

# Comprehensive Annual Financial Report

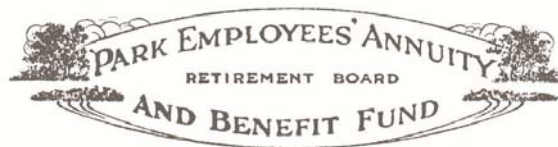
of the

Park Employees' and  
Retirement Board Employees'  
Annuity and Benefit Fund

Component Unit of the Chicago Park District  
State of Illinois

For the years ended December 31, 2016 and 2015

Prepared by the Administrative Staff of the Retirement Board



Park Employees' Annuity and Benefit Fund  
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Government Finance Officers Association

**Certificate of  
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for Excellence  
in Financial  
Reporting**

Presented to

**Park Employees' and Retirement Board  
Employees' Annuity and Benefit Fund  
Illinois**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**December 31, 2015**

Executive Director/CEO

# INTRODUCTION

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## Transmittal Letter

### TRUSTEES

Pamela A. Munizzi, President  
Robert Geraghty, Vice President  
Edward L. Affolter, Secretary  
Brian Biggane  
Frank C. Hodorowicz  
Steven J. Lux  
Cecilia Prado

### Retirement Board of the PARK EMPLOYEES' ANNUITY AND BENEFIT FUND

55 East Monroe Street  
Suite 2720  
Chicago, Illinois 60603  
Tel. # (312) 553-9265  
Fax # (312) 553-9114  
[www.chicagoparkpension.org](http://www.chicagoparkpension.org)

Dean J. Niedospial  
Executive Director

Jaime L. McCabe  
Comptroller

June 30, 2017

To the Retirement Board of the Park Employees' and  
Retirement Board Employees' Annuity and Benefit Fund

Dear Members of the Retirement Board:

The Park Employees' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (Fund) presents its Comprehensive Annual Financial Report (CAFR) for the year ended December 31, 2016. The accuracy of the information contained in the report, including all disclosures, is the sole responsibility of the Fund. The intent of the CAFR is to present fairly the financial condition of the Fund and its related results of operations. The statements and disclosures contained in the CAFR are necessary to assist the Fund's participants, taxpayers and other interested parties in fully understanding the Fund's financial condition. Readers of the CAFR are directed to review the Management Discussion and Analysis (MD&A) narrative of the Financial Section for important overview and analysis.

## Fund Background

The Fund is a single employer, defined benefit plan covering the eligible public employees of the Chicago Park District. The Fund was created by an act of the Legislature of the State of Illinois, approved June 21, 1919 and effective July 1, 1919, covering the three major park systems of Chicago. With the statutory consolidation of the separate park districts of Chicago on May 1, 1934, the Chicago Park District was created authorizing the Fund to cover its employees. The Fund is administered in accordance with Chapter 40 of the Illinois Compiled Statutes, Act 5, Articles 1 and 12.

## Responsibilities of the Board of Trustees

The Board of Trustees is composed of seven members. Four members are elected by the active participants for four-year terms and three members are appointed by the Chicago Park District Board of Commissioners for three-year terms. Elected members' terms are staggered so that one member is elected each year. All Trustees serve the Fund without compensation. The Board of Trustees elects a President, Vice President and Secretary from within its ranks at its annual meeting in July. These elected office holders each have a prescribed set of duties. The Board of Trustees has various duties and responsibilities which include: invest funds in accordance with state law and its internal investment policy; approve the appointments of all necessary consultants and advisors; develop and approve all rules, regulations, and policies governing the operation of the Fund; review and approve all applications for disability, annuities, and other benefits; and monitor the financial and operational activities of the Fund. The day-to-day operations of the Fund are the responsibility of the Executive Director.

## Overview

At December 31, 2016, total Fund membership, including active, inactive, disability, retired members and beneficiaries is 10,203. The Fund's fiduciary net position decreased by \$1.5 million during 2016 resulting in a net position restricted for pension benefits of \$391.7 million. The additions to the Fund, which include employer and employee contributions and net investment income, totaled \$74.2 million. During 2016, the Chicago Park District contributed a supplemental payment of \$12.5 million, in addition to the required tax levy contribution. The total Fund deductions for 2016 totaled \$75.6 million, which is higher in comparison with the total deductions from prior year. Fund deductions include annuity payments, disability

## INTRODUCTION

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### Overview (Continued)

and death benefits, refund of employee contributions, and administrative expenses. For a full understanding of the Fund's financial condition, we encourage the reader to review the Financial Section as well as the Actuarial Section of this report.

### Accounting Method and Internal Controls

The CAFR was prepared to conform with the principles of governmental accounting and reporting as pronounced by the Governmental Accounting Standards Board (GASB) and the American Institute of Certified Public Accountants (AICPA). In recording assets and liabilities, revenues and expenses, the accrual basis of accounting is used. All revenues including contributions are recognized when earned and expenses are recorded when incurred.

The Fund employs a system of internal controls to adequately safeguard its assets and assure the reliability of its financial records which includes the financial statements, supporting schedules and statistical tables. The internal control structure is designed to provide reasonable, but not absolute assurance that these objectives are met. The concept of reasonable assurance recognizes that the cost of control should not exceed the benefits likely to be derived, and that the valuation costs and benefits require estimates and judgments by management. An evaluation of the internal control structure during the Fund's annual independent audit disclosed no material weaknesses. Management, with the assistance of its outside auditors, continually reviews the system of internal control to insure its adequacy and effectiveness.

### Actuarial Status

The Fund's independent actuary, Segal Consulting, conducts an actuarial valuation of the Fund annually. Each actuarial valuation involves a projection of the benefits expected to be paid in the future to all members of the Fund. The projection is based on the characteristics of members at the valuation date, the benefit provisions in effect on that date, and assumptions of future events and conditions. Segal Consulting also conducts an actuarial experience review every five years. These studies serve as the basis for recommended changes in actuarial assumptions and methods adopted by the Fund.

The funded ratio is the Fund's actuarial value of assets divided by the Fund's actuarial accrued liability. At December 31, 2016, the actuarial value of assets is \$393,604,997 and the actuarial accrued liability is \$1,005,493,093. The Fund's funded ratio at December 31, 2016 is 39.1% compared to 43.5% for the year ended December 31, 2015. The unfunded actuarial accrued liability at December 31, 2016 amounted to \$611,888,096. Since portions of Public Act 098-0622 were modified by judicial order, the Fund's actuarial accrued liability increased during the current year which resulted in a decrease in the Fund's funded ratio. The calculations of these figures are discussed further within the note disclosures of the Financial Section and within the Actuarial Section of this report.

### Investment Policy and Performance

The Fund's investment policy was developed to insure the long-term financing of its funding requirements. Utilizing the services of Marquette Associates, Inc., the Trustees review the investment policy on an on-going basis making amendments as needed. The Fund's current investment policy, which details investment authority, asset allocation, diversification, liquidity, performance measurement, and objectives, is provided in the Investment Section of this report. The policy is designed to obtain the highest expected return on investments consistent with the level of risk for a public pension fund with the funded status described above.

As of December 31, 2016, the fair value of investments was \$358,461,840, which compares to \$369,309,533 as of December 31, 2015. As of December 31, 2016, the Fund's annual investment rate of return was 8.4% compared to 1.9% for December 31, 2015. The Fund's 8.4% rate of return outperformed its performance benchmark by approximately 170 basis points and outperformed the peer median by approximately 100 basis points. A more enhanced discussion about the Fund's performance history can be found in the Investment Section of this report.

### Technology

The Fund continues to review and upgrade its information systems. In 2014, the Fund determined that upgrading its existing benefit system is the most efficient option. The upgrade project was started towards the end of 2014 and is still in process. The Fund's nightly backup system has been upgraded and is now backed up in real time. It also allows the Fund to reduce the duration of downtime given any disaster scenario. The Fund periodically updates its website and allows visitors to access Board Meeting minutes, Comprehensive Annual Financial Reports, Investment Information, benefit forms, as well as keeping visitors apprised of the latest Pension Fund news.

## INTRODUCTION

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### Legislative Matters

On January 7, 2014, then Governor Quinn signed Senate Bill 1523 into law, which is now Public Act 098-0622. This legislation provides sustainable funding that addresses the long-term health of the Fund. It affects all stakeholders: the employer, employees and retirees, and is phased in over a five-year period. A summary of the Public Act can be found on the Fund's website.

