,001
	Average Monthly Benefit	\$0	\$951	\$3,334	\$4,271	\$6,005	\$6,555	\$6,408	\$5,379
	Number of Retired Members ¹	1	5	14	124	257	80	12	493
2016	Average annual salary used	\$50,400	\$23,820	\$78,131	\$91,293	\$101,855	\$108,887	\$109,058	\$98,945
	Average Monthly Benefit	\$1,050	\$622	\$2,966	\$4,292	\$6,123	\$6,805	\$6,816	\$5,634
	Number of Retired Members	1	2	21	166	258	118	15	581
2017	Average annual salary used	\$94,501	\$19,905	\$74,798	\$93,477	\$98,445	\$103,641	\$104,267	\$97,099
	Average Monthly Benefit	\$5,709	\$630	\$2,904	\$4,456	\$5,735	\$6,478	\$6,517	\$5,421

¹Excludes data correction for one retiree previously valued as deceased.

Exhibit S

History of Retirees and Beneficiaries Added to and Removed from Benefit Payroll

Yr.	Added		Removed		End of Year		Average Annual Benefits	Increase to Avg. Benefits
	No.	Annual Benefits.	No.	Annual Benefits	No.	Annual Benefits		
Employee Annuitants (Male and Female)								
2010	551	\$ 44,873,260	283	\$ 12,055,142	8,495	\$ 450,742,884	\$ 53,060	4.5%
2011	500	42,603,517	232	10,471,101	8,763	482,875,300	55,104	3.9%
2012	539	43,830,960	267	12,652,422	9,035	514,053,838	56,896	3.3%
2013	401	36,004,890	242	11,690,500	9,194	538,368,228	58,556	2.9%
2014	392	34,915,092	275	13,594,175	9,311	559,689,145	60,111	2.7%
2015	363	34,830,781	289	15,450,195	9,385	579,069,731	61,702	2.6%
2016	494	44,891,597	276	15,314,830	9,603	608,646,498	63,381	2.7%
2017	581	56,599,441	285	15,718,884	9,899	649,527,055	65,615	3.5%
Widow/Widower Annuitants (Not Including Compensation) ¹								
2010	145	\$ 2,838,113	177	\$ 2,598,598	3,079	\$ 53,621,501	\$ 17,415	1.5%
2011	144	3,709,829	132	2,007,664	3,091	55,323,666	17,898	2.8%
2012	174	4,436,964	143	2,110,153	3,122	57,650,477	18,466	3.2%
2013	157	3,969,877	149	2,259,835	3,130	59,360,519	18,965	2.7%
2014	128	3,403,918	149	2,515,975	3,109	60,248,462	19,379	2.2%
2015	147	4,022,206	178	2,831,532	3,078	61,439,136	19,961	3.0%
2016	140	4,231,504	116	1,939,517	3,102	63,731,123	20,545	2.9%
2017	158	7,074,268	201	3,335,935	3,059	67,469,456	22,056	7.4%

¹ Not including Compensation Annuitants.

APPENDIX 4

ACTUARIAL METHODS AND ASSUMPTIONS AS OF DECEMBER 31, 2017

Actuarial Methods and Assumptions as of December 31, 2017

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 and GASB accounting purposes is the Entry-Age Normal actuarial cost method.

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.

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

II. Current Actuarial Assumptions

The current actuarial assumptions except for the investment return and general inflation assumptions were adopted and became effective December 31, 2014, and were based on an experience study for the period January 1, 2009 to December 31, 2013. The investment return and general inflation assumptions were adopted and became effective December 31, 2016.

A. Demographic Assumptions

Mortality:

Pre-Retirement mortality rates: Sex distinct Retirement Plans 2014 Total Employee mortality table weighted 85% for males and 115% for females.

Post-Retirement Healthy mortality rates: Sex distinct Retirement Plans 2014 Healthy Annuitant mortality table weighted 108% for males and 97% for females. When compared to observed experience, the recommended rates include a 23% margin for future mortality improvements.

