

Park Employees' Annuity and Benefit Fund of Chicago

Actuarial Valuation and Review as of
December 31, 2015





101 North Wacker Drive, Suite 500 Chicago, IL 60606
T 312.984.8500 www.segalco.com

May 31, 2016

Board of Trustees

Park Employees' Annuity and Benefit Fund of Chicago

55 East Monroe Street, Suite 2720

Chicago, Illinois 60603

Dear Board Members:

We are pleased to submit this annual Actuarial Valuation and Review as of December 31, 2015. It summarizes the actuarial data used in the valuation, establishes the net pension liability under Governmental Accounting Standards Board (GASB) Statement No. 67 and the funding requirements for the fiscal year ending December 31, 2016, and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Park Employees' Annuity and Benefit Fund of Chicago. The census information and financial information on which our calculations were based was prepared by the Fund staff. That assistance is gratefully acknowledged. We have not subjected the census data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data.

The actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by the Fund's actuary. The assumptions and methods used for the December 31, 2015 actuarial valuation were based on an experience analysis covering the five-year period ending June 30, 2012 and were adopted by the Board, effective for the December 31, 2012 valuation. These actuarial assumptions and methods comply with the parameters for disclosure in GASB Statement No. 67. Further, in our opinion, the assumptions as approved by the Board are reasonable related to the experience of the Fund. The investment return assumption is based on the Fund being invested according to the target asset allocation in the Investment Policy Statement. To the extent that the liquidation of assets to pay benefit payments and expenses requires a shift in investment allocation to more liquid, lower return asset classes, a lower discount rate may be required in the future.

The funding policy of the Fund is to have contributions sufficient to amortize the unfunded liability over the 30-year period ending December 31, 2042. For Fiscal 2016, employer contributions come from a property tax levied by the District equal to

the total amount of contributions made by employees in the calendar year two years prior to the year of the levy, multiplied by 1.7. The 1.7 factor is known as the tax multiple.

The tax multiple increases to 2.3 for 2017 and 2018, and to 2.9 for 2019 and thereafter. Once the funded ratio reaches 90%, the employer contribution will be the lesser of 2.9 times the employee contributions for the fiscal year two years prior, or the amount needed to maintain a funded ratio of 90%. Additional employer contributions will be made in the amounts of \$12,500,000 in 2016 and \$50,000,000 in 2019.

This report includes the following schedules for the financial section of the Comprehensive Annual Financial Report:

- Schedule of Changes in Employer's Net Pension Liability
- Schedule of Employer's Net Pension Liability
- Schedule of Employer Contributions

The actuarial section of the Comprehensive Annual Financial Report includes this actuarial valuation report replicated in its entirety.

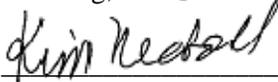
The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic 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; and changes in plan provisions or applicable law.

The actuarial calculations were directed under our supervision. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Fund.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: 

Kim Nicholl, FSA, MAAA, EA, FCA
Senior Vice President and Actuary



Matthew A. Strom, FSA, MAAA, EA
Vice President and Actuary

SECTION 1

VALUATION SUMMARY

Purpose	i
Significant Issues in Valuation Year	i
Summary of Key Valuation Results	iv
Important Information about Actuarial Valuations	v

SECTION 2

VALUATION RESULTS

A. Member Data	1
B. Financial Information ..	4
C. Actuarial Experience....	6
D. Development of Employer Costs.....	11

SECTION 3

SUPPLEMENTAL INFORMATION

EXHIBIT A Table of Fund Coverage.....	13
EXHIBIT B Participants in Active Service as of December 31, 2015.....	14
EXHIBIT C Reconciliation of Participant Data	15
EXHIBIT D Schedule of Pensioners and Beneficiaries Added to and Removed from Rolls	16
EXHIBIT E Summary Statement of Income and Expenses on a Fair Value Basis at December 31	17
EXHIBIT F Summary Statement of Fund Assets at December 31	18
EXHIBIT G Development of the Fund Through December 31, 2015.....	19
EXHIBIT H Development of Unfunded Actuarial Accrued Liability	20
EXHIBIT I Definitions of Pension Terms.....	21

SECTION 4

REPORTING INFORMATION

EXHIBIT I Summary of Actuarial Valuation Results.....	27
EXHIBIT II Schedule of Employer Contributions	29
EXHIBIT III Schedule of Funding Progress	30
EXHIBIT IV Solvency Test at December 31.....	31
EXHIBIT V Projection of Contributions, Liabilities, and Assets.....	32
EXHIBIT VI Actuarial Assumptions and Actuarial Cost Method.....	35
EXHIBIT VII Summary of Plan Provisions	39

SECTION 5

GASB INFORMATION

EXHIBIT 1 Net Pension Liability ...	44
EXHIBIT 2 Schedule of Changes in Net Pension Liability ...	46
EXHIBIT 3 Schedule of Employer Contribution – Last Ten Fiscal Years	47

SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago

Purpose

This report has been prepared by Segal Consulting to present a valuation of the Park Employees' Annuity and Benefit Fund of Chicago (the Fund) as of December 31, 2015. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Fund, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of December 31, 2015, provided by the Fund staff;
- The assets of the Fund as of December 31, 2015, provided by the Fund staff;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

1. This valuation includes the benefit and funding provisions contained in Public Act 98-0622. The constitutionality of Public Act 98-0622 is currently being challenged in the court of law. If Public Act 98-0622 is ruled unconstitutional (either in whole or in part), the liability of the Fund will immediately increase, projected contributions could decrease, and the projected solvency of the Fund will be in jeopardy.
2. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2015, is 43.5%, compared to 43.7% as of December 31, 2014. This ratio is a measure of funding status, its history is a measure of funding progress. Using the fair value of assets, the funded ratio as of December 31, 2015, is 43.2%, compared to 45.9% as of December 31, 2014.
3. Employer contributions to the Fund come from a tax levied upon all taxable property in the City of Chicago. The amount of tax that is levied is 1.7 times the amount of employee contributions made two years prior. The 1.7 factor is known as the tax multiple. As shown in Chart 13, for the fiscal year beginning January 1, 2016, the actuarially determined contribution amount (ADC) is \$37,130,268. Based on the 1.7 tax multiple, and using the Fund's assumption of 3% loss on collections, we have estimated the employer contribution for the fiscal year beginning January 1, 2016, to be \$17,735,701. **Compared to the ADC of \$37,130,268, the contribution deficiency is**

SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago

\$19,394,567 as of January 1, 2016. Reflecting the additional fiscal 2016 scheduled contribution of \$12,500,000 lowers the deficiency to \$6,894,567. Each year of a contribution deficiency leads to an increased deficiency in all future years.

4. For the year ended December 31, 2015, Segal has determined that the asset return on a fair value basis was 2.2%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 8.2%. This represents an experience gain when compared to the assumed rate of 7.50%. As of December 31, 2015, the actuarial value of assets (\$395.7 million) represents 100.6% of the fair value (\$393.2 million).
5. The portion of deferred investment gains and losses recognized in the calculation of the December 31, 2015, actuarial value of assets resulted in a gain of \$2,629,339. Additionally, the demographic and liability experience resulted in a \$529,175 loss.
6. The total unrecognized investment loss as of December 31, 2015, is \$2,496,768. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return of 7.50% per year (net of expenses) on a **fair value** basis will result in investment losses on the actuarial value of assets in the next few years. Therefore, if the actual fair value return is equal to the assumed 7.50% rate and all other actuarial assumptions are met, the contribution requirements would increase in each of the next few years.
7. As mentioned above, the current method used to determine the actuarial value of assets yields an amount that is 100.6% of the fair value of assets as of December 31, 2015. Guidelines in Actuarial Standard of Practice No. 44 (Selection and Use of Asset Valuation Methods for Pension Valuations) recommend that asset values fall within a reasonable range around the corresponding fair value. We believe the actuarial asset method currently complies with these guidelines.
8. The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaced Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 was effective with the fiscal year ended December 31, 2014, for plan reporting. Statement 68 is effective with the fiscal year ending December 31, 2015, for employer reporting. The information contained in this valuation is intended to be used (along with other information) in order to comply with both Statements 67 and 68.
9. The net pension liability (NPL) is equal to the difference between the Total Pension Liability (TPL) and the Plan's fiduciary net position. The Plan's fiduciary net position is equal to the fair value of assets. The NPL as of December 31, 2015, is \$517,105,022.

SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago

10. If Public Act 98-0622 is ruled unconstitutional, the TPL and NPL measures would increase substantially, primarily as a result of the lower discount rate that would be required due to the blended discount rate calculation under paragraphs 44 and 45 of Statement 67.
11. In November 2014, the Society of Actuaries Retirement Plans Experience Committee published the RP-2014 Mortality Tables Report, which includes mortality experience covering the years 2004 through 2008. The current Fund post-retirement mortality assumption was studied recently in 2012 as part of a five-year experience analysis. We considered whether the new RP-2014 mortality tables should be used in this December 31, 2015, actuarial valuation, but given that the Fund has experienced mortality gains over the past several years, we were inclined to evaluate the applicability of the RP-2014 tables relative to the Fund and in the context of all the other demographic assumptions as part of the experience study planned for 2017.
12. This actuarial report as of December 31, 2015, is based on financial data as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the cost of the plan, while increases in asset values (in excess of expected) will decrease the cost of the plan.

SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago

Summary of Key Valuation Results

	2016	2015
Contributions for fiscal year beginning:		
Actuarially determined contribution requirement	\$37,130,268	\$36,273,994
Estimated employer contributions (provided by the Fund, reflecting 3% loss on collections), including supplemental contribution of \$12,500,000 due in 2015 and 2016	30,235,701	29,936,105
Actual employer contribution	--	30,588,976
Funding elements for fiscal year beginning:		
Normal cost, including administrative expenses	\$2,066,718	\$2,338,848
Fair value of assets	393,155,338	413,421,716
Actuarial value of assets	395,652,106	393,762,692
Actuarial accrued liability	910,260,360	900,840,617
Unfunded actuarial accrued liability	514,608,254	507,077,925
Funded ratio	43.47%	43.71%
GASB Information:		
Discount rate	7.50%	7.50%
Total pension liability	\$910,260,360	\$900,840,617
Plan fiduciary net position	393,155,338	413,421,716
Net pension liability	517,105,022	487,418,901
Plan fiduciary net position as a percentage of total pension liability	43.19%	45.89%
Demographic data for plan year beginning:		
Number of retired participants and beneficiaries	2,876	2,891
Number of vested former participants	145	147
Number of active participants	3,063	2,973
Total salary supplied by the Fund	\$126,294,812	\$120,376,477
Average salary	41,232	40,490

SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected benefit obligations. It is an estimated forecast – the actual long-term cost of the Fund will be determined by the actual benefits and expenses paid and the actual investment experience of the Fund.

In order to prepare a valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for the Fund is based on data provided to the actuary by Fund staff. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** The valuation is based on the fair value of assets as of the valuation date, as provided by Fund staff, and uses an “actuarial value of assets” that differs from fair value to gradually reflect year-to-year changes in the fair value of assets in determining the contribution requirements.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan members for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each member for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the Fund’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the Fund's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the Fund will be determined by the actual benefits and expenses paid and the actual investment experience of the Fund.
- If the Board is aware of any event or trend that was not considered in the valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the Fund's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
- The measurements shown in this actuarial valuation may not be applicable for other purposes. 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); and changes in plan provisions or applicable law.

As Segal has no discretionary authority with respect to the management or assets of the Fund, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Fund.

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive members, retirees and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1
Member Population: 2007 – 2015

Census Date	Active Members	Vested Terminated Members*	Retirees and Beneficiaries	Ratio of Actives to Retirees and Beneficiaries
June 30, 2007	3,040	162	3,056	0.99
June 30, 2008	3,031	161	3,013	1.01
June 30, 2009	2,865	159	3,013	0.95
June 30, 2010	2,816	160	2,956	0.95
June 30, 2011	2,795	141	2,913	0.96
June 30, 2012	2,977	153	2,921	1.02
December 31, 2012	3,053	152	2,906	1.05
December 31, 2013	3,076	148	2,904	1.06
December 31, 2014	2,973	147	2,891	1.03
December 31, 2015	3,063	145	2,876	1.07

*Excludes terminated members due a refund of employee contributions

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

Active Members

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there were 3,063 active members with an average age of 41.8, average years of service of 11.1 years and average salary of \$41,232. The 2,973 active participants in the prior valuation had an average age of 41.7, average years of service of 10.9 years and average salary of \$40,490.

Inactive Participants

In this year's valuation, there were 145 members with a vested right to a deferred or immediate vested benefit.

In addition, there were 3,976 members entitled to a return of their employee contributions.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of December 31, 2015

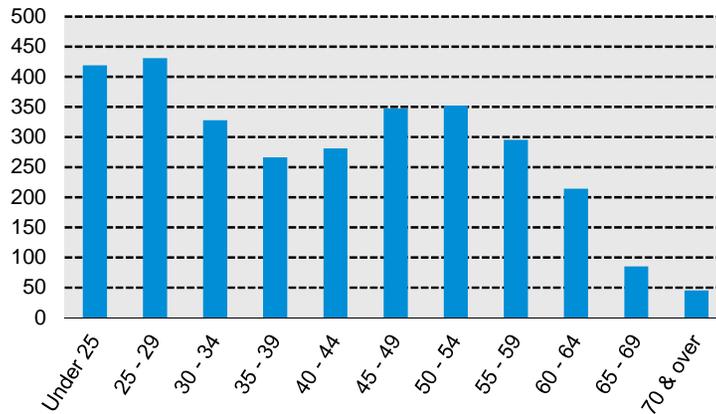
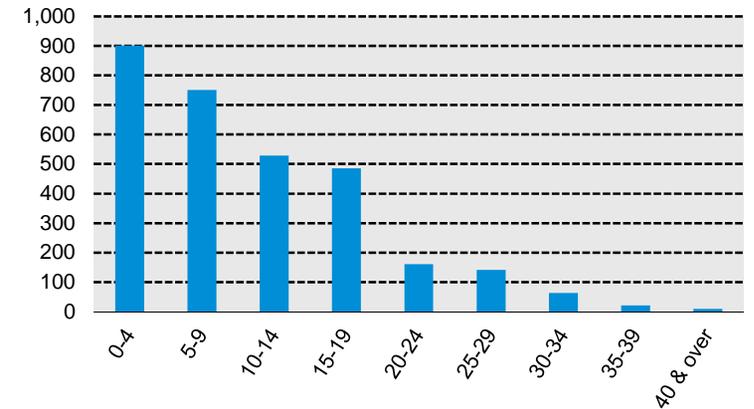


CHART 3

Distribution of Active Members by Years of Service as of December 31, 2015



SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

Retirees and Beneficiaries

As of December 31, 2015, 2,097 retirees, 767 beneficiaries, and 12 dependent children were receiving total monthly benefits of \$5,673,167. For comparison, in the previous valuation, there were 2,101 retirees, 773 beneficiaries, and 17 dependent children receiving monthly benefits of \$5,689,318.

These graphs show a distribution of the current retirees based on their monthly amount and age.

CHART 4
Distribution of Retirees by Monthly Amount as of December 31, 2015

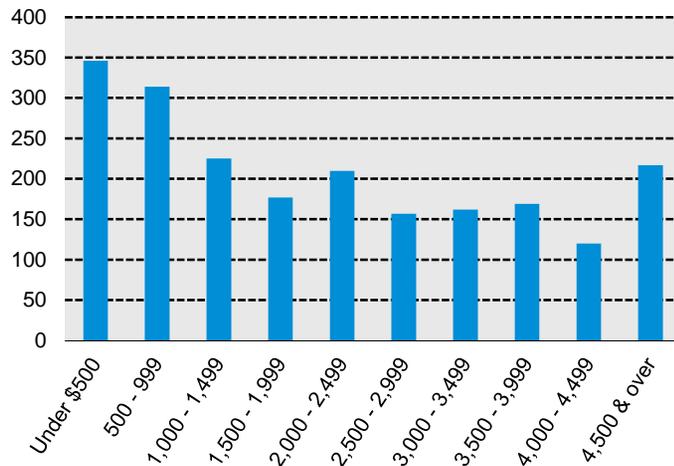
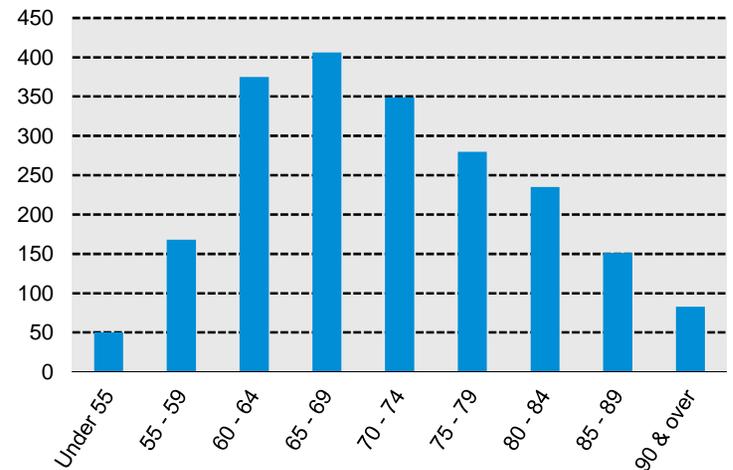


CHART 5
Distribution of Retirees by Age as of December 31, 2015



SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

B. FINANCIAL INFORMATION

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to fair value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize fair value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 6