On October 14, 2015, the Fund was served a summons and complaint, which challenges Public Act 098-0622, on the grounds that this amendment to the Illinois Pension Code diminishes and impairs the benefits of participants in the Fund. On April 25, 2016, the Fund filed its answer to the complaint. On October 19, 2016, an agreed upon order was signed that granted interim relief to parts of Public Act 098-0622. All eligible annuitants were granted retroactive pay for annual increases they would have been entitled to since January 1, 2015, the employees will continue to contribute 10% of their pensionable salary, and the Chicago Park District will continue to contribute 1.7 times the amount of employee contributions, pending further order of the court.

Public Act 098-0641 amended the Illinois Pension Code with respect to the Chicago Municipal and Laborers' Pension Funds in various ways that are similar to the amendments made to the Fund by Public Act 098-0622. On March 24, 2016, the Illinois Supreme Court issued an opinion striking down Public Act 098-0641 because it violated the Pension Protection clause of the Illinois Constitution, diminished and impaired the benefits of participants in the funds in question. It is near certain that, the Circuit Court will find that Public Act 098-0622 is unconstitutional.

### GFOA Award

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Park Employees' and Retirement Board Employees' Annuity and Benefit Fund for its comprehensive annual financial report for the year ended December 31, 2015. In order to be awarded a Certificate of Achievement, a public pension fund must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

### Governmental Accounting Standards Board

The Fund is currently in full compliance with all pronouncements from the Governmental Accounting Standards Board.

### Retirement Board

The annual election for an employee representative to the Retirement Board was held on Friday, June 23, 2017. Edward L. Affolter was elected for a four-year term beginning July 1, 2017.

### Acknowledgments

All the statistical and financial information compiled and presented in this CAFR is due to the combined efforts of the administrative staff of the Fund under the direction of the Executive Director, Dean J. Niedospial, and the Comptroller, Jaime L. McCabe. Their efforts are hereby acknowledged with thanks and appreciation.

On behalf of the Retirement Board,



Pamela A. Munizzi  
President

**PARK EMPLOYEES' ANNUITY AND BENEFIT FUND  
MEMBERS**

**as of December 31, 2016**

**Elected by the Employees**

**Edward L. Affolter**

*Term expires June 30, 2017*

**Robert Geraghty**

*Term expires June 30, 2018*

**Frank C. Hodorowicz**

*Term expires June 30, 2019*

**Brian Biggane**

*Term expires June 30, 2020*

**Appointed by the Chicago Park District Board of Commissioners**

**Steven J. Lux**

**Pamela A. Munizzi**

**Cecilia Prado**

**OFFICERS**

**Pamela A. Munizzi**, President

**Robert Geraghty**, Vice President

**Edward L. Affolter**, Secretary

**ADMINISTRATIVE STAFF**

**Dean J. Niedospial**, Executive Director

**Jaime L. McCabe**, Comptroller

**CONSULTANTS**

**Jacobs, Burns, Orlove & Hernandez**, Attorney

**The Segal Company**, Consulting Actuary

**Bansley and Kiener, L.L.P.**, Auditor

**Marquette Associates, Inc.**, Investment Consultant

**CUSTODIAN**

**The Northern Trust Company of Chicago**

**INVESTMENT ADVISORS**

Ariel Investments – Chicago

Chicago Equity Partners – Chicago

Entrust Capital, Inc. – New York

Great Lakes Advisors, LLC – Chicago

HarbourVest Partners, LLC – Boston

Industry Funds Management (IFM) – New York

Invesco – Atlanta

LM Capital Group, LLC – San Diego

Lombardia Capital Partners, LLC - Pasadena

MacKay Shields, LLC – New York

Mesirow Financial Capital Partners – Chicago

Goldpoint Partners, LLC – New York

Northern Trust Asset Management – Chicago

PineBridge Investments – New York

Principal Global Investors – Des Moines

RBC Global Asset Management – Minneapolis

UBS Realty Investors, LLC – Hartford

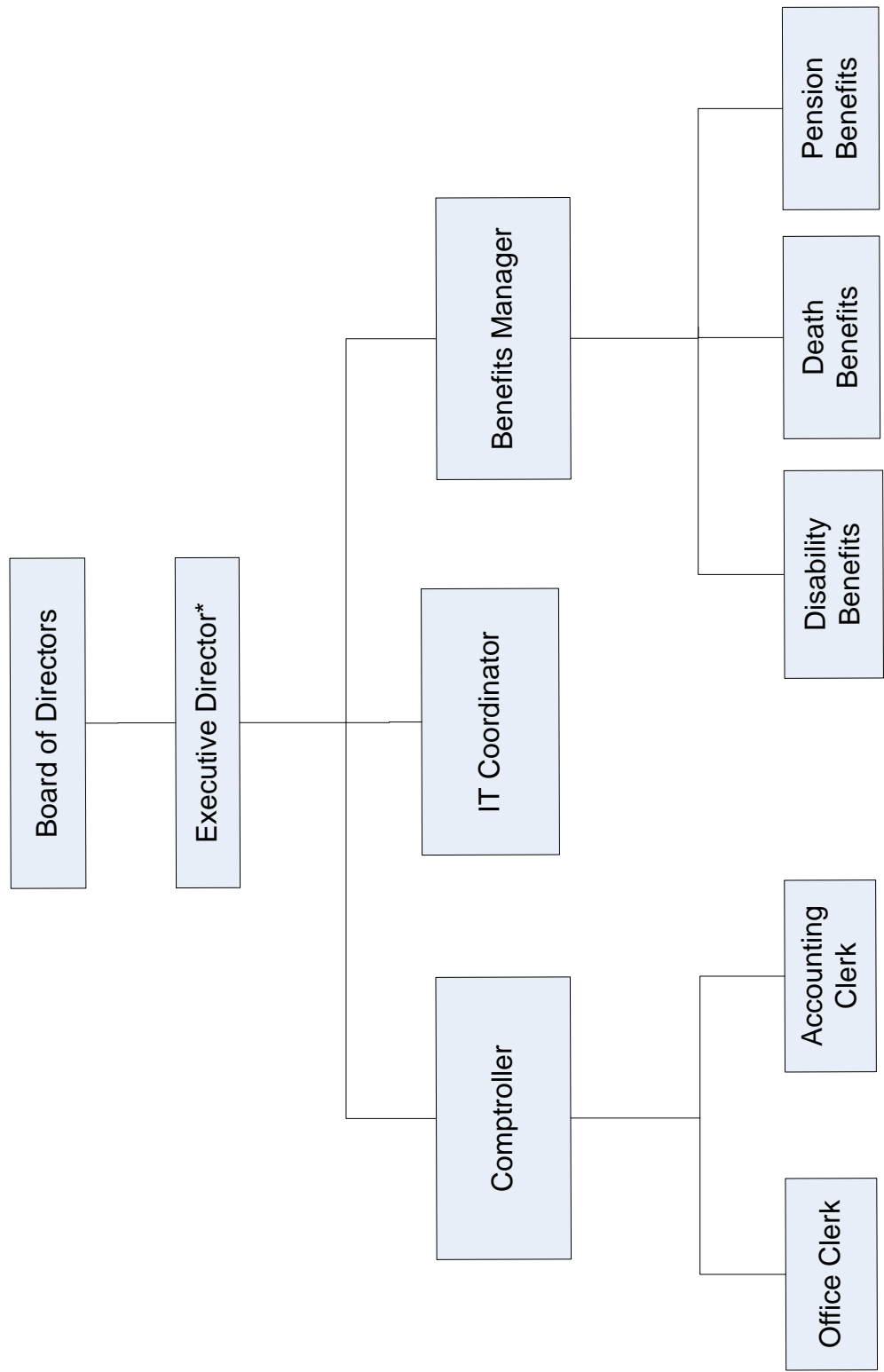
ULLICO Investment Company – Washington D.C.

William Blair & Company, LLC - Chicago



PARK EMPLOYEES’ AND RETIREMENT BOARD EMPLOYEES’  
ANNUITY AND BENEFIT FUND

ORGANIZATION CHART



\*The Executive Director is responsible for the handling of all investment matters. The Fund does not internally manage any investments.  
(Please see Schedule of Annual Investment Expenses for a listing of managers and other service providers).