Disabled Mortality:

Sex distinct Retirement Plans 2014 Healthy Annuitant mortality table weighted 115% for males and 115% for females.

Actuarial Methods and Assumptions as of December 31, 2017

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

<u>ATTAINED AGE</u>	<u>RATE</u>
22	.0003
27	.0007
32	.0007
37	.0020
42	.0030
47	.0040
52	.0050
57	.0060
62	.0060

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

Duty Disability	55%
Occupational Disease Disability	10%
Ordinary Disability	35%

Rate of Retirement: Rates at which members are assumed to retire under the provisions of the Fund. The rates assumed are as follows:
For members hired before January 1, 2011:

<u>ATTAINED AGE</u>	<u>RATE¹</u>
50	.05
51	.05
52	.05
53	.05
54	.05
55	.19
56	.19
57	.19
58	.25
59	.25
60	.25
61	.30
62	.30
63	1.00

¹ Only for members eligible for a formula annuity.

Actuarial Methods and Assumptions as of December 31, 2017

For members hired on or after January 1, 2011:

<u>ATTAINED AGE</u>	<u>RATE</u> ¹
50	.02
51	.02
52	.02
53	.02
54	.03
55	.21
56	.21
57	.21
58	.27
59	.27
60	.25
61	.30
62	.30
63	1.00

¹ Only for members eligible for a formula annuity.

Turnover Rates:

The following sample rates exemplify the table:

<u>YEARS OF SERVICE</u>	<u>RATE</u>
0	0.030
1	0.028
2	0.020
3	0.015
4-5	0.010
6-10	0.009
11	0.008
12	0.007
13-24	0.006

B. Economic Assumptions

Investment Return Rate: 7.25% per annum effective as of December 31, 2016.

General Inflation: The 7.25% Investment Return Rate assumption is comprised of a 2.75% inflation assumption and a 4.50% real rate of return assumption for pension.

Actuarial Methods and Assumptions as of December 31, 2017

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

<u>COMPLETED YEARS OF SERVICE *</u>	<u>SCALE</u>
1	0.3625
2	0.0325
3	0.0325
4	0.0325
5	0.0225
6-9	0.0000
10	0.0225
11-14	0.0000
15	0.0225
16-19	0.0000
20	0.0225
21-24	0.0000
25	0.0225
26-29	0.0000
30	0.0225
Over 30	0.0000

* Includes increases at 12 and 18 months of service.

Asset Value: For Book-value of Assets, bonds are at amortized value and stocks are at cost.

For statutory funding, the actuarial value of assets is smoothed by recognizing each year's difference between actual and expected investment return at the rate of 20% per year over a five-year period.

The actuarial value of assets was marked to the market value as of January 1, 2012, and is smoothed by using a five-year phase-in of each year's unexpected investment gains and losses.

C. Other Assumptions

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

Actuarial Methods and Assumptions as of December 31, 2017

Beneficiary COLA Approximation: For current retirees with eligible reversionary annuitants, liabilities are calculated for the beneficiary's benefit by using 50 percent of the retiree's benefit as of the valuation date plus 35 percent of the retiree's future increase in benefit from the COLA each year after the valuation date.

D. Projection Assumptions The projections under the provisions of P.A. 99-0506 were based on the following assumptions and methods:

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, 2017 is 12,633.

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, 2017. These members were hired from January 1, 2013 through December 31, 2016.

Entry Age	Number
20 to 25	326
25 to 30	850
30 to 35	462
35 to 40	205
40 to 45	2

Approximately 80% 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 \$48,078 for the plan year ending December 31, 2017. This amount does not include duty availability pay. The new entrant pay for members hired after 2017 is assumed to increase by the wage inflation assumption of 3.75% plus duty availability pay after three years, increased by CPI compounded.

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 increases disclosed in this actuarial valuation.