Determination of Actuarial Value of Assets for Fiscal Years Ended December 31

		2015		2014	
1.	Actuarial value of assets as of prior valuation date		\$393,762,662		\$404,292,435
2.	Employer and employee contributions and other income		42,957,762		22,085,614
3.	Benefits and expenses		72,135,716		71,994,873
4.	Expected investment income		28,438,026		28,450,335
5.	Total investment income, including income for securities lending		8,911,576		27,562,296
6.	Investment gain/(loss): (5) – (4)		-19,526,450		-888,039
7.	Expected actuarial value of assets: (1) + (2) - (3) + (4)		393,022,734		382,833,511
8.	Calculation of unrecognized return	<u>Original Amount*</u>	<u>% Recognized</u>	<u>% Recognized</u>	
(a)	Year ended December 31, 2015	-\$19,526,450	20%	--	--
(b)	Year ended December 31, 2014	-888,039	20%	20%	-\$177,608
(c)	Year ended December 31, 2013	36,656,285	20%	20%	7,331,257
(d)	6-month period ended December 31, 2012	7,796,423	20%	20%	1,559,285
(e)	Year ended June 30, 2012	-33,453,504	20%	20%	-6,690,701
(f)	Year ended June 30, 2011	45,124,290	10% **	20%	9,024,858
(g)	Year ended June 30, 2010	-1,179,100		10% **	-117,910
(h)	Total recognized return		<u>2,629,372</u>		<u>10,929,181</u>
9.	Actuarial value of assets as of current valuation date: (7) + (8h)		<u>\$395,652,106</u>		<u>\$393,762,692</u>

* Total return minus expected return on actuarial value

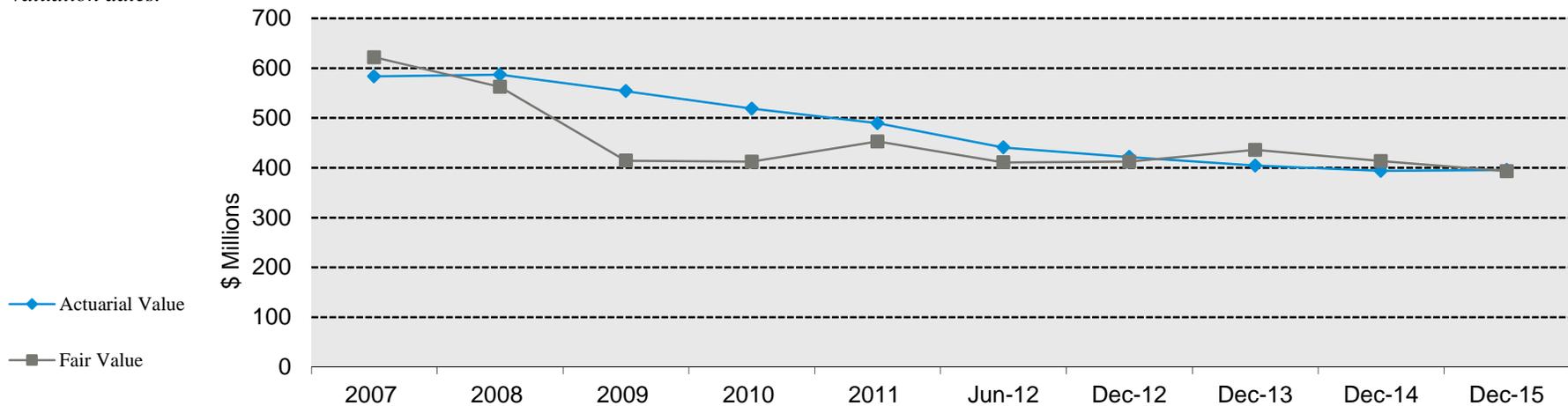
** 10% was recognized, instead of 20%, due to the short fiscal year ended December 31, 2012 in order to maintain a 5-year smoothing period.

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

Both the actuarial value and fair value of assets are representations of the fund's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the fair value of assets. The actuarial asset value is significant because the Fund's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the fair value over the past ten valuation dates.

CHART 7
Actuarial Value of Assets vs. Fair Value of Assets as of June 30, 2007 – December 31, 2015



SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

C. ACTUARIAL EXPERIENCE

To calculate the actuarially determined contribution requirement, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term

development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total gain is \$2,156,301: \$2,629,339 from investment gains and \$473,038 in losses from all other sources. The net experience variation from individual sources other than investments was 0.1% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 8
Actuarial Experience for Year Ended December 31, 2015

1. Net gain from investments*	\$2,629,339
2. Net gain from administrative expenses	56,137
3. Net loss from other experience**	<u>-529,175</u>
4. Net experience gain: (1) + (2) + (3)	\$2,156,301

* Details in Chart 9

** Details in Chart 12

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the the Fund's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.50%. The actual rate of return on an actuarial basis for the year ended December 31, 2015, was 8.19%.

Since the actual return for the year was greater than the assumed return, the Fund experienced an actuarial gain during the fiscal year ended December 31, 2015, with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 9

Actuarial Value Investment Experience for Year Ended December 31, 2015

1. Actual return	\$31,067,368
2. Average value of assets	379,173,715
3. Actual rate of return: (1) ÷ (2)	8.19%
4. Assumed rate of return	7.50%
5. Expected return: (2) x (4)	\$28,438,029
6. Actuarial gain: (1) – (5)	<u>\$2,629,339</u>

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the fair value investment return for the last ten valuation years, including five-year and ten-year averages.

Chart 10
Investment Return

Fiscal Year Ended	Fair Value	Actuarial Value
June 30, 2007	16.2%	9.3%
June 30, 2008	-3.0%	8.1%
June 30, 2009	-18.6%	2.0%
June 30, 2010	11.3%	1.5%
June 30, 2011	21.0%	3.1%
June 30, 2012	0.9%*	-0.6%*
December 31, 2012	6.3%*	1.0%*
December 31, 2013	16.9%**	6.5%*
December 31, 2014	6.9%**	10.4%*
December 31, 2015	1.9%**	8.2%*
Average Returns		
Last 5 valuation years:	7.2%	5.6%
Last 10 valuation years:	5.7%	5.1%

* As determined by Segal

**As determined by Investment Consultant

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

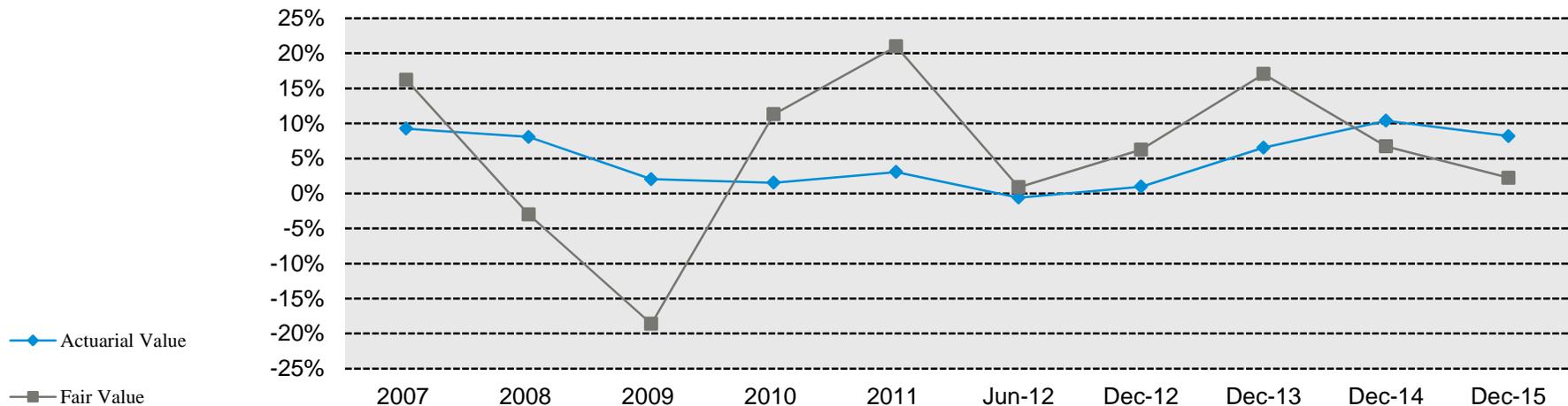
Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the fair value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling the actuarially required contribution.

Administrative Expenses

Administrative expenses for the year ended December 31, 2015 totaled \$1,533,700 compared to the assumption of \$1,531,773. This resulted in a gain of \$56,137 for the year when adjusted for timing.

This chart illustrates how this leveling effect has actually worked over the years 2007 - 2015.

CHART 11
Fair and Actuarial Rates of Return for Years Ended June 30, 2007 – December 31, 2015



SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),

- the number of disability retirements, and
- salary increases different than assumed.