## Report of the Independent Auditor

BANSLEY AND KIENER, L.L.P.  
Certified Public Accountants  
O'Hare Plaza  
8745 West Higgins Road, Suite 200  
Chicago, Illinois 60631  
312.263.2700

The Retirement Board  
Park Employees' and Retirement Board Employees'  
Annuity and Benefit Fund of Chicago  
Chicago, Illinois

We have audited the statements of fiduciary net position of the Park Employees' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (the Fund), a Component Unit/Fund of the Chicago Park District, as of December 31, 2016 and 2015, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Fund's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of Park Employees' and Retirement Board Employees' Annuity and Benefit Fund of Chicago as of December 31, 2016 and 2015, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Report of the Independent Auditor (Continued)

### Other Matters

#### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other supplementary information on pages 9 through 13 and pages 33 and 34 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquires of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### *Other Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements taken as a whole. The schedules of tax levies receivable, administrative and general expenses, professional expenses, and investment expenses are presented for purposes of additional analysis and are not a required part of the basic financial statements. The schedules of tax levies receivable, administrative and general expenses, professional expenses, and investment expenses are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Bansley and Kiener, L.L.P.  
Certified Public Accountants  
June 13, 2017

### Management's Discussion and Analysis

#### Management Discussion and Analysis for the Year Ended December 31, 2016

The Management Discussion and Analysis (MD&A) of the Park Employees' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (Fund) financial performance provides an overview and analysis of the Fund's financial activities for the years ended December 31, 2016 and 2015. Please read the MD&A in conjunction with the basic financial statements and the accompanying note disclosures to have a better understanding of the financial condition and performance of the Fund. Information provided for the year ended December 31, 2014 is presented for comparative purposes only.

#### Using this Report

The Management Discussion and Analysis introduces the Fund's basic financial statements. The basic financial statements include the Statements of Fiduciary Net Position and the Statements of Changes in Fiduciary Net Position, which are prepared on an accrual basis of accounting in accordance with Government Accounting Standards Board (GASB) pronouncements and reflect the Fund's overall financial condition.

The Statements of Fiduciary Net Position reports the Fund's assets at fair value and liabilities as amounts owed as of the statement date, resulting in the net position restricted for pension benefits.

The Statements of Changes in Fiduciary Net Position illustrate the additions and deductions made to the Fund during the statement date. These additions include employee and employer contributions, as well as net investment income. The deductions consist of benefit payments, refunds of contributions and administrative and general expenses. The net result indicates an increase or decrease in Fund net position restricted for pension benefits.

The accompanying notes are an integral part of the financial statements. They provide information essential to achieve full understanding of the Fund's financial statements.

The required supplementary information, presented following the notes to the financial statements, is required by GASB. These schedules offer the reader additional details, which may be useful in evaluating the financial condition and performance of the Fund. The schedules include the Schedule of Changes in Employer's Net Pension Liability, the Schedule of Employer Contributions, the Schedule of Investment Returns, as well as related disclosures. Other supplementary information consists of schedules of Tax Levies Receivable, Administrative and General Expenses, Professional Expenses, and Investment Expenses.

#### Financial Highlights

- a) The Fund's fiduciary net position decreased during the year by \$1.5 million or 0.4% compared to a decrease of \$20.3 million or 4.9% for the year ended December 31, 2015.
- b) The Fund's annual investment return of 8.4% outperformed the portfolio benchmark return of 6.7%.
- c) The Fund's three-year rate of return of 5.9% outperformed the portfolio benchmark return of 4.9%.
- d) The Fund's five-year rate of return of 9.2% outperformed the portfolio benchmark return of 8.0%.
- e) The Fund's ten-year rate of return of 5.5% outperformed the portfolio benchmark return of 4.7%.
- f) For the year ended December 31, 2016, the additions to the Fund's fiduciary net position of \$74.2 million is \$22.3 million more than the year ended December 31, 2015 additions.
- g) For the year ended December 31, 2016, the deductions to the Fund's fiduciary net position of \$75.6 million is \$3.5 million more when compared to the deductions for the year ended December 31, 2015.
- h) The Fund's actuarially computed funded ratio is 39.1% at December 31, 2016, which is 4.4% less than at December 31, 2015.

## Management's Discussion and Analysis (Continued)

### Net Position Restricted for Pension Benefits

The Fund's net position restricted for pension benefits at December 31, 2016 is \$391,698,922. This is \$1,456,416 less than the December 31, 2015 net position restricted for pension benefits of \$393,155,338. This compares to a decrease of \$20,266,378 for the year ended December 31, 2015. The Fund's investment portfolio, included in the total assets, increases and decreases from year to year. This fluctuation is directly related to the strength of the financial markets at the financial statement date. The following tables are comparative summaries of fiduciary net position restricted for pension benefits:

#### Statements of Fiduciary Net Position – Current Year

	<u>December 31, 2016</u>	<u>December 31, 2015</u>	<u>Increase/(Decrease)</u>
Total Assets	\$ 429,724,414	\$ 439,880,016	\$ (10,155,602)
Total Liabilities	<u>38,025,492</u>	<u>46,724,678</u>	<u>(8,699,186)</u>
Net Position	<u>\$ 391,698,922</u>	<u>\$ 393,155,338</u>	<u>\$ (1,456,416)</u>

#### Statements of Fiduciary Net Position – Prior Period

	<u>December 31, 2015</u>	<u>December 31, 2014</u>	<u>Increase/(Decrease)</u>
Total Assets	\$ 439,880,016	\$ 460,221,616	\$ (20,341,600)
Total Liabilities	<u>46,724,678</u>	<u>46,799,900</u>	<u>( 75,222)</u>
Net Position	<u>\$ 393,155,338</u>	<u>\$ 413,421,716</u>	<u>\$ (20,266,378)</u>

### Changes in Fiduciary Net Position

The Fund's total additions during the year ended December 31, 2016 increased by \$22,289,821 as compared to an increase of \$2,221,428 for the year ended December 31, 2015. The tax levy received from the employer in 2016 and 2015 is equal to 1.70 times the employee contributions from two years prior. In addition, the employer made supplemental contributions to the Fund of \$12.5 million in 2016 and 2015 in accordance with Public Act 098-0622. The tax levy in 2014, however, was 1.10 times the employee contributions from two years prior, which attributed to the large increase in employer contributions from 2014 to 2015. Employee contributions for the years 2016 and 2015 remained relatively consistent, as members of the Fund contributed 10% of their salary. In 2014, members of the Fund contributed 9% of their salary. Net investment income for the year ended December 31, 2016 was \$31,022,803 as compared to investment income of \$8,911,726 for the year ended December 31, 2015 and \$27,591,038 for the year ended December 31, 2014. From year to year, the Fund's investment returns fluctuate depending on the market. The Fund is still experiencing a cash flow shortage and continues to liquidate portfolio assets to supplement benefit payments made.

The Fund's benefit payments in 2016 increased, largely due to an agreed upon order signed on October 19, 2016 that granted interim relief to parts of Public Act 098-0622, reinstating the 3% annual increase to all eligible annuitants. In November 2016, the Fund issued retroactive payments to all eligible annuitants for annual increases they would have been entitled to since January 1, 2015, which was approximately \$2.7 million. Net of the retroactive payments made, the Fund's benefit payments in 2016 have remained relatively consistent as compared 2015 and 2014, as the number of retirees has not fluctuated much over the past two years. The following tables are comparative summaries of changes in fiduciary net position restricted for pension benefits:

## Management's Discussion and Analysis (Continued)

### Statements of Changes in Fiduciary Net Position – Current Year

	<u>December 31, 2016</u>	<u>December 31, 2015</u>	<u>Increase/(Decrease)</u>
<b>ADDITIONS</b>			
Employer contributions	\$ 30,890,241	\$ 30,588,976	\$ 301,265
Employee contributions	12,246,115	12,368,636	(122,521)
Net investment income (includes security lending activities)	<u>31,022,803</u>	<u>8,911,726</u>	<u>22,111,077</u>
Total additions	<u>\$ 74,159,159</u>	<u>\$ 51,869,338</u>	<u>\$ 22,289,821</u>
<b>DEDUCTIONS</b>			
Retirement benefits	\$ 58,967,909	\$ 56,094,931	\$ 2,872,978
Spousal benefits	12,043,511	11,823,316	220,195
Child benefits	18,000	17,100	900
Disability benefits	283,963	301,494	(17,531)
Death benefits	<u>255,000</u>	<u>317,000</u>	<u>(62,000)</u>
Total benefits	71,568,383	68,553,841	3,014,542
Refund of contributions	2,509,493	2,048,175	461,318
Administrative and general expenses	<u>1,537,699</u>	<u>1,533,700</u>	<u>3,999</u>
Total deductions	<u>\$ 75,615,575</u>	<u>\$ 72,135,716</u>	<u>\$ 3,479,859</u>
Net increase (decrease)	(1,456,416)	(20,266,378)	18,809,962
Beginning of year net position	<u>393,155,338</u>	<u>413,421,716</u>	<u>(20,266,378)</u>
End of year net position	<u>\$391,698,922</u>	<u>\$393,155,338</u>	<u>\$ (1,456,416)</u>