The projections assume a pay cap of \$113,644.91 for plan year 2018, increasing by 1.375% per year after plan year 2018. The annual increase of 1.375% per year is based on 50% of the CPI-U increase which is assumed to be 2.75% per year.

Actuarial Methods and Assumptions as of December 31, 2017

Administrative Expenses: Statutory funding projections include an explicit administrative expense assumption of \$4,843,000 for plan year end December 31, 2017, increased by 2.75% per year.

APPENDIX 5

SUMMARY OF PROVISIONS OF THE FUND AS OF DECEMBER 31, 2017

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

PARTICIPANTS

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

SERVICE

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

RETIREMENT

Eligibility

Attainment of age 50 with at least 10 years of service.

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

Mandatory

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

Accumulation Annuity

At age 50 or more, with 10 or more years of service, the employee is entitled to an annuity based on the sums accumulated for age and service annuity plus 1/10 of the sum accumulated from the contributions by the City for the age and service annuity for each completed year of service after the first 10 years. At age 50 or more with 20 or more years, the employee is entitled to an annuity based on all sums accumulated.

Formula Minimum Annuity

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

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

Mandatory Retirement Minimum Annuity

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

Post-Retirement Increase

A retiree born before January 1, 1966, with at least 20 years of service or receiving a mandatory retirement minimum annuity, receives an increase of 3% of the original annuity, starting on the first of the month following the first anniversary of his retirement or the first of the month following attainment of age 55, whichever is later, and shall not be subject to a 30% maximum increase. For retirees born on and after January 1, 1966, automatic increases are 1.5% of the original annuity, commencing at age 60, or the first anniversary of retirement, if later, to a maximum of 30%.

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

Summary of Principal Eligibility and Benefit Provisions

As of December 31, 2017

Minimum Annuity

Beginning with the monthly annuity payment due on January 1, 2016, the fixed and granted monthly annuity payment for any policeman who retired from the service before January 1, 2016, at age 50 or over with 20 or more years of service, and for any policeman who retired from service due to termination of disability and who is entitled to an annuity on January 1, 2016, shall be no less than 125% of the Federal Poverty Level.

For participants who first became members on or after January 1, 2011, the member is entitled to an annuity based on an accrual rate of 2.5% of the final average salary for each fraction of service. Maximum is 75% 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% 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 who 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% 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%.

Reversionary Annuity

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

SURVIVOR INCOME BENEFITS PAYABLE ON DEATH

Death in Service (Non-Duty):

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

The lifetime benefit is payable until death.

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

Death in Service (Duty Related)

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

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

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

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

Minimum Annuity The minimum widow's annuity shall be no less than 125% of the Federal Poverty Level.

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

CHILDREN'S ANNUITIES

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

Benefit 10% of the annual maximum salary of a first class patrolman during widow (widower) life, 15% otherwise.

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

Payable Until	Age 18. If the child is disabled, benefit is payable for life or as long as such disablement exists.
Family Maximum	60% (non-duty death) or 100% (duty death) of the salary that would ordinarily been paid to the policeman, if he had been in the active discharge of his duties.
Parent's Annuities Eligibility	Payable to a dependent parent at the death of a policeman who is in either active service, or receiving a disability benefit, or on leave of absence, or in receipt of an annuity granted after 20 years of service, or waiting to start receiving an annuity granted for 20 years of service. The benefit is only payable if there are no surviving spouses or children eligible for benefits.
Benefit	18% of the current salary attached to the rank at separation from service.
Payable until	Death of the dependent parent.

DUTY DISABILITY BENEFIT

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

OCCUPATIONAL DISEASE DISABILITY BENEFIT

Eligibility	Heart attack or any disability heart disease after 10 years of service.
Benefit	65% of salary attached to the rank held by the police officer at the time of his or her removal from the police department payroll with a minimum after 10 years of 50% of the current salary attached to the rank. Each natural or legally adopted unmarried child of the officer under the age of 18 is entitled to a benefit of \$100 per month. This benefit is not terminated at age 18 if the child is then dependent by reason of physical or mental disability. Salary deductions are contributed by the City.