The net loss from this other experience for the year ended December 31, 2015, amounted to \$529,175, which is 0.1% of the actuarial accrued liability.

A brief summary of the demographic gain/(loss) experience of the Fund for the year ended December 31, 2015 is shown in the chart below.

The chart shows elements of the experience gain/(loss) for the most recent year.

CHART 12

Experience Due to Changes in Demographics for Year Ended December 31, 2015

1. Turnover	-\$813,251
2. Retirement	-1,214,810
3. Experience among retired members and beneficiaries related to mortality and benefit amount	1,782,699
4. Salary/service increase for continuing actives	-765,745
5. Other	<u>481,932</u>
6. Total	-\$529,175

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

D. DEVELOPMENT OF EMPLOYER COSTS

The amount of actuarially determined contribution is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the actuarially determined contribution of 28.29% of payroll.

The actuarially determined contribution had been based on a 30-year, level percentage of pay amortization of the unfunded actuarial accrued liability. In April 2013, the Board of Trustees elected to close the 30-year amortization period, which ends on December 31, 2042. As of January 1, 2016, there are 27 years remaining on the amortization period.

The chart compares this valuation's actuarially determined contribution with the prior valuation.

CHART 13
Actuarially Determined Contribution

	Year Beginning January 1			
	2016		2015	
	Amount	% of Payroll	Amount	% of Payroll
1. Total normal cost	\$13,763,768	10.49%	\$13,417,795	10.75%
2. Administrative expenses	1,558,218	1.19%	1,531,772	1.22%
3. Expected employee contributions	<u>-13,255,268</u>	<u>-10.10%</u>	<u>-12,610,719</u>	<u>-10.10%</u>
4. Employer normal cost: (1) + (2) + (3)	\$2,066,718	1.57%	\$2,338,848	1.87%
5. Employer normal cost, adjusted for timing*	2,142,355	1.63%	2,424,445	1.94%
6. Actuarial accrued liability	910,260,360		900,840,617	
7. Actuarial value of assets	<u>395,652,106</u>		<u>393,762,692</u>	
8. Unfunded actuarial accrued liability: (6) - (7)	\$514,608,254		\$507,077,925	
9. Payment on unfunded actuarial accrued liability	34,987,913	26.66%	33,849,549	27.12%
10. Actuarially determined contribution, adjusted for timing*: (5) + (9)	<u>\$37,130,268</u>	<u>28.29%</u>	<u>\$36,273,994</u>	<u>29.06%</u>
11. Projected payroll	\$131,229,459		\$124,822,858	

*Recommended contributions are assumed to be paid at the middle of every month.

SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit Fund of Chicago

The actuarially determined contribution as of January 1, 2016, is based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

The chart reconciles the actuarially determined contribution from the prior valuation to the amount determined in this valuation.

CHART 14

Reconciliation of Actuarially Determined Contribution from January 1, 2015 to January 1, 2016

Actuarially Determined Contribution as of January 1, 2015	\$36,273,994
Effect of expected change in amortization payment due to payroll growth	\$930,863
Effect of change in administrative expense assumption	27,413
Effect of change in other actuarial assumptions	0
Effect of contributions less than recommended contribution	439,257
Effect of investment gain	-170,868
Effect of other gains and losses on accrued liability	30,740
Effect of net other changes	<u>-401,131</u>
Total change	<u>\$856,274</u>
Actuarially Determined Contribution as of January 1, 2016	\$37,130,268

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT A

Table of Fund Coverage

Category	December 31		Change From Prior Year
	2015	2014	
Active members in valuation:			
Number	3,063	2,973	3.0%
Average age	41.8	41.9	N/A
Average years of service	11.1	10.9	N/A
Total salary supplied by the Fund	\$126,294,812	\$120,376,477	4.9%
Average salary	\$41,232	\$40,490	1.8%
Total active vested members with at least 10 years of service	1,334	1,280	4.2%
Vested terminated members	145	147	-1.4%
Non-vested terminated members eligible for a return of contributions	3,976	3,876	2.6%
Service retirees:			
Number in pay status	2,097	2,101	-0.2%
Average age	71.8	71.1	N/A
Average monthly benefit	\$2,224	\$2,238	-0.6%
Beneficiaries (including children) in pay status:			
Number in pay status	779	790	-1.4%
Average age	77.6	76.9	N/A
Average monthly benefit	\$1,271	\$1,230	3.3%
Total number of members	10,060	9,887	1.7%

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT B

**Participants in Active Service as of December 31, 2015
By Age, Years of Service, and Average Payroll**

Age	Years of Service									
	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	419	255	164	--	--	--	--	--	--	--
	\$19,870	\$18,848	\$21,459	--	--	--	--	--	--	--
25 - 29	431	185	198	48	--	--	--	--	--	--
	26,627	26,521	26,431	\$27,844	--	--	--	--	--	--
30 - 34	328	112	98	109	9	--	--	--	--	--
	38,995	36,389	39,439	41,091	\$41,201	--	--	--	--	--
35 - 39	266	91	56	58	60	1	--	--	--	--
	48,434	48,338	46,695	48,495	50,089	\$51,809	--	--	--	--
40 - 44	281	84	54	57	65	21	--	--	--	--
	50,088	47,271	49,437	48,337	52,647	59,863	--	--	--	--
45 - 49	347	45	56	93	83	44	25	1	--	--
	48,773	43,632	38,802	48,020	50,570	58,663	\$59,662	\$51,931	--	--
50 - 54	352	51	59	63	97	27	38	17	--	--
	50,791	37,549	37,008	43,277	57,633	66,908	63,335	73,512	--	--
55 - 59	295	40	33	45	75	28	33	29	12	--
	49,660	33,566	35,803	42,624	51,506	44,099	72,413	69,171	\$59,517	--
60 - 64	214	25	25	32	68	21	26	6	7	4
	52,008	27,890	48,804	45,374	53,172	59,779	70,202	61,692	65,599	\$58,660
65 - 69	85	10	6	17	18	13	9	6	3	3
	46,377	23,990	50,359	37,498	47,008	52,027	63,487	52,806	64,484	52,781
70 & over	45	3	2	6	10	6	11	4	--	3
	49,341	50,106	24,605	56,101	43,946	25,349	63,401	66,513	--	43,067
Total	3,063	901	751	528	485	161	142	63	22	10
	\$41,232	\$31,594	\$33,305	\$43,409	\$52,268	\$55,995	\$66,070	\$67,629	\$62,129	\$52,218

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT C

Reconciliation of Member Data

	Active Members	Inactive Members	Retirees	Beneficiaries	Total
Number as of December 31, 2014	2,973	4,023	2,101	790	9,887
New participants	407	N/A	N/A	N/A	407
Terminations	(145)	145	0	0	0
Retirements	(59)	(25)	84	N/A	0
New disabilities	0	0	N/A	N/A	0
Died with beneficiary	(4)	0	(40)	40	(4)
Died without beneficiary	(1)	(3)	(48)	(46)	(98)
Refunds	(119)	(24)	0	0	(143)
Rehire	10	(10)	0	N/A	0
Certain period expired	N/A	N/A	0	(5)	(5)
Data adjustments	<u>1</u>	<u>15</u>	<u>0</u>	<u>0</u>	<u>16</u>
Number as of December 31, 2015	3,063	4,121	2,097	779	10,060

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT D

Schedule of Pensioners and Beneficiaries Added to and Removed from Rolls

<u>Fiscal Year</u>	<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>Rolls – End of Year</u>		<u>% Increase in Avg. Annual Allowances</u>	<u>Average Annual Allowances</u>
	<u>Number</u>	<u>Annual Allowances</u>	<u>Number</u>	<u>Annual Allowances</u>	<u>Number*</u>	<u>Annual Allowances</u>		
2006	117	\$3,304,140	184	\$2,631,780	3,092	\$56,086,841	3.4	\$18,139
2007	112	3,487,985	159	1,927,814	3,045	56,974,652	3.2	18,711
2008	127	3,714,283	177	2,321,096	2,995	58,367,839	4.2	19,488
2009	137	4,920,931	136	2,637,590	2,996	60,651,180	3.9	20,244
2010	113	3,442,389	167	2,903,979	2,942	61,189,590	2.7	20,799
2011	124	3,735,377	167	2,828,495	2,899	62,096,472	3.0	21,420
6/2012	167	4,681,195	158	2,797,326	2,908	63,980,341	2.7	22,001
12/2012	71	2,470,960	91**	1,290,060	2,888	65,161,241	2.6	22,563
12/2013	147	4,594,883	147	2,788,285	2,888	66,967,839	2.8	23,188
12/2014	126	4,085,581	138	2,781,597	2,876	68,271,823	2.4	23,738
12/2015	94	1,823,238	106	2,271,591	2,864	67,823,470	-0.7	23,681

* Does not include child beneficiaries receiving a pension.