### Statements of Changes in Fiduciary Net Position – Prior Period

	<u>December 31, 2015</u>	<u>December 31, 2014</u>	<u>Increase/(Decrease)</u>
<b>ADDITIONS</b>			
Employer contributions	\$ 30,588,976	\$ 11,225,438	\$ 19,363,538
Employee contributions	12,368,636	10,831,434	1,537,202
Net investment income (includes security lending activities)	<u>8,911,726</u>	<u>27,591,038</u>	<u>(18,679,312)</u>
Total additions	<u>\$ 51,869,338</u>	<u>\$ 49,647,910</u>	<u>\$ 2,221,428</u>
<b>DEDUCTIONS</b>			
Retirement benefits	\$ 56,094,931	\$ 55,519,537	\$ 575,394
Spousal benefits	11,823,316	11,665,763	157,553
Child benefits	17,100	20,800	(3,700)
Disability benefits	301,494	321,051	(19,557)
Death benefits	<u>317,000</u>	<u>279,500</u>	<u>37,500</u>
Total benefits	68,553,841	67,806,651	747,190
Refund of contributions	2,048,175	2,729,391	(681,216)
Administrative and general expenses	<u>1,533,700</u>	<u>1,458,831</u>	<u>74,869</u>
Total deductions	<u>\$ 72,135,716</u>	<u>\$ 71,994,873</u>	<u>\$ 140,843</u>
Net increase (decrease)	(20,266,378)	(22,346,963)	2,080,585
Beginning of year net position	<u>413,421,716</u>	<u>435,768,679</u>	<u>(22,346,963)</u>
End of year net position	<u>\$393,155,338</u>	<u>\$413,421,716</u>	<u>\$ (20,266,378)</u>

### Management's Discussion and Analysis (Continued)

#### Actuarial Update

The actuarial valuations for the years ended December 31, 2016 and 2015, reflect GASB 67 requirements that improve financial reporting for local governmental pension plans. The notes to the financial statements include information about the individual components of the Fund's net pension liability. The net pension liability is equal to the difference between the total pension liability and the Fund's fiduciary net position. The Fund's required supplementary information provides the reader with a more enhanced look on how the total pension liability, the fiduciary net position and net pension liability is measured.

The Fund's actuarially computed funded ratio is 39.1% at December 31, 2016, which is 4.4% less than at December 31, 2015. The funded ratio is based on the actuarial value of assets over the actuarial accrued liability.

#### Investment Performance

The Fund's annual investment return for the year ended December 31, 2016 was 8.4%, which is higher than 1.9% reported for the year ended December 31, 2015 and higher than the year ended December 31, 2014, which reported a 6.9% investment return. Performance in 2016 was driven by strong returns in the Fund's U.S. Equity portfolio, 14%; International Equity portfolio, 9.7%; Risk Parity composite, 12.6%; Real Estate, 9.1% and; Infrastructure, 9.2%. The Fund's 8.4% return for 2016 outperformed its performance benchmark by approximately 170 basis points and outperformed the peer median by approximately 100 basis points. The Fund's portfolio performance for the past five years ranked in the upper ninth percentile as measured against its peers. Over the trailing three-year and five-year periods, the Fund outperformed the performance benchmark by roughly 100 and 120 basis points, respectively. Over the trailing ten-year period, the Fund returned 5.5%, outperforming the performance benchmark by 80 basis points and ranked in the upper 20<sup>th</sup> percentile as measured against its peers, however, underperforming the 7.5% actuarial rate of return.

#### Litigation Matters

Public Act 098-0622, which took effect January 1, 2015, affected all stakeholders: the employer, employees and retirees and is phased in over a five-year period. The main objective of the amendment is to provide sustainable funding that will secure the long-term health of the Fund.

Beginning in 2015, the multiplier for employer contributions increased to 1.70 times the total contribution by employees two years earlier. The multiplier increases in the year 2017 to 2.30 times the total contribution by employees and in the year 2019 to 2.90 times the total contribution by employees. The 2.90 multiplier will remain in effect until the Fund is 90% funded, after which time the employer obligation is the lesser of the 2.90 multiplier or the amount necessary to maintain 90% funding. In addition to the increased multiplier, the employer must make supplemental contributions in 2015 of \$12.5 million; in 2016 of \$12.5 million; and in 2019 of \$50 million. The employer made the required supplemental contributions in 2015 and 2016.

Under Public Act 098-0622, employee contributions increased to 10% in 2016; 11% in 2017; and 12% in 2019. Employee contributions will remain at 12% until the Fund is 90% funded, at which time employee contributions will decrease to 10.5% and remain there as long as the Fund is 90% funded. For retirees who are eligible, the annual increase, or "COLA", is suspended for 2016, 2017 and 2019. In years 2016, 2018, 2020 and thereafter, the increase will be the lesser of ½ the Consumer Price Index-Urban ("CPI-U") or 3% of the annuity granted at retirement.

On October 14, 2015, the Fund was served a summons and complaint, which challenges Public Act 098-0622, on the grounds that this amendment to the Illinois Pension Code diminishes and impairs the benefits of participants in the Fund. On April 25, 2016, the Fund filed its answer to the complaint. On October 19, 2016, the judge presiding over the case signed an agreed upon order that granted interim relief to parts of Public Act 098-0622. All eligible annuitants were granted retroactive pay for annual increases they would have been entitled to since January 1, 2015, the employees will continue to contribute 10% of their pensionable salary, and the Chicago Park District will continue to contribute 1.7 times the amount of employee contributions, pending further order of the court.

## **Management's Discussion and Analysis (Continued)**

### **Litigation Matters (Continued)**

On March 24, 2016, the Illinois Supreme Court issued an opinion striking down Public Act 098-0641 because it violated the Pension Protection clause of the Illinois Constitution, diminished, and impaired the benefits of participants in the funds in question. Public Act 098-0641 amended the Illinois Pension Code with respect to the Chicago Municipal and Laborers' Pension Funds in various ways that are similar to the amendments made to the Fund by Public Act 098-0622. It is near certain that, the Circuit Court will find that Public Act 098-0622 is unconstitutional.

### **Contacting the Fund's Financial Management**

This report is intended to provide a general overview of the Park Employees' and Retirement Board Employees' Annuity and Benefit Fund of Chicago for its employees and other interested parties. If you have questions, requests, or need additional information, please visit the Fund's website at [www.chicagoparkpension.org](http://www.chicagoparkpension.org) or contact the Fund at 55 East Monroe Street, Suite 2720, Chicago, Illinois 60603.



## Financial Statements

### Statements of Fiduciary Net Position

December 31, 2016 and 2015

ASSETS	2016	2015
Receivables		
Contributions from employer	\$ 17,267,157	\$ 17,957,112
Employee contributions	92,426	497,386
Workers' compensation offset of duty disability benefits, net of allowance for loss of \$16,615 in 2016 and \$16,940 in 2015	75,513	90,965
Due from broker	12,179,267	1,357,269
Accrued investment income	528,863	452,093
Miscellaneous receivables	<u>47,996</u>	<u>65,232</u>
	<u>30,191,222</u>	<u>20,420,057</u>
Investments, at fair value		
Common and preferred stocks	58,654,400	53,062,089
Common stocks – foreign	16,522,290	13,620,861
Fixed income	63,255,564	62,725,711
Collective investment funds	93,965,505	93,042,804
Mutual funds	15,327,740	16,017,830
Hedged equity	12,107,984	23,565,871
Real estate	38,382,589	41,728,500
Private equity	30,480,102	39,901,128
Infrastructure	22,043,799	20,826,213
Short-term investments	<u>7,721,867</u>	<u>4,818,526</u>
	<u>358,461,840</u>	<u>369,309,533</u>
Invested securities lending collateral	<u>36,306,598</u>	<u>45,712,100</u>
Property and equipment – net	<u>79,541</u>	<u>65,251</u>
Prepaid annuity benefits	4,616,935	4,308,029
Other prepaid expenses	<u>68,278</u>	<u>65,046</u>
	<u>4,685,213</u>	<u>4,373,075</u>
Total assets	<u>429,724,414</u>	<u>439,880,016</u>
LIABILITIES		
Accounts payable	486,160	395,893
Accrued benefits payable	565,033	405,881
Accrued payroll liabilities	14,904	14,969
Unamortized rent abatement	71,079	79,051
Securities lending collateral	36,306,598	45,712,100
Due to broker	<u>581,718</u>	<u>116,784</u>
	<u>38,025,492</u>	<u>46,724,678</u>
Net position restricted for pension benefits	<u>\$ 391,698,922</u>	<u>\$ 393,155,338</u>

The accompanying notes are an integral part of the financial statements.