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

ORDINARY DISABILITY BENEFIT

Eligibility	Disabling condition other than duty or occupational related.
Benefit	50% of salary at the time of injury, payable for a period not more than 25% of service (excluding any previous disability time) rendered prior to injury, nor more than five years. Disability shall cease at age 63. Salary deductions are contributed by the City.

DEATH BENEFIT

Eligibility	Payable upon the death of a police officer whose death occurs while in active service; on authorized leave of absence; within 60 days of receipt of salary; while receiving duty or ordinary disability benefit; occurring within 60 days of termination of such benefit; or occurring on retirement while in receipt of annuity and separation was effective after 20 years of service. This benefit is payable to beneficiaries or, if none, to estate.
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Benefit

Death in Service:	AGE AT DEATH	BENEFIT
	49 and under	\$12,000
	50-62	\$12,000 less \$400 for each year by which age at death exceeds 49
Death after Retirement:	AGE AT DEATH	BENEFIT
	50 and over	\$6,000

If death results from injury incurred in performance of duty before retirement on annuity, the benefit payable is \$12,000 regardless of the attained age.

REFUNDS

Policemen Without regard to service and under age 50, or with less than 10 years of service and under age 57 at withdrawal: a refund of all salary deductions together with 1.5% simple interest until the date of withdrawal.

For Spouse's Annuity Upon retirement an unmarried policeman will receive a refund of contributions for spouse's annuity, accumulated at 3% compounded annually.

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

Of Remaining Amounts If at death of a retired policeman the total member contributions paid while active exceed the total retirement benefits paid to date of death, the difference is payable.

CONTRIBUTIONS

Salary Deductions	Employee	7 %	
	Spouse	1½%	
	Annuity Increase	½%	
		9 %	
City Contributions ¹	Employee	9-5/7%	
	Spouse	2%	
	Annuity Increase	½%	Unallocated
		12-3/14%	

¹ Credited to Participant's Accumulation Annuity and Widow's Annuity Account

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

Prior to 2015, the total City contribution is generated by a tax equal to double the contributions by the policemen to the Fund two years prior to the year of the tax levy.

Under P.A. 99-0506, City contributions are equal to \$420 million in payment year 2016, \$464 million in payment year 2017, \$500 million in payment year 2018, \$557 million in payment year 2019 and \$579 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.

"PICK UP" OF EMPLOYEE SALARY DEDUCTIONS

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

Summary of Principal Eligibility and Benefit Provisions As of December 31, 2017

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

Year Ending	CPI-U	½ CPI-U	COLA	Pensionable Earnings
2011			3.00%	\$106,800.00
2012	3.90%	1.95%	1.95%	\$108,882.60
2013	2.00%	1.00%	1.00%	\$109,971.43
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
2017	1.50%	0.75%	0.75%	\$112,408.42
2018	2.20%	1.10%	1.10%	\$113,644.91

APPENDIX 6

LEGISLATIVE CHANGES 1979 THROUGH 2017

Legislative Changes 1979 through 2017

1979 Session

HB 2128

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

HB 2012

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

HB 2160

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

1980 Session

HB 3635

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

1981 Session

SB 21

Actuarial reporting standards.

SB 851

Authorizes investments in conventional mortgage pass-through securities.

SB 879

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

SB 1126

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

HB 291

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

Spring 1982 Session

SB 740

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

Legislative Changes 1979 through 2017

SB 1127

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

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

SB 1147

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

SB 1579

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

Spring 1983 Session

SB 22

Delegation of investment authority restrictions.

HB 514

10% prudent person investment category.

HB 1412

Heart attack; need not result from an injury.

HB 1413

Wrongful death of a police officer bars benefit.

HB 1414

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

HB 2003

Reversionary annuity. Securities lending.

City Ordinance

Changes compulsory retirement from 63 to 70.

1984 Court Decision

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

Legislative Changes 1979 through 2017

1984 Session

Illinois Public Employees' Pension Laws Commission abolished.