** Includes removal of 17 QDROs for participant count purposes.

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT E

Summary Statement of Income and Expenses on a Fair Value Basis at Fiscal Year Ended December 31

	2015	2014
Net position at fair value at the beginning of the year	\$413,421,716	\$435,768,679
Contribution income:		
Employer contributions	\$30,588,976	\$11,225,438
Employee contributions	12,368,636	10,831,434
Less administrative expenses	<u>-1,533,700</u>	<u>-1,458,831</u>
Net contribution income	41,423,912	20,598,041
Securities lending income	87,963	71,776
Other income	150	28,742
Investment income:		
Interest, dividends and other income	\$5,571,724	\$5,203,367
Asset appreciation	5,476,079	24,707,166
Less investment and administrative fees	<u>-2,224,190</u>	<u>-2,420,013</u>
Net investment income	<u>8,823,613</u>	<u>27,490,520</u>
Total income available for benefits	\$50,335,638	\$48,189,079
Less benefit payments:		
Annuity payments	-\$67,935,347	-\$67,206,100
Disability & death	-618,494	-600,551
Refund of contributions	<u>-2,048,175</u>	<u>-2,729,391</u>
Net benefit payments	-\$70,602,016	-\$70,536,042
Change in reserve for future benefits	-\$20,266,378	-\$22,346,963
Net position at fair value at the end of the year	\$393,155,338	\$413,421,716

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT F

Summary Statement of Fund Assets at Fiscal Year Ended December 31

	2015	2014
Accounts receivable	\$20,420,057	\$12,297,043
Investments, at fair value:		
Collective investment funds	\$93,042,804	\$100,312,592
Bonds	62,725,711	69,958,140
Common and preferred stocks	53,062,089	60,342,493
Real estate	41,728,500	46,031,161
Private equity partnerships	39,901,128	50,163,093
Hedged equity	23,565,871	35,663,184
Infrastructure	20,826,213	0
Mutual funds	16,017,830	12,613,552
Foreign common stocks	13,620,861	0
Short-term investments	<u>4,818,526</u>	<u>22,968,749</u>
Total investments at fair value	369,309,533	398,052,964
Invested securities lending collateral	45,712,100	45,579,952
Prepaid annuity benefits	4,308,029	4,190,601
Furniture and fixtures, net	65,251	40,335
Prepaid expenses	<u>65,046</u>	<u>60,721</u>
Total assets	\$439,880,016	\$460,221,616
Less accounts payable:		
Accounts payable	-\$410,862	-\$334,969
Accrued benefits payable	-405,881	-725,214
Securities lending collateral	-45,712,100	-45,579,952
Due to broker	-116,784	-72,743
Deferred rent	<u>-79,051</u>	<u>-87,022</u>
Total accounts payable	-\$46,724,678	-\$46,799,900
Net position at fair value	<u>\$393,155,338</u>	<u>\$413,421,716</u>
Net position at actuarial value	<u>\$395,652,106</u>	<u>\$393,762,692</u>

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT G

Development of the Fund Through December 31, 2015

Fiscal Year Ended	Employer Contributions	Employee Contributions	Net Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
June 30, 2007	\$9,594,593	\$9,719,082	\$51,140,015	\$1,237,899	\$58,578,971	\$583,295,949
June 30, 2008	8,998,687	10,264,805	45,344,625	1,289,579	59,938,455	586,676,032
June 30, 2009	9,667,765	10,141,146	11,549,827	1,335,180	62,945,073	553,754,517
June 30, 2010	10,829,339	9,829,998	8,194,551	1,465,562	62,560,242	518,582,601
June 30, 2011	10,981,419	9,791,650	15,218,630	1,498,905	63,704,890	489,370,505
June 30, 2012	10,868,361	10,404,827	-2,804,426	1,644,603	65,502,658	440,692,006
December 31, 2012	5,268,363	5,371,084	4,121,362	723,802	33,281,012	421,448,001
December 31, 2013	15,707,814	10,732,730	26,107,300	1,367,443	68,335,967	404,292,435
December 31, 2014	11,225,438	10,831,434	39,408,258	1,458,831	70,536,042	393,762,692
December 31, 2015	30,588,976	12,368,636	31,067,518	1,533,700	70,602,016	395,652,106

* On an actuarial basis, net of investment fees

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability

	Plan Year Ended December 31	
	2015	2014
1. Unfunded actuarial accrued liability at beginning of year	\$507,077,925	\$483,730,929
2. Normal cost (including administrative expenses) at beginning of year	14,949,567	14,411,589
3. Total contributions	42,957,612	22,056,872
4. Interest		
(a) Unfunded actuarial accrued liability and normal cost	\$39,152,063	\$37,360,689
(b) Total contributions	<u>1,457,388</u>	<u>748,304</u>
(c) Total interest: (4a) – (4b)	<u>37,694,675</u>	<u>36,612,385</u>
5. Expected unfunded actuarial accrued liability: (1) + (2) – (3) + (4c)	\$516,764,555	\$512,698,031
6. Changes due to (gain)/loss from:		
(a) Investments	-\$2,629,339	-\$10,929,182
(b) Demographics and other	<u>473,038</u>	<u>5,309,076</u>
(c) Total changes due to (gain)/loss: (6a) + (6b)	-\$2,156,301	-\$5,620,106
7. Change to due plan amendments	<u>0</u>	<u>0</u>
8. Unfunded accrued liability at end of year: (5) + (6c) + (7)	<u>\$514,608,254</u>	<u>\$507,077,925</u>

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT I

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability

For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability

For Pensioners:

The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Actuarial Cost Method:

A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.

Actuarial Gain or Actuarial Loss:

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

Actuarially Equivalent:	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	<p>The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is:</p> <ol style="list-style-type: none">Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)Multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, andDiscounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial Present Value of Future Plan Benefits:	<p>The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.</p>
Actuarial Valuation:	<p>The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).</p>
Actuarial Value of Assets:	<p>The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.</p>

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Fund's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	<p>The estimates on which the cost of the Fund is calculated including:</p> <ul style="list-style-type: none">(a) <u>Investment return</u> - the rate of investment yield that the Fund will earn over the long-term future;(b) <u>Mortality rates</u> - the death rates of employees and pensioners; life expectancy is based on these rates;(c) <u>Retirement rates</u> - the rate or probability of retirement at a given age;(d) <u>Turnover rates</u> - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;(e) <u>Salary increase rates</u> - the rates of salary increase due to inflation and productivity growth.

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the fair value of assets (MVA), rather than the AVA.

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

GASB:	Governmental Accounting Standards Board.
GASB 67 and GASB 68:	Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment Return:	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.

SECTION 3: Supplemental Information for the Park Employees' Annuity and Benefit Fund of Chicago

Plan Fiduciary Net Position:	Fair value of assets.
Total Pension Liability (TPL):	The actuarially accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1. Pensioners as of the valuation date (including 767 beneficiaries and 12 dependent children)		2,876
2. Members inactive as of the valuation date with vested rights		145
3. Members active as of the valuation date		3,063
Fully vested	1,334	
Not vested	1,729	
4. Other non-vested inactive members as of the valuation date		3,674

The actuarial factors as of the valuation date are as follows:

1. Employer normal cost, including administrative expenses		\$2,066,718
2. Actuarial accrued liability		910,260,360
Retirees and beneficiaries	\$625,396,307	
Inactive members with vested rights	21,817,615	
Active members	263,046,438	
3. Actuarial value of assets (\$393,155,338 at fair value)		395,652,106
4. Unfunded actuarial accrued liability		\$514,608,254
5. Funded ratio: (3) ÷ (2)		43.5%

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the actuarially determined contribution is as follows:

1. Total normal cost	\$13,763,768
2. Administrative expenses	1,558,218
3. Expected employee contributions	<u>-13,255,268</u>
4. Employer normal cost: (1) + (2) + (3)	\$2,066,718
5. Employer normal cost projected, adjusted for timing	2,142,355
6. Payment on projected unfunded/(overfunded) actuarial accrued liability	34,987,913
7. Total actuarially determined contribution: (5) + (6), adjusted for timing	<u>\$37,130,268</u>
8. Estimated employer contributions provided by the Fund, reflecting 3% loss on collections and supplemental contribution of \$12,500,000 due in 2016	30,235,701
9. Projected payroll	\$131,229,459
10. Total actuarially determined contribution as a percentage of projected payroll: (7) ÷ (9)	28.29%