## Financial Statements

### Statements of Changes in Fiduciary Net Position

Years ended December 31, 2016 and 2015

	2016	2015
<b>Additions</b>		
Contributions		
Employer contributions	\$ 30,890,241	\$ 30,588,976
Employee contributions	<u>12,246,115</u>	<u>12,368,636</u>
Total contributions	<u>43,136,356</u>	<u>42,957,612</u>
Investment income		
Net appreciation (depreciation) in fair value of investments	19,318,920	(7,918,066)
Interest	2,269,810	2,253,469
Dividends	1,637,493	1,528,594
Partnership and real estate income	<u>9,883,513</u>	<u>15,183,806</u>
	33,109,736	11,047,803
Less investment expenses	<u>2,189,505</u>	<u>2,224,190</u>
Net income from investing activities	<u>30,920,231</u>	<u>8,823,613</u>
Security lending activities		
Securities lending income	301,977	148,071
Borrower rebates	(109,449)	20,310
Bank fees	<u>(90,565)</u>	<u>(80,418)</u>
Net income from securities lending activities	<u>101,963</u>	<u>87,963</u>
Other income	<u>609</u>	<u>150</u>
Total additions	<u>74,159,159</u>	<u>51,869,338</u>
<b>Deductions</b>		
Benefits		
Annuity payments	71,029,420	67,935,347
Disability and death benefits	<u>538,963</u>	<u>618,494</u>
Total benefits	<u>71,568,383</u>	<u>68,553,841</u>
Refund of contributions	<u>2,509,493</u>	<u>2,048,175</u>
Administrative and general expenses	<u>1,537,699</u>	<u>1,533,700</u>
Total deductions	<u>75,615,575</u>	<u>72,135,716</u>
Net decrease	(1,456,416)	(20,266,378)
Net position restricted for pension benefits		
Beginning of year	<u>393,155,338</u>	<u>413,421,716</u>
End of year	<u>\$ 391,698,922</u>	<u>\$ 393,155,338</u>

The accompanying notes are an integral part of the financial statements.

## Notes to Financial Statements

### Note 1 – Fund Description and Contribution Information

The Fund is the administrator of a single employer defined benefit plan (PERS) established by the State of Illinois to provide annuities and benefits for substantially all employees of the Chicago Park District. The Fund is considered a component unit of the Chicago Park District's financial statements as a pension trust fund. The Fund is administered in accordance with the Illinois Compiled Statutes. The defined benefits as well as the employer and employee contribution levels of the Fund are mandated by Illinois State Statutes and may be amended only by the Illinois legislature. The Fund provides retirement, disability and death benefits to fund members and beneficiaries. At December 31, 2016 and 2015, Fund membership consists of:

	2016	2015
Retirees and beneficiaries currently receiving benefits	2,870	2,876
Current employees	3,114	3,063
Vested terminated members entitled to benefits	149	145

Pension legislation (Public Act 96-0889) was approved during 2010 and establishes two distinct classes of membership with different retirement eligibility conditions and benefit provisions. For convenience, the Fund uses a tier concept to distinguish these groups, generally:

Tier 1 – Participants that contributed before January 1, 2011.

Tier 2 – Participants that contributed on or after January 1, 2011.

Tier 1 employees attaining the age of 50 with at least ten years of creditable service are entitled to receive a service retirement pension. The retirement pension is based upon the average of the four highest consecutive years of salary within the last ten years of service. If the employee retires prior to the attainment of age 60, the rate associated with the service is reduced by one-quarter percent for each full month the employee is under age 60. There is no reduction if the participant has 30 years of service. Employees with four years of service at age 60 may receive a retirement benefit.

Tier 2 employees attaining the age 62 with at least ten years or more of creditable service are entitled to receive a discounted service retirement pension. Employees attaining the age 67 or more, with at least 10 years of service are entitled to receive a non-discounted annuity benefit. The annuity is discounted one-half percent for each full month the employee is under age 67. The retirement pension is based upon the average of the eight highest consecutive years of salary within the last 10 years of service prior to retirement. Pensionable salary is limited to \$111,572 in 2016 and 2015.

#### **Post-Retirement Increase**

Tier 1: An employee annuitant under Tier 1 who retires at age 50 or older with at least 30 years of service is eligible to receive an increase of three percent, based on the annuity granted at retirement, payable following the first 12 months of benefits on either the next January or July. If the employee annuitant retires before age 60 with less than 30 years of service, then the increases begin on the January or July following the later of the attainment of age 60 or 12 months of benefits received.

Tier 2: An employee annuitant under Tier 2 that is eligible to receive an increase in the annuity benefit, shall receive an annual increase equal to the lesser of three percent or 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 increase. The increase is based on the amount of the originally granted benefit (simple). This increase begins after age 67 on the first January following one full year of benefits received.

### Notes to Financial Statements (Continued)

#### Note 1 – Fund Description and Contribution Information (Continued)

##### *Surviving Spouse Pension*

Tier 1: Upon the death of an employee annuitant under Tier 1, the surviving spouse, meeting certain eligibility requirements, is entitled to a spousal annuity. The surviving spouse is entitled to the lesser of a money purchase calculation, 50% of the highest salary or 75% of the granted annuity. With 20 years of service, the entitlement becomes the higher of the eligible money purchase calculation or 50% of retiree's annuity at time of death. The surviving spouse is also eligible to receive an increase of three percent compounded, on the January following one full year after the date of death of the employee or annuitant.

Tier 2: The annuity payable to the surviving spouse of an employee annuitant under Tier 2 is equal to 66 2/3% of the participant's earned retirement annuity at the time of death without reduction due to age. The surviving spouse is also eligible to receive an increase equal to the lesser of three percent or 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 increase, on the January following one full year after the date of death of the employee or annuitant.

##### *Child Annuity*

Under Tier 1 and Tier 2, unmarried children under the age of 18 of a deceased employee or annuitant having at least two years of service are entitled to a benefit. The child's annuity is an amount equal to \$100 a month when there is a surviving spouse or \$150 when there is no surviving spouse, subject to maximum limitations.

##### *Ordinary Disability Benefit*

Under Tier 1 and Tier 2, an employee who becomes disabled as the result of any cause other than an accidental injury incurred while in the performance of an act of duty is entitled to an ordinary disability benefit at the amount equal to 45% of the employee's annual salary at the time of disablement. An employee can receive ordinary disability for a period equal to one fourth of his/her service credits up to a maximum of five years, exclusive of the disability period. Tier 2 participants have salary limitations similar to employee contributions.

##### *Duty Disability Benefit*

Under Tier 1 and Tier 2, an employee who becomes disabled as the result of a work related injury incurred while in the performance of an act of duty is entitled to a duty disability benefit in the amount equal to 75% of the employee's annual salary at the time of injury, reduced by any benefits received by the employee under the provisions of the Workers' Compensation Act. Tier 2 participants have salary limitations similar to employee contributions.

##### *Contributions*

Covered employees are required by state statutes to contribute 9.0 percent of their salary to the Fund. If a covered employee leaves employment before the age of 55, accumulated employee contributions are refundable without interest. The District is required by state statute to contribute the remaining amounts necessary to finance the requirements of the Fund on an actuarially funded basis. It is required to levy a tax at a rate not more than an amount equal to the total amount of contributions by the employees to the Fund made in the fiscal year two years prior to the year for which the annual applicable tax is levied, multiplied by a factor of 1.1 annually. The District has no legal obligation to fund pension costs above that allowed by statute.

## Notes to Financial Statements (Continued)

### Note 1 – Fund Description and Contribution Information (Continued)

#### ***Benefit and Contribution Changes – Public Act 098-0622***

Public Act 098-0622, which took effect January 1, 2015, was signed by the governor in January 2014 and includes benefit changes for both Tier 1 and Tier 2 members as well as increases the employer and employee contributions.

The retirement age is decreased for Tier 2 employees from 67 to 65, and from 62 to 60 for early retirement. The minimum retirement age for Tier 1 employees increases from 50 to 58 for those employees younger than 45 on January 1, 2015.

The annual annuity increase (AI) for current retirees changed to  $\frac{1}{2}$  of annual unadjusted percentage increase in the Consumer Price Index-Urban (CPI) or 3%, whichever is less, utilizing simple interest. Payment of AI is suspended in years 2015, 2017, and 2019. Spousal increase is not affected.