1985 Session

HB 1529

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

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

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

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

3% increase for the closed group receiving 2%.

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

1986 Session

HB 2630

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

1987 Session

HB 2715

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

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

1988 Session

No legislative changes.

1989 Session

SB 95

Signed August 23, 1989. Changed the amount of fund paid health insurance "supplement" from January 1, 1988 until December 31, 1992, to \$65 per month for each annuitant not qualified to receive Medicare benefits (and \$35 if qualified) and from January 1, 1995 until December 31, 1997, the amounts are \$75 and \$45, respectively. Widows will now be supplemented also. The City will be required to pay

Legislative Changes 1979 through 2017

50% of the aggregated cost of health care claims for the retired group under all health care plans offered by the City. A procedure was established for the City to determine, with the help of an independent actuary, the aggregate cost of claims and premiums for each calendar year from 1989 through 1997 for the retired group.

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

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

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

HB 332

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

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

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

1990 Session

SB 1951

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

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

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

Legislative Changes 1979 through 2017

1991 Session

HB 969

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

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

- An active policeman with at least 10 years of service; or
- A policeman who had at least 20 years of service at withdrawal from the Fund to \$500.

1992 Session

No legislative changes.

1993 Session

SB 1650

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

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

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

1994 Session

No legislative changes.

1995 Session

SB 99

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

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

An occupational disease disability benefit has been added for any policeman with at least 10 years of service who suffers a heart attack or any other disability heart disease. The benefit shall be 65% of salary

Legislative Changes 1979 through 2017

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

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

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

1996 Session

SB 1456

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

1997 Session

P.A. 90-551

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

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

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

Legislative Changes 1979 through 2017

1998 Session

P.A. 90-0766

Effective August 16, 1998, this law increased the minimum monthly widow's annuity payable from \$700.00 to \$800.00 effective January 1, 2017. This law also increased the earnings limit maximum for those receiving disability benefits such that the sum of the disability benefit and outside compensation may be up to 150% of the rate of salary which the participant would be receiving if working in his regularly appointed civil service position as a policeman.

2000 Session

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

2001 Session

P.A. 92-0052

Effective July 12, 2001.

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

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

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

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

2002 Session

HB 5168

- Effective June 28, 2002.

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

Legislative Changes 1979 through 2017

- The supplemental annuity payable to the widow of an officer on account of a duty-related death is increased to the difference between the money purchase annuity for the spouse and 75% (previously 50%) of the annual salary the police officer would have been receiving when he attained age 63 if the police officer had continued in service at the same rank last held in the department.
- The pension fund subsidy for retiree health insurance was extended through June 30, 2003. For annuitants (other than child annuitants) taking the employer-provided plan, the subsidy is \$75 per month if the annuitant is not eligible for Medicare and \$45 per month if the annuitant is eligible for Medicare.

2003 Session

SB 1701

- Effective July 1, 2003.
- The healthcare benefits were increased to \$85 per month for non-Medicare eligible participants and \$55 per month for Medicare eligible participants for the period from July 1, 2003 through June 30, 2008. Thereafter, the benefits are increased from \$85 to \$95 and \$55 to \$65 for the period July 1, 2008 to June 30, 2013.
- The healthcare benefits referred to above are not and shall not be construed to be pension or retirement benefits for the purposes of Section 5 of Article XIII of the Illinois Constitution of 1970.

2004 Session

P.A. 93-0654

- Effective January 16, 2004.
- The minimum annuity formula accrual rate for service after 20 years was increased from 2.0% to 2.5% with total benefits limited to 75% of final average pay.
- The minimum benefit for age-service retirements was increased to \$950 per month during 2004 and \$1,050 per month thereafter.
- The minimum widow annuity was increased to \$900 per month during 2004 and \$1,000 per month thereafter.