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT II

Comparison of Employer Contribution to Actuarially Determined Contribution

Fiscal Year Ended	Actuarially Determined Contribution (ADC)*	Actual Contributions	Percentage Contributed
June 30, 2007	\$14,571,540	\$9,594,593	65.8%
June 30, 2008	16,073,257	8,998,687	56.0%
June 30, 2009	18,285,474	9,667,765	52.9%
June 30, 2010	22,399,740	10,829,339	48.3%
June 30, 2011	25,319,145	10,981,419	43.4%
June 30, 2012	28,051,528	10,868,361	38.7%
December 31, 2012	16,786,671	5,268,636	31.4%
December 31, 2013	41,834,857	15,707,814	37.5%
December 31, 2014	35,307,186	11,225,438	31.8%
December 31, 2015	36,273,994	30,588,976	84.3%
December 31, 2016	37,130,268	--	--

**Prior to 2015, this amount was the Annual Required Contribution (ARC)*

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT III

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll* [(b) - (a)] / (c)
06/30/2007	\$583,295,949	\$767,930,632	\$184,634,683	75.96%	\$106,601,982	173.20%
06/30/2008	586,676,032	795,379,129	208,703,097	73.76%	111,698,366	186.85%
06/30/2009	553,754,517	823,896,936	270,142,419	67.21%	108,882,742	248.10%
06/30/2010	518,582,601	833,025,948	314,443,347	62.25%	107,361,021	292.88%
06/30/2011	489,370,505	843,943,240	354,572,735	57.99%	107,686,693	329.26%
06/30/2012	440,692,006	866,370,565	425,678,559	50.87%	114,223,909	372.67%
12/31/2012	421,448,001	971,807,222	550,359,221	43.37%	58,231,511	472.56%**
12/31/2013	404,292,435	888,023,364	483,730,929	45.53%	117,781,596	410.70%
12/31/2014	393,762,692	900,840,617	507,077,925	43.71%	118,987,507	426.16%
12/31/2015	395,652,106	910,260,360	514,608,254	43.47%	122,382,584	420.49%

* Not less than zero

** Adjusted for annualized covered payroll

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT IV

Solvency Test at December 31

	12/31/2015	12/31/2014	12/31/2013	12/31/2012	06/30/2012	06/30/2011
1. Actuarial accrued liability (AAL)						
a. Active member contributions	\$173,241,768	\$169,952,178	\$171,065,449	\$166,554,660	\$158,144,793	\$151,828,106
b. Retirees and beneficiaries	625,396,307	625,641,580	621,827,982	662,153,615	599,353,146	583,999,785
c. Active and inactive members (employer financed)	<u>111,622,285</u>	<u>105,246,859</u>	<u>95,129,933</u>	<u>143,098,947</u>	<u>108,872,626</u>	<u>108,115,349</u>
d. Total	\$910,260,360	\$900,840,617	\$888,023,364	\$971,807,222	\$866,370,565	\$843,943,240
2. Actuarial value of assets	395,652,106	393,762,692	404,292,435	421,448,001	440,692,006	489,370,505
3. Cumulative portion of AAL covered						
a. Active member contribution	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
b. Retirees and beneficiaries	35.6%	35.8%	37.5%	38.5%	47.1%	57.8%
c. Active and inactive members (employer financed)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT V

Projection of Contributions, Liabilities, and Assets

Based on the results of the December 31, 2015, actuarial valuation, we have projected valuation results for a 40-year period commencing with Fiscal Year 2016.

For purposes of the projections, all assets, contributions, and benefit payments have been included. Our projections of contributions, liabilities, and assets are based on the actuarial assumptions, membership data and benefit provisions that were used for the regular actuarial valuation.

In order to determine projected contributions, liabilities, and assets, certain calculations needed to be made that are not normally required in a regular actuarial valuation. Benefit payout requirements, actuarial liabilities, and payroll were estimated over the 40-year period from 2016 through 2054 by projecting the membership of the Fund over the 40-year period, taking into account the impact of new entrants into the Fund over the 40-year period.

To make the required projections, assumptions needed to be made regarding the age and salary distribution of new entrants as well as the size of the active membership of the Fund. The assumptions regarding the profile of new entrants to the Fund were based on the recent experience of the Fund with regard to new entrants. The size of the active membership of the Fund was assumed to remain constant over the 40-year projection period. The results of our projections are shown on the following pages.

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT V (continued)

Projection of Contributions, Liabilities, and Assets

Fiscal Year	Employee Contributions	Employer Contributions	Supplemental Contributions	Payroll	Normal Cost	Benefit Payouts	Estimated Expenses	Total Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability	Funded Ratio
2015								910,260.4	395,652.1	514,608.3	43.5%
2016	13,255.3	17,735.7	12,500.0	131,229.5	13,763.8	72,910.3	1,610.4	917,681.5	394,558.6	523,122.9	43.0%
2017	14,274.8	27,619.3	0.0	128,567.8	13,609.5	73,373.1	1,690.9	925,013.2	393,665.6	531,347.6	42.6%
2018	14,056.2	29,599.1	0.0	126,580.5	13,529.7	73,303.0	1,775.4	932,881.9	386,281.9	546,600.0	41.4%
2019	15,130.3	40,191.1	50,000.0	124,983.2	13,437.3	73,762.8	1,864.2	940,764.1	441,861.4	498,902.8	47.0%
2020	14,993.7	39,575.6	0.0	123,844.6	13,402.9	73,772.0	1,957.4	949,191.2	452,740.8	496,450.3	47.7%
2021	14,882.8	42,599.9	0.0	122,920.4	13,358.0	74,183.6	2,055.3	957,774.9	466,959.1	490,815.8	48.8%
2022	14,810.8	42,215.2	0.0	122,320.2	13,338.2	74,507.0	2,158.1	966,645.6	481,384.5	485,261.1	49.8%
2023	14,758.8	41,902.9	0.0	121,887.6	13,321.2	74,902.0	2,266.0	975,753.5	496,115.1	479,638.3	50.8%
2024	14,712.6	41,700.2	0.0	121,502.3	13,275.4	75,333.4	2,379.3	985,047.6	511,196.4	473,851.2	51.9%
2025	14,676.4	41,554.0	0.0	121,201.1	13,233.6	75,799.6	2,498.2	994,510.3	526,624.3	467,886.0	53.0%
2026	14,641.9	41,423.8	0.0	120,913.5	13,163.1	76,315.6	2,623.1	1,004,071.5	542,381.9	461,689.6	54.0%
2027	14,605.4	41,322.0	0.0	120,608.7	13,072.7	76,761.2	2,754.3	1,013,790.3	558,584.3	455,206.0	55.1%
2028	14,601.1	41,224.9	0.0	120,573.5	13,026.1	77,118.3	2,892.0	1,023,817.4	575,385.4	448,432.1	56.2%
2029	14,616.8	41,121.9	0.0	120,703.9	12,987.2	77,913.6	3,036.6	1,033,729.7	592,381.5	441,348.1	57.3%
2030	14,638.3	41,110.0	0.0	120,882.9	12,954.8	78,688.8	3,188.5	1,043,546.2	609,701.0	433,845.2	58.4%
2031	14,666.9	41,154.1	0.0	121,121.8	12,930.6	79,523.9	3,347.9	1,053,206.5	627,363.3	425,843.3	59.6%
2032	14,700.6	41,214.5	0.0	121,402.1	12,900.2	80,274.6	3,515.3	1,062,779.8	645,495.3	417,284.5	60.7%
2033	14,750.0	41,295.2	0.0	121,814.3	12,879.0	80,866.9	3,691.0	1,072,433.8	664,325.5	408,108.3	61.9%
2034	14,818.1	41,390.0	0.0	122,381.6	12,873.8	81,431.9	3,875.6	1,082,220.1	683,959.3	398,260.8	63.2%
2035	14,891.1	41,529.2	0.0	122,990.1	12,860.8	82,024.9	4,069.4	1,092,111.2	704,469.6	387,641.6	64.5%
2036	14,973.1	41,720.9	0.0	123,673.2	12,856.2	80,508.2	4,272.8	1,104,312.6	728,164.5	376,148.1	65.9%
2037	15,055.1	41,926.5	0.0	124,356.7	12,847.0	81,042.3	4,486.5	1,116,865.2	753,159.2	363,706.0	67.4%
2038	15,149.1	42,157.3	0.0	125,140.0	12,846.1	81,358.1	4,710.8	1,130,030.6	779,805.1	350,225.5	69.0%
2039	15,271.1	42,388.2	0.0	126,156.4	12,877.2	81,779.9	4,946.3	1,143,779.3	808,133.5	335,645.8	70.7%
2040	15,396.6	42,652.9	0.0	127,202.0	12,905.1	82,057.6	5,193.7	1,158,300.9	838,446.6	319,854.3	72.4%
2041	15,532.8	42,996.3	0.0	128,337.0	12,940.1	82,359.8	5,453.3	1,173,635.8	870,947.9	302,687.9	74.2%
2042	15,692.5	43,349.5	0.0	129,668.4	12,991.6	82,553.7	5,726.0	1,189,975.0	905,934.9	284,040.0	76.1%
2043	15,867.5	43,733.0	0.0	131,126.8	13,060.1	82,346.5	6,012.3	1,207,828.2	944,043.4	263,784.8	78.2%
2044	16,068.1	44,182.9	0.0	132,797.9	13,146.5	82,165.9	6,312.9	1,227,300.6	985,560.2	241,740.4	80.3%
2045	16,286.7	44,675.6	0.0	134,619.7	13,249.1	81,838.8	6,628.6	1,248,683.2	1,030,940.7	217,742.5	82.6%
2046	16,518.6	45,240.2	0.0	136,552.4	13,354.9	81,388.3	6,960.0	1,272,250.7	1,080,674.7	191,576.0	84.9%