Duty disability benefits will decrease to 74% of the employees' annual salary in 2015, 73% in 2017, and 72% in 2019.

Beginning in 2015, the multiplier for employer contributions will increase as follows:

Year	Multiplier
2015	1.7
2017	2.3
2019	2.9

The 2.9 multiplier remains in effect until the Fund is 90% funded, after which time the Employer obligation is the lesser of the 2.9 multiplier or the amount necessary to maintain 90% funding.

In addition, the Employer shall contribute to the Fund the following specified amounts:

Year	Additional Contribution
2015	\$12,500,000
2016	\$12,500,000
2019	\$50,000,000

Beginning in 2015, employee contributions will increase as follows:

Year	Contribution Rate
2015	10%
2017	11%
2019	12%

Employee contributions will remain at 12% until the Fund is 90% funded, at which time employee contributions will decrease to 10.5% and remain 10.5% as long as the Fund is 90% funded.

During 2016 and 2015, the District made the scheduled additional contributions and implemented the other provisions described above. However, on November 1, 2016 the AI that retirees would have been entitled to since January 1, 2015 under the previous legislation was paid to retirees pursuant to a court order. Such payments were approximately \$2,700,000. See Note 10.

#### ***Litigation – Public Act 098-0622***

During 2015, the provisions of Public Act 098-0622 were implemented. However, pending litigation related to the constitutionality of Public Act 098-0622 may result in its nullification. The Fund description and contribution information does not reflect the impact of the reversal of Public Act 098-0622. See Note 10.

## Notes to Financial Statements (Continued)

### Note 1 – Fund Description and Contribution Information (Continued)

#### *Net Pension Liability of Participating Employer*

The components of the net pension liability as of December 31, 2016 and 2015 were as follows:

	2016	2015
Total pension liability	\$1,204,218,956	\$910,260,360
Plan fiduciary net position	391,698,922	393,155,338
Employer's net pension liability	812,520,034	517,105,022
Plan fiduciary net position as a percentage of net pension liability	32.53%	43.19%

#### *Actuarial Assumptions*

The total pension liability was determined by an actuarial valuation as of December 31, 2016 and 2015, using actuarial assumptions applied to all periods included in the measurement.

	2016	2015
Inflation	2.75%	2.75%
Salary increase	15% to 2.75%	15% to 2.75%
Investment rate of return	5.82%, net of investment expense	7.50%, net of investment expense
Cost of living adjustments	Retirees – 3% of the original benefit for employees who first became a participant before January 1, 2011. Retirees – lesser of 3% and ½ CPI of the original benefit for employees who first became a participant on or after January 1, 2011. Beneficiary – 3% compounded	Retirees – 3% of the original benefit for employees who first became a participant before January 1, 2011. Retirees – lesser of 3% and ½ CPI of the original benefit for employees who first became a participant on or after January 1, 2011. Beneficiary – 3% compounded

Post-retirement mortality rates were based on 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.

The actuarial assumptions used in the December 31, 2016 and 2015 valuation were based on the results of an actuarial experience study for a five-year period ending June 30, 2012.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2016 and 2015 are summarized in the following table:

## Notes to Financial Statements (Continued)

### Note 1 – Fund Description and Contribution Information (Continued)

	2016		2015	
	<u>Target allocation</u>	<u>Long-term expected real rate of return</u>	<u>Target allocation</u>	<u>Long-term expected real rate of return</u>
Fixed income	20.5%	2.11%	20.5%	1.75%
Domestic equity	32.5%	6.71%	32.5%	6.75%
International equity	14.0%	7.71%	14.0%	7.45%
Emerging market	2.0%	9.81%	2.0%	9.85%
Risk parity	3.0%	3.91%	3.0%	3.75%
Hedge equity	7.0%	3.91%	7.0%	3.75%
Private equity	7.0%	10.91%	7.0%	11.50%
Real assets	14.0%	5.21%	14.0%	4.55%

#### Discount Rate

The discount rate used to measure the total pension liability was 5.82% for December 31, 2016. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the 10% contribution rate for 2017 and then increase to 11% for 2018 and to 12% for 2019 and thereafter. Employer contributions will be made at the 1.7 multiple of member contributions from two years prior to 2017 and then increased to 2.3 for 2018 and to 2.9 for 2019 and thereafter. Based on those assumptions, the pension plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current plan members. Therefore, a single equivalent blended discount rate of 5.82% (calculated using the long-term expected rate of return and the municipal bond index) rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The discount rate used to measure the total pension liability was 7.5% for December 31, 2015. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made as specified by Public Act 098-0622. Based on those assumptions, the pension plan's 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 as of December 31, 2016, calculated using the discount rate of 5.82%, as well as what the net pension liability would be if it was calculated using a discount rate that is 1 percentage point lower (4.82%) or 1 percentage point higher (6.82%) than the current rate:

<u>Net pension liability</u>	<u>1% Decrease (4.82%)</u>	<u>Current Discount Rate (5.82%)</u>	<u>1% Increase (6.82%)</u>
December 31, 2016	\$963,979,197	\$812,520,034	\$687,016,505

For comparison purposes, the net pension liability as of December 31, 2015, calculated using the discount rate of 7.5%, as well as what the net pension liability would be if it was calculated using a discount rate that is 1 percentage point lower (6.5%) or 1 percentage point higher (8.5%) than the current rate:

<u>Net pension liability</u>	<u>1% Decrease (6.5%)</u>	<u>Current Discount Rate (7.5%)</u>	<u>1% Increase (8.5%)</u>
December 31, 2015	\$614,722,758	\$517,105,022	\$435,018,062

## Notes to Financial Statements (Continued)

### Note 2 – Summary of Significant Accounting Policies

#### ***Reporting Entity***

As defined by generally accepted accounting principles established by the Governmental Accounting Standards Board (GASB), the financial reporting entity consists of a primary government, as well as its component units, which are legally separate organizations for which the appointed officials of the primary government are financially accountable. Financial accountability is defined as:

- (1) Appointment of a voting majority of the component unit's board and either a) the ability to impose will by the primary government, or b) the possibility that the component unit will provide a financial benefit to or impose a financial burden on the primary government; or
- (2) Fiscal dependency on the primary government.

Based upon the required criteria, the Fund has no component units. The Fund is considered a component unit fund of the Chicago Park District and, as such, is included in the Chicago Park District's financial statements as a pension trust fund. Accordingly, these financial statements present only the Park Employees' and Retirement Board Employees' Annuity and Benefit Fund and are not intended to present fairly the financial position of the Chicago Park District and the result of its operations in conformity with generally accepted accounting principles.

#### ***Basis of Accounting***

The financial statements are prepared using the accrual basis of accounting. Employee and employer contributions are recognized when due, pursuant to formal commitments, as well as statutory or contractual requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the Fund.

#### ***Use of Estimates***

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Actual results may differ from those estimates.

#### ***Risks and Uncertainties***

The Fund invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of the investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statement of fiduciary net position.

#### ***Method Used to Value Investments***

The Fund is authorized to invest in bonds, notes, and other obligations of the U.S. Government; corporate debentures and obligations; insured mortgage notes and loans; common and preferred stocks; stock options; real estate; collective investment funds; and private equity partnerships as set forth in the Illinois Compiled Statutes. Income on all investments is recognized on the accrual basis. Gains and losses on sales and exchanges of investments are recognized on the transaction date of such sale or exchange. Dividend income is recognized based on dividends declared.

Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Fair values for bonds, stocks and mutual funds are determined by quoted market prices. Investments for which market quotations are not readily available are valued at their fair values as determined by the bank administrator under the direction of the Board of Trustees, with the assistance of a valuation service.

#### ***Administrative Expenses***

Administrative expenses are budgeted and approved by the Fund's Board of Trustees. Funding for these expenses is included in the employer contributions as determined by the annual actuarial valuation.



### Notes to Financial Statements (Continued)

#### Note 2 – Summary of Significant Accounting Policies (Continued)

##### ***Reclassifications***

Certain reclassifications have been made to the prior year financial statements in order to conform to the current year presentation. These reclassifications had no effect on the net position restricted for pension benefits.

##### ***Recently Issued Accounting Pronouncements***

GASB Statement No. 72, *Fair Value Measurement and Application*, defines fair value and describes how fair value should be measured, what assets should be measured at fair value, and what information about fair value should be disclosed in the notes to the financial statements. The provisions for GASB 72 are effective for the Fund's December 31, 2016 financial statements. The Statement is to be retroactively applied.