2005 Session

P.A. 94-0624

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

Legislative Changes 1979 through 2017

HB 1009

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

SB 23

- Approved June 27, 2005.
- Prohibits the investment or deposit from the retirement system or pension fund to certain entities doing business in or with the government of the Republic of the Sudan. Fund managing companies must certify that under Section 1-110.5 of the pension code that they have not loaned to, invested in or otherwise transferred any of the pension fund assets to a forbidden entity.

SB 1446

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

2006 Session

No legislative changes.

2007 Session

P.A. 95-0279

- Effective January 1, 2008.
- Removes restriction that a child be born or legally adopted before withdrawal from service for a child's annuity. Removes restriction requiring that adoption proceedings must have been initiated 6 months prior to the policeman's death.

P.A. 95-0504

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

Legislative Changes 1979 through 2017

- Removes age limitation on child's annuity for children who are so physically or mentally handicapped as to be unable to support themselves.

2008 Session

No legislative changes.

2009 Session

P.A. 95 -1036

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

P.A. 96-0006

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

P.A. 96 -285

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

P.A. 96 -727

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

P.A. 96 -745

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

Legislative Changes 1979 through 2017

P.A. 96-753

- Effective August 25, 2009.
- Encourages the public pension funds, and any State entity investing on behalf of the public pension funds, to promote the economy of Illinois through the use of economic opportunity investments.
- Instructs the fund's investment advisors to utilize investment strategies designed to ensure that all securities transactions are executed in such a manner that the total explicit and implicit costs and total proceeds in every transaction are the most favorable under the circumstances.

2010 Session

P.A. 96-1260

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

P.A. 96-1495 (HB 3538)

- Effective January 1, 2011.
- Changes the financing for the Fund. Assets are marked to market at March 30, 2011. For fiscal years ending after March 30, 2011, the actuarial value of assets is based on a five-year smoothing of investment gains and losses incurred in fiscal years ending after March 30, 2011. The City levies a new tax starting in FY2015. Each year, employer contributions combined with member contributions and other fund revenue must be equal to the amount that is sufficient to produce 90% funding by the end of fiscal year 2040. The projections are based on an open group projection and level percent of pay financing and actuarial liabilities are based on the Projected Unit Credit cost method. If the City does not make the statutorily required contributions, then the State, starting in FY 2016, could withhold State grants to the City, and directly deposit the withheld funds into the PABF. The withheld funds are limited to 33% of total State grants to the City in FY 2016, 67% in FY 2017, and 100% 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%, subject to a maximum of 75%. Employees may retire at age 50 with 10 years of service with the annuity based on accrual rate of 2.5%, reduced by one half of one percent per month for retirement prior to age 55, subject to a maximum of 75%. 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% and 50% of CPI-U. COLA is equal to the lesser of 3.0% and 50% of CPI-U, commencing at age 60, with no 30% cap, applied to the original granted retirement annuity. Widow benefits are 66-2/3% of the policemen's earned annuity at the date of death. Widow COLA is equal to the lesser of 3.0% and 50% of CPI-U, commencing when the survivor reached age 60, and applied to the original granted retirement annuity.

Legislative Changes 1979 through 2017

2011 Session

P.A. 97-326 (HB 1872)

- Effective August 12, 2011.

- A policeman may transfer up to 10 years of credible service to a fund covered under Article 3. The PABF will pay the Article 3 fund an amount consisting of (1) the amounts credited to the applicant through employee contributions, plus accumulated interest plus (2) an amount representing municipality contributions equal to the amount determined in (1) plus (3) any interest paid to the PABF in order to reinstate credits and credible service.

- A policeman may reinstate credits and credible service that was terminated upon receipt of a refund, by paying the Fund the amount of the refund plus interest thereon at the actuarially assumed rate, compounded annually, from the date of the refund to the date of the payment.

P.A. 97-344 (HB 3376)

- Effective August 12, 2011.

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

P.A. 97-530 (SB 1672)

- Effective August 23, 2011.

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

P.A. 97-609 (SB 1831)

- Effective August 26, 2011.