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT V (continued)

Projection of Contributions, Liabilities, and Assets

Fiscal Year	Employee Contributions	Employer Contributions	Supplemental Contributions	Payroll	Normal Cost	Benefit Payouts	Estimated Expenses	Total Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability	Funded Ratio
2047	16,778.0	45,855.7	0.0	138,714.4	13,492.2	80,848.1	7,308.0	1,298,293.8	1,135,245.9	163,047.8	87.4%
2048	17,051.9	46,508.7	0.0	140,996.1	13,644.2	80,149.5	7,673.4	1,327,178.2	1,195,217.2	131,961.0	90.1%
2049	15,196.9	13,107.1	0.0	143,472.2	13,812.8	79,479.7	8,057.1	1,359,105.1	1,223,404.6	135,700.5	90.0%
2050	15,472.6	13,687.5	0.0	146,097.8	13,987.7	78,737.7	8,459.9	1,394,384.4	1,254,946.0	139,438.4	90.0%
2051	15,770.0	14,141.2	0.0	148,930.6	14,184.8	78,005.5	8,882.9	1,433,281.1	1,289,953.0	143,328.1	90.0%
2052	16,085.7	14,413.0	0.0	151,936.9	14,398.1	77,449.7	9,327.1	1,475,901.1	1,328,311.0	147,590.1	90.0%
2053	16,416.6	14,691.3	0.0	155,088.2	14,627.0	76,743.4	9,793.4	1,522,696.4	1,370,426.8	152,269.6	90.0%
2054	16,772.3	15,002.4	0.0	158,476.1	14,886.1	76,098.9	10,283.1	1,573,948.6	1,416,553.7	157,394.9	90.0%

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT VI

Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

The RP-2000 Combined Healthy Mortality Table, set forward 1 year for female participants with generational projection from 2003 using Scale AA (adopted December 31, 2012).

The mortality table specified above was determined to contain provision appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

Termination:

Select and ultimate termination rates are based on recent experience of the Fund (adopted December 31, 2012). Ultimate rates applicable for members with eight or more years of service are shown for sample ages in the table on the next page. Select rates are as follows:

Years of Service	Rate (%)
0 - 0.99	15.0
1 - 1.99	13.5
2 - 2.99	12.0
3 - 3.99	11.0
4 - 4.99	10.0
5 - 5.99	9.0
6 - 6.99	8.5
7 - 7.99	8.0

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

Ultimate rates:

Age	Rate (%)
20	7.0
25	7.0
30	6.0
35	5.0
40	3.5
45	3.3
50	3.0
55	3.0

Retirement Rates:

For employees first hired prior to January 1, 2011, rates of retirement for each age from 50 to 75 based on the recent experience of the Fund were used (adopted December 31, 2012). Sample rates are shown below.

Age	Rate (%)	
	<30 Years of Service	30+ Years of Service
50	5.0	40.0
55	5.0	20.0
60	6.0	6.0
65	12.0	12.0
70	14.0	14.0
75	100.0	100.0

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

For employees first hired on or after January 1, 2011, rates of retirement for each age from 62 to 75 were used (adopted June 30, 2011; revised December 31, 2013). Sample rates are shown below.

Age	Rate (%)
60	20.0
62	50.0
65	20.0
67	50.0
70	20.0
75	100.0

Salary Increases:

Assumed salary increases are based on the recent experience of the Fund were used (adopted December 31, 2012). Rates are shown below.

Years of Service	Rate (%)
0 - 0.99	15.00
1 - 1.99	7.50
2 - 2.99	3.75
3 - 3.99	3.25
4+	2.75

Valuation of Inactive Vested Participants:

The liability for an inactive member is equal to his or her existing account balance, or, if the participant has at least 10 years of service, twice the existing account balance.

Unknown Data for Participants:

Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.

Spouses:

75% of participants were assumed to be married and females are assumed to be 2 years younger than males.

Disability Benefit Valuation:

Disability benefits are valued in normal cost by annualizing the actual monthly disability payment amounts for the month prior to the valuation date.

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

Net Investment Return: 7.50% per year (adopted December 31, 2012)

Inflation: 2.75% per year (adopted December 31, 2012)

Payroll Growth: 2.75% per year (adopted December 31, 2012)

Administrative Expenses: Equal to actual expenses for the prior year, increased by 5%.

Actuarial Value of Assets: The actuarial value of assets was determined by smoothing unexpected gains and losses over a period of 5 years. The gain or loss for a year is calculated as the total investment income on the fair value of assets, minus expected investment return on the prior actuarial value of assets. The final actuarial value is equal to the expected actuarial value plus (or minus) 20% of the calculated gain (or loss) in the prior 5 years.

Actuarial Cost Method: Entry Age Normal (adopted December 31, 2012). Under this method, a normal cost is calculated for each employee that is the level annual contribution as a percent of pay required to be made from the employee's date of hire for as long as he/she remains active so that sufficient assets will be accumulated to provide his/her benefit. The accrued liability is the difference between the present value of all future benefits and the present value of all future normal costs.

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT VII

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Fund included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership:	Any person employed by the Chicago Park District in a position requiring service for 6 months or more in a calendar year is required to become a member of the Fund as a condition of employment.
Employee Contributions:	<p>All members of the Fund are required to contribute 10% of salary to the Fund as follows: 8% for the retirement pension, 1% for the spouse's pension, and 1% for the automatic increases in the retirement pension. In addition, employees are required to contribute \$3.60 per month toward the cost of the single sum death benefit.</p> <p>This 8% towards the retirement pension will increase to 9% in 2017 and 10% in 2019. This will decrease to 8.5% only if the funded ratio reaches 90%, but it will revert back to 10% if the funding ratio subsequently falls below 90%.</p>
Retirement Pension:	<p>a. Eligibility – An employee may retire at age 50 (age 58 for members younger than age 45 as of January 1, 2015) with at least 10 years of service or at age 60 with 4 years of service. If retirement occurs before age 60, the retirement pension is reduced $\frac{1}{4}$ of 1% of each month that the age of the member is below 60. However, there is no reduction if the employee has at least 30 years of service.</p> <p>b. Amount – The retirement pension is based on the average of the 4 highest consecutive years of salary within the last 10 years. For an employee who withdraws from service on or after December 31, 2003, the amount of the retirement pension is 2.4% of highest average salary for each year of service.</p> <p>The maximum pension payable is 80% of the highest annual salary.</p>

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

An employee who was a participant before July 1, 1971 is entitled to the pension provided under the money purchase formula if it provides a greater pension than that provided under the above fixed benefit formula.

An employee who first becomes a participant on or after January 1, 2011 is subject to the following provisions:

1. The highest salary for annuity purposes is equal to the average monthly salary obtained by dividing the participant's total salary during the 96 consecutive months of service within the last 120 months of service in which the total compensation was the highest by the number of months in that period.
2. For 2016, the annual salary is limited to \$111,571.63. Limitations for future years shall automatically be increased by the lesser of 3% or one-half the percentage change in the Consumer Price Index-U during the preceding calendar year.
3. A participant is eligible to retire with unreduced benefits after attainment of age 67 with at least 10 years of service credit. However, a participant may elect to retire at age 62 with at least 10 years of service credit and receive a retirement annuity reduced by $\frac{1}{2}$ of 1% for each month that the age of the member is below 67. Effective January 1, 2015, the age 62 and 67 requirements become 60 and 65, respectively.

Post-Retirement Increase:

An employee retiring at age 60 or over, or an employee with 30 or more years of service, is entitled to automatic annual increases of 3% of the originally granted pension following one year's receipt of pension payments. In the case of an employee with less than 30 years of service who retires before age 60, the increases begin following the later of attainment of age 60 and receipt of one year's pension payments.

Automatic annual increases (AAI) in the retirement annuity for employees who first became a participant on or after January 1, 2011 are payable starting at age 65 effective January 1, 2015.

Automatic annual increases in the retirement annuity are equal to the lesser of 3% or one-half the annual change in the Consumer Price Index-U, whichever is less, based on the originally granted retirement annuity. No AAI is payable in 2017 or 2019.