GASB Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*, was established to identify the hierarchy of generally accepted accounting principles (GAAP). This hierarchy consists of the sources of accounting principles used to prepare financial statements of state and local governmental entities in conformity with GAAP and the framework for selecting these principles. This statement reduces the GAAP hierarchy to two categories of authoritative GAAP and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction or other event is not specified within the scope of authoritative GAAP. The Fund adopted this statement for the year ended December 31, 2016.

GASB Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68 and No. 73*, addresses certain issues that have been raised with respect to these Statements. The Fund is currently evaluating the financial statement impact of GASB Statement No. 82. If applicable, this statement will be implemented for the year ended December 31, 2017.

GASB Statement No. 84, *Fiduciary Activities*, was established to enhance the consistency and comparability of fiduciary activity reporting by state and local governments. This Statement also is intended to improve the usefulness of fiduciary activity information primarily for assessing the accountability of governments in their roles as fiduciaries. The Fund is currently evaluating the financial statement impact of GASB Statement No. 84. If applicable, this statement will be implemented for the year ended December 31, 2019.

GASB Statement No. 85, *Omnibus 2017*, was established to address practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits [OPED]). The Fund is currently evaluating the financial statement impact of GASB Statement No. 85. If applicable, this statement will be implemented for the year ended December 31, 2018.

#### Note 3 – Investment Policies, Asset Allocation and Money-Weighted Rate of Return

##### ***Investment Policy***

The Fund's policy in regard to the allocation of invested assets is established and may be amended by the Board. It is the policy of the Board to pursue an investment strategy that reduces risk through prudent diversification of the portfolio across a broad selection of distinct asset classes. The Fund's investment policy discourages the use of cash equivalents, except to meet liquidity needs, and aims to refrain from dramatically shifting asset class allocations over the short term.

## Notes to Financial Statements (Continued)

### Note 3 – Investment Policies, Asset Allocation and Money-Weighted Rate of Return (Continued)

The following table represents the Board's adopted asset allocation policy as of December 31, 2016 and 2015.

Asset Class	2016 Target	2015 Target
Fixed income	20.5%	20.5%
Domestic equity	28.5%	32.5%
International equity	18.0%	14.0%
Emerging market	2.0%	2.0%
Risk parity	3.0%	3.0%
Hedge equity	7.0%	7.0%
Private equity	7.0%	7.0%
Real assets	<u>14.0%</u>	<u>14.0%</u>
	<u>100.0%</u>	<u>100.0%</u>

#### Money-Weighted Rate of Return

For the year ended December 31, 2016 and 2015, the annual money-weighted rate of return on plan investments, net of investment expense, was 5.77% and 5.61%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

### Note 4 – Deposits and Investments

At December 31, 2016 and 2015, the Fund's book balances of cash were \$-0- and \$-0-, respectively. The actual bank balances were \$-0- and \$-0- at December 31, 2016 and 2015, respectively. The Fund maintains cash balances at the Northern Trust Company Bank. Accounts at this institution may from time to time exceed amounts insured by the Federal Deposit Insurance Company.

The Fund's investments are held by a bank-administered trust fund, except for the collective investment funds, private equity partnerships, real estate, hedged equity and certain fixed income investments. Investments that represent 5 percent or more of the Fund's net position (except those issued or guaranteed by the U.S. Government) are separately identified as follows:

	2016	2015
Collective investment funds – common stock		
NTGI QM Collective Daily US Market Cap Equity	\$ 34,854,723	\$ 36,514,482
NTGI QM Collective Daily All Country World Index	\$ 29,145,443	\$ 20,290,115
Hedged equity		
Entrust Diversified Select Equity Fund	\$ -	\$ 23,565,871

The Fund's investments are reported at fair value in the accompanying statements of fiduciary net position. The methods used to measure fair value may produce an amount that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Fund believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

Generally accepted accounting principles provide the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

## Notes to Financial Statements (Continued)

### Note 4 – Deposits and Investments (Continued)

The three levels of the fair value hierarchy are described as follows:

*Level 1:* Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Fund has the ability to access.

*Level 2:* Inputs to the valuation methodology include:

- quoted prices for similar assets or liabilities in active markets;
- quoted prices for identical or similar assets or liabilities in inactive markets;
- inputs other than quoted prices that are observable for the asset or liability;
- inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

*Level 3:* Inputs to the valuation methodology are unobservable and significant to the fair market value measurement.

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

Following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes in the methodologies used at December 31, 2016 and 2015.

Investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent), as a practical expedient are not classified in the fair value hierarchy.

Equity securities and short-term investment securities classified in Level 1 are valued using prices quoted in active markets for those securities.

Debt securities classified in Level 2 or Level 3 are valued using matrix pricing techniques maintained by the various pricing vendors. Matrix pricing is used to value securities based on the securities relationship to a benchmark's quoted price. Equity securities classified in Level 2 are securities with a theoretical price calculated by applying a standardized formula to derive a price from a related security.

Equity securities classified in Level 2 are valued with last trade data having limited trading volume.

The valuation method for certain fixed income and alternative investments is based on the investments' NAV per share (or its equivalent), provided by the investment managers. The NAV is based on the fair value of the underlying investments held by the fund less its liabilities. This practical expedient is not used when it is determined to be probable that the fund will sell the investment for an amount different than the reported NAV.

# Financial Statements

## Notes to Financial Statements (Continued)

### Note 4 – Deposits and Investments (Continued)

The following table summarizes the valuation of the Fund's investments by the fair value hierarchy levels as of December 31, 2016.

Investment Measured at Fair Value	December 31, 2016	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Equity securities</b>				
Common Stock	\$101,784,476	\$ 57,067,324	\$ 44,717,152	\$ -
Preferred Stock	105,087	105,087	-	-
Common Stock – foreign	70,895,196	33,332,019	37,563,177	-
<b>Total equity securities</b>	<u>172,784,759</u>	<u>90,504,430</u>	<u>82,280,329</u>	<u>-</u>
<b>Debt securities</b>				
Government Bonds	16,869,441	-	16,869,441	-
Government Agencies	1,557,342	-	1,557,342	-
Corporate Bonds	19,222,224	-	19,217,611	4,613
Government Mortgage-Backed Securities	15,597,736	-	15,597,736	-
Commercial Mortgage-Backed	9,687,414	-	9,687,414	-
Non-Government Backed CMO's	126,386	-	126,386	-
Index Linked Government Bonds	195,021	-	195,021	-
<b>Total debt securities</b>	<u>63,255,564</u>	<u>-</u>	<u>63,250,951</u>	<u>4,613</u>
<b>Short-term investment securities</b>				
Short-term Bills & Notes	549,899	549,899	-	-
Funds-short-term investment	7,171,968	7,171,968	-	-
<b>Total short-term investments securities</b>	<u>7,721,867</u>	<u>7,721,867</u>	<u>-</u>	<u>-</u>
<b>Total investments measured by fair value level</b>	<u>243,762,190</u>	<u>\$ 98,226,297</u>	<u>\$145,531,280</u>	<u>\$ 4,613</u>
<b>Investments measured at Net Asset Value (NAV)</b>				
Hedged equity	12,107,984			
Risk parity	11,685,176			
Private equity	30,480,102			
Real estate	38,382,589			
Infrastructure	22,043,799			
<b>Total investments measured at NAV</b>	<u>114,699,650</u>			
<b>Total investments measured at fair value</b>	<u>\$358,461,840</u>			
<b>Collateral from securities lending</b>	<u>\$ 36,306,598</u>		<u>\$ 36,306,598</u>	

# Financial Statements

## Notes to Financial Statements (Continued)

### Note 4 – Deposits and Investments (Continued)

The following table summarizes the valuation of the Fund's investments by the fair value hierarchy levels as of December 31, 2015.