- Applies to those members hired on or after January 1, 2012.
 - Provides that if a new hire is receiving a retirement annuity or pension and accepts a contractual position to provide services to a governmental entity from which he or she has retired, then that person's annuity or pension will be suspended during that contractual service.

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

P.A. 97-504 (HB 1670)

- Approved August 23, 2011.

- Amends the Open Meetings Act.

Legislative Changes 1979 through 2017

- Requires each elected or appointed member of a public body subject to this Act who is such a member on the effective date of the amendatory Act to successfully complete the electronic training curriculum developed and administered by the Public Access Counselor.
- Requires those members to complete the training not later than one year after the effective date of the amendatory Act.
- Requires each elected or appointed member of a public body subject to the Act who becomes such a member after the effective date of the amendatory Act to successfully complete the electronic training curriculum developed and administered by the Public Access Counselor.
- Requires those members to complete the training not later than the 90th day after the date the member either (i) takes the oath of office, if the member is required to take an oath of office to assume the person's duties as a member of the public body or (ii) otherwise assumes responsibilities as a member of the public body, if the member is not required to take an oath of office to assume the person's duties as a member of the governmental body.
- Requires each member who successfully completes the curriculum to file a copy of the certificate of completion with the public body.
- Provides that the failure of one or more members of a public body to complete the training required by this Section does not affect the validity of an action taken by the public body.
- Provides that an elected or appointed member of a public body subject to this Act who has successfully completed the required training and filed a copy of the certificate of completion with the public body is not required to subsequently complete that training.

2012 Session

P.A. 97-0651

- Approved and effective January 5, 2012.
- Requires any reasonable suspicion of fraud against the Fund to be reported to the State's Attorney for investigation.
- Changes provisions for Union Leaves of Absence.

P.A. 97-813

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

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. 98-0433 (HB 2620)

- Approved and effective August 16, 2013.

Legislative Changes 1979 through 2017

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

2014 Session

No legislative changes.

2015 Session

No legislative changes.

2016 Session

P.A. 99-0506

- Approved and effective May 30, 2016.
- Changes the funding policy.
 - For payment years 2016 through 2020, specifies the amount for the City of Chicago's required annual contribution to the Fund as follows: \$420 million in payment year 2016, \$464 million in payment year 2017, \$500 million in payment year 2018, \$557 million in payment year 2019 and \$579 million in payment year 2020.
 - Beginning in payment year 2021, the City's total required contribution to the Fund shall be an amount that is equal to the normal cost of the fund, plus an amount sufficient to bring the total assets of the fund up to 90% of the total actuarial liabilities of the fund by payment year 2055 (instead of 2040).
- Changes the actuarial cost method to entry age normal.
- Includes provisions for funding from any proceeds received by the City in relation to the operation of a casino within the City.
- Provides a mechanism to enforce funding through a mandamus action.
- Creates a new minimum retirement annuity provision equal to 125% of the federal poverty level for certain persons.

P.A. 99-0905

- Approved and effective November 29, 2016.
- Specifies the manner of calculating the Tier 2 surviving spouse's annuity for Tier 2 policemen who die in service with at least 1 1/2 years of service
- Specifies the manner of computing duty-death benefits for Tier 2 surviving spouses and provides that Tier 2 duty-death benefits are not payable where the death is the result of an intervening cause.

Legislative Changes 1979 through 2017

- Includes provisions for a minimum surviving spouse's annuity equal to 125% of the federal poverty level.
- Increases the Tier 1 automatic annual increase in retirement annuity for persons born after December 31, 1954 but before January 1, 1966.
- Amends the State Mandates Act to require implementation without reimbursement.

2017 Session

P.A. 100-0334

- Approved and effective August 25, 2017
- States a person otherwise entitled to a survivor benefit and who has been convicted of a felony in connection with the service rendered by the member, is not eligible for such survivor benefit, if such conviction was after the effective date
- It further states for participants that first becomes members after the effective date the change is a condition of employment