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

Surviving Spouse's Pension:

A surviving spouse is entitled to a pension upon the death of an employee while in service or on retirement. If the surviving spouse is age 60 or over and the employee or retiree had at least 20 years of service, the minimum surviving spouse's pension is 50% of the deceased employee's or retired employee's pension at the date of death. If the age of the surviving spouse is less than 60, the pension is reduced ½ of 1% for each month the surviving spouse is under age 60. If the employee had less than 20 years of service, the surviving spouse is entitled to a pension under the money purchase formula, taking into account employee and employer contributions toward the surviving spouse's pension.

Surviving spouse's pensions are subject to annual increases of 3% per year based on the current amount of pension.

For employees who first become a participant on or after January 1, 2011, the initial survivor's annuity is equal to 66 2/3% of the participant's earned retirement annuity at the date of death, subject to automatic annual increases of the lesser of 3% or one-half of the increase in the Consumer Price Index-U during the preceding calendar year, based on the originally granted survivor's annuity.

Children's Pension:

Unmarried children of a deceased employee under the age of 18 are entitled to a children's pension. If either parent is living, the pension is \$100.00 per month. If no parent survives, the pension for each child is \$150.00 per month. The total amount payable to a spouse or children may not exceed 60% of the employee's final salary.

Single Sum Death Benefit:

A death benefit is payable upon the death of an employee in service in addition to any other benefits payable to the surviving spouse or minor children. The death benefit payable is as follows:

\$3,000 benefit during the first year of service,
\$4,000 benefit during the second year of service,
\$5,000 benefit during the third year of service,
\$6,000 benefit during the fourth through tenth year of service, and
\$10,000 benefit if death occurs after ten or more years of service.

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

Upon the death of a retired member with ten or more years of service, the \$10,000 maximum benefit is reduced to \$6,000 if death occurs during the first year of retirement. Thereafter, it is reduced by \$1,500 for each year or fraction of a year while on retirement, but shall not be less than \$3,000.

Ordinary Disability Benefit: An ordinary disability benefit is payable after eight consecutive days of absence for illness without pay. The amount of the benefit is 45% of salary. The benefit is payable for a period not to exceed $\frac{1}{4}$ of the length of service or five years, whichever is less.

Occupational Disability Benefit: Upon disability resulting from an injury incurred while on duty, an employee is entitled to a disability benefit of 74% of salary from the first day of absence without pay. The occupational disability benefit is decreased to 73% of salary in 2017 and 72% in 2019. The benefit is payable during the period of disability until the employee attains age 65 if disability is incurred before age 60, or for a period of five years if disability is incurred after age 60.

Occupational Death Benefit: Upon the death of an employee resulting from an accident incurred in the performance of duty, the surviving spouse is entitled to an occupational death benefit of 50% of salary. Each unmarried child under the age of 18 is entitled to a benefit of \$100 per month. The combined payments to a family may not exceed 75% of the employee's final salary. The total payments are reduced by Workmen's Compensation benefits.

SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago

Refunds:	An employee who terminates employment before qualifying for a pension is entitled to a refund of employee contributions. The refund is payable to any employee who withdraws before age 55, regardless of the length of service. It is also payable to an employee who withdraws between age 55 and 60 with less than 10 years of service, and to an employee who withdraws after age 60 with less than 5 years of service. An employee who is unmarried at date of retirement is entitled to a refund of the full amount contributed for the spouse's pension, without interest.
Plan Year:	January 1 through December 31. Prior to December 31, 2012, the plan year was July 1 through June 30.
Employer Contributions:	The tax multiple is 1.7 for 2016 and increases to 2.3 for 2017 and 2018, and 2.9 for 2019 and thereafter. Once the funding ratio reaches 90%, the employer contribution will be the lesser of 2.9 times the employee contributions during the fiscal year two years prior, or the amount needed to maintain a funding ratio of 90%. Additional employer contributions will be made in the amounts of \$12,500,000 in 2016 and \$50,000,000 in 2019.

SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT 1

Net Pension Liability

The components of the net pension liability of the Fund at December 31, 2015 were as follows:

Total pension liability	\$910,260,360
Plan fiduciary net position	393,155,338
Net pension liability	517,105,022
Plan fiduciary net position as a percentage of the total pension liability	43.19%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of December 31, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	Service-based ranging from 15% to 2.75%
Investment rate of return	7.50%, net of pension plan investment expense, including inflation+
Cost of living adjustments	All retiree COLAs are the lesser of 3% and 1/2 of CPI of the original benefit. Beneficiary COLAs are 3% compounded. COLAs will not be granted during 2017 and 2019. (This does not affect COLAs for beneficiaries.)

For healthy members, mortality rates were based on the RP-2000 Combined Healthy Table, set forward 1 year for female participants, with generational projection from 2003 using Scale AA.

The actuarial assumptions used in the December 31, 2015, valuation were based on the results of an experience study for the period July 1, 2007 to June 30, 2012.

Discount rate: The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that member and employer contributions will be made as specified by Public Act 98-0622. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions and contributions from future plan members that are intended to fund the service costs of future plan members and their beneficiaries are not included. Based on those assumptions, the pension plan's

SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago

fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the Fund, calculated using the discount rate of 7.50%, as well as what the Fund’s net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net pension liability as of December 31, 2015	\$614,722,758	\$517,105,022	\$435,018,062

SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT 2

Schedule of Changes in Net Pension Liability

	2015	2014
Total pension liability		
Service cost	\$13,417,795	\$12,975,774
Interest	65,921,805	64,929,834
Change of benefit term	0	0
Differences between expected and actual experience	682,159	5,447,687
Changes of assumptions	0	0
Benefit payments, including refunds of employee contributions	<u>-70,602,016</u>	<u>-70,536,042</u>
Net change in total pension liability	9,419,743	12,817,253
Total pension liability – beginning	<u>900,840,617</u>	<u>888,023,364</u>
Total pension liability – ending (a)	<u>910,260,360</u>	<u>900,840,617</u>
Plan fiduciary net position		
Contributions – employer	30,588,976	11,225,438
Contributions – employee	12,368,636	10,831,434
Net investment income	8,823,613	27,490,520
Benefit payments, including refunds of employee contributions	-70,602,016	-70,536,042
Administrative expense	-1,533,700	-1,458,831
Other	<u>88,113</u>	<u>100,518</u>
Net change in plan fiduciary net position	-20,266,378	-22,346,963
Plan fiduciary net position – beginning	<u>413,421,716</u>	<u>435,768,679</u>
Plan fiduciary net position – ending (b)	393,155,338	413,421,716
Fund’s net pension liability – ending (a) – (b)	<u>517,105,022</u>	<u>487,418,901</u>
Plan fiduciary net position as a percentage of the total pension liability	43.19%	45.89%
Covered employee payroll	122,382,584	118,987,507
Fund’s net pension liability as percentage of covered employee payroll	422.53%	409.64%

SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago

EXHIBIT 3

Schedule of Employer Contribution – Last Ten Fiscal Years

Fiscal Year Ended	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
June 30, 2007	\$14,571,540	\$9,594,593	\$4,976,947	\$106,601,982	9.00%
June 30, 2008	16,073,257	8,998,687	7,074,570	111,698,366	8.06%
June 30, 2009	18,285,474	9,667,765	8,617,709	108,882,742	8.88%
June 30, 2010	22,399,740	10,829,339	11,570,401	107,361,021	10.09%
June 30, 2011	25,319,145	10,981,419	14,337,726	107,686,693	10.20%
June 30, 2012	28,051,528	10,868,361	17,183,167	114,223,909	9.51%
December 31, 2012	16,786,671	5,268,363	11,518,308	58,231,511	9.05%
December 31, 2013	41,834,857	15,707,814	26,127,043	117,781,596	13.34%
December 31, 2014	35,307,186	11,225,438	24,081,748	118,987,507	9.43%
December 31, 2015	36,273,994	30,588,976	5,685,018	122,382,584	24.99%

SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago

Notes to EXHIBIT 3

Valuation date	Actuarially determined contribution amount is determined as of December 31, with appropriate interest to the middle of the year.
Methods and assumptions used to establish “actuarially determined contribution” rates:	
Actuarial cost method	Entry Age Actuarial cost method
Amortization method	27-year closed, level percentage of payroll amortization
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.50%, net of investment expense
Projected salary increases	Service-based ranging from 15% to 2.75%
Mortality	Post-retirement mortality rates were based on the RP-2000 Combined Healthy Mortality Tables set forward 1 year for females with generational projection from 2003 using scale AA for mortality improvements. Pre-retirement mortality rates are the same as post-retirement rates.
Cost of living adjustments	All retiree COLAs are the lesser of 3% and 1/2 of CPI of the original benefit. Beneficiary COLAs are 3% compounded. COLAs will not be granted during 2017 and 2019. (This does not affect COLAs for beneficiaries.)
Other assumptions:	Same as those used in the December 31, 2015, actuarial funding valuations.

5594178v3/13806.005