Investment Measured at Fair Value	December 31, 2015	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Equity securities</b>				
Common Stock	\$105,777,281	\$ 52,781,652	\$ 52,995,629	\$ -
Preferred Stock	280,437	280,437	-	-
Common Stock - foreign	57,500,837	29,638,691	27,862,146	-
<b>Total equity securities</b>	<u>163,558,555</u>	<u>82,700,780</u>	<u>80,857,775</u>	<u>-</u>
<b>Debt securities</b>				
Government Bonds	17,874,727	-	17,874,727	-
Government Agencies	1,555,375	-	1,555,375	-
Corporate Bonds	16,385,817	-	16,380,831	4,986
Government Mortgage-Backed Securities	16,839,143	-	16,839,143	-
Commercial Mortgage-Backed	9,935,674	-	9,935,674	-
Non-Government Backed CMO's	134,975	-	134,975	-
<b>Total debt securities</b>	<u>62,725,711</u>	<u>-</u>	<u>62,720,725</u>	<u>4,986</u>
<b>Short-term investment securities</b>				
Funds-short-term investment	4,818,526	4,818,526	-	-
<b>Total short-term investments securities</b>	<u>4,818,526</u>	<u>4,818,526</u>	<u>-</u>	<u>-</u>
<b>Total investments measured by fair value level</b>	<u>231,102,792</u>	<u>\$ 87,519,306</u>	<u>\$143,578,500</u>	<u>\$ 4,986</u>
<b>Investments measured at Net Asset Value (NAV)</b>				
Hedged equity	23,565,871			
Risk parity	12,185,029			
Private equity	39,901,128			
Real estate	41,728,500			
Infrastructure	20,826,213			
<b>Total investments measured at NAV</b>	<u>138,206,741</u>			
<b>Total investments measured at fair value</b>	<u>\$369,309,533</u>			
<b>Collateral from securities lending</b>	<u>\$ 45,712,100</u>		<u>\$ 45,712,100</u>	

## Notes to Financial Statements (Continued)

### Note 4 – Deposits and Investments (Continued)

Investments measured at NAV for fair value are not subject to level classification. The valuation methods for investments measured at the NAV per share (or its equivalent) is presented on the following table.

#### Investments Measured at Net Asset Value (NAV)

	Fair Value December 31, 2016	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Hedged equity	\$ 12,107,984	\$ -	Quarterly	90 days
Risk parity	\$ 11,685,176	\$ -	Daily	1 day
Private equity	\$ 30,480,102	\$ 4,453,550	n/a	n/a
Real estate	\$ 38,382,589	\$ -	Quarterly	60-90 days
Infrastructure	\$ 22,043,799	\$ -	Quarterly	90 days

#### Investments Measured at Net Asset Value (NAV)

	Fair Value December 31, 2015	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Hedged equity	\$ 23,565,871	\$ -	Quarterly	90 days
Risk parity	\$ 12,185,029	\$ -	Daily	1 day
Private equity	\$ 39,901,128	\$ 5,037,177	n/a	n/a
Real estate	\$ 41,728,500	\$ -	Quarterly	60-90 days
Infrastructure	\$ 20,826,213	\$ -	Quarterly	90 days

#### Hedged Equity

The hedged equity investment consists of one open-end long/short equity hedge fund of funds portfolio that primarily invests both long and short in publicly traded US equities.

#### Risk Parity

The risk parity investment consists of one open-end fund that primarily invests in global equities, global government bonds and commodities.

#### Private Equity Partnerships

The private equity investments consist of eight closed-end limited partnership private equity fund of funds. Generally, the types of partnership strategies included in these portfolios are venture capital, buyouts, special situations, mezzanine, and distressed debt. Private equity partnerships have an approximate life of 10-15 years and are considered illiquid. Redemptions are restricted over the life of the partnership. During the life of the partnerships, distributions are received as underlying investments are realized. The Fund has no plans to liquidate the total portfolio.

#### Real Estate

The real estate investments consists of two core open-end real estate funds and one value-added open-end real estate fund that primarily invest in U.S. commercial real estate.

## Notes to Financial Statements (Continued)

### Note 4 – Deposits and Investments (Continued)

#### Infrastructure

The infrastructure investments consist of two core open-end infrastructure funds that primarily invest in global infrastructure assets.

The Fund shall apply the prudent investor rule in investing for funds under its supervision. The “prudent investor rule” means that in making investments, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, with regards to preservation of capital and income and not speculation. The funds belonging to the Fund must be invested exclusively for the benefit of their members and in accordance with the respective Fund’s investment goals and objectives.

#### Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt securities that will adversely affect the fair value of an investment. The price of a debt security typically moves in the opposite direction of the change in interest rates.

The Fund does not maintain a policy relative to interest rate risk. The Board of Trustees recognized that its investments are subject to short-term volatility. However, their goal is to maximize total return within prudent risk parameters.

The following tables show the investments in debt securities by investment type and maturity as of December 31, 2016 and 2015 (expressed in thousands).

#### December 31, 2016

Security Type	Total Fair Value	Less Than 1 Year	1 – 6 Years	6 -10 Years	10+ Years
Commercial mortgage backed	\$ 9,688	\$ -	\$ -	\$ -	\$ 9,688
Corporate bonds	19,222	778	9,864	4,920	3,660
Government agencies	1,557	-	1,307	250	-
Government bonds	16,870	-	7,346	6,445	3,079
Index Linked Government Bonds	195	-	-	195	-
Government mortgage backed	15,598	6	256	779	14,557
Non-government backed CMO's	126	-	-	-	126
Total	<u>\$63,256</u>	<u>\$ 784</u>	<u>\$18,773</u>	<u>\$12,589</u>	<u>\$31,110</u>

#### December 31, 2015

Security Type	Total Fair Value	Less Than 1 Year	1 – 6 Years	6 -10 Years	10+ Years
Commercial mortgage backed	\$ 9,936	\$ -	\$ -	\$ -	\$ 9,936
Corporate bonds	16,386	688	8,285	3,880	3,533
Government agencies	1,555	-	1,079	476	-
Government bonds	17,875	1,487	8,416	5,468	2,504
Government mortgage backed	16,839	-	452	885	15,502
Non-government backed CMO's	135	-	-	-	135
Total	<u>\$62,726</u>	<u>\$ 2,175</u>	<u>\$18,232</u>	<u>\$10,709</u>	<u>\$31,610</u>

Some investments are more sensitive to interest rate changes than others. Variable and floating rate collateralized mortgage obligations (CMOs), asset-backed securities (ABS), interest-only and principal-only securities are examples of investments whose fair values may be highly sensitive to interest rate changes.

## Financial Statements

### Notes to Financial Statements (Continued)

#### Note 4 – Deposits and Investments (Continued)

##### *Credit Risk*

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Fund maintains a highly diversified portfolio of debt securities encompassing a wide range of credit ratings. Each fixed income manager is given a specific set of guidelines to invest within, based on the mandate for which it was hired. The guidelines specify in which range of credit the manager may invest. These ranges include investment grade and high yield categories.

The following tables present the Fund's ratings as of December 31, 2016 and 2015 (expressed in thousands).

##### December 31, 2016

S & P Credit Rating	Fair Value	Comm'l Mortgage Backed	Corporate Bonds	Gov't Agencies	Gov't Bonds	Gov't Mortgage Backed	Index Linked Gov't Bonds	Non Gov't Backed CMO
AAA	\$ 828	\$ 448	\$ 380	\$ -	\$ -	\$ -	\$ -	\$ -
AA	3,567	274	2,015	1,152	-	-	-	126
A	7,371	-	7,371	-	-	-	-	-
BBB	7,443	-	7,237	206	-	-	-	-
BB	1,747	-	1,747	-	-	-	-	-
B	286	-	286	-	-	-	-	-
CCC	97	-	97	-	-	-	-	-
NR	9,835	8,966	89	199	-	581	-	-
US Gov't Agency	<u>32,082</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>16,870</u>	<u>15,017</u>	<u>195</u>	<u>-</u>
Total	<u>\$63,256</u>	<u>\$9,688</u>	<u>\$19,222</u>	<u>\$1,557</u>	<u>\$16,870</u>	<u>\$15,598</u>	<u>\$195</u>	<u>\$126</u>

##### December 31, 2015

S & P Credit Rating	Fair Value	Comm'l Mortgage Backed	Corporate Bonds	Gov't Agencies	Gov't Bonds	Gov't Mortgage Backed	Index Linked Gov't Bonds	Non Gov't Backed CMO
AAA	\$ 867	\$ 577	\$ 290	\$ -	\$ -	\$ -	\$ -	\$ -
AA	3,410	361	1,759	1,155	-	-	-	135
A	6,333	273	6,060	-	-	-	-	-
BBB	7,070	-	6,868	202	-	-	-	-
BB	1,061	-	1,061	-	-	-	-	-
B	263	-	263	-	-	-	-	-
NR	9,685	8,725	85	198	-	677	-	-
US Gov't Agency	<u>34,037</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>17,875</u>	<u>16,162</u>	<u>-</u>	<u>-</u>
Total	<u>\$62,726</u>	<u>\$9,936</u>	<u>\$16,386</u>	<u>\$1,555</u>	<u>\$17,875</u>	<u>\$16,839</u>	<u>\$ -</u>	<u>\$135</u>

##### *Custodial Credit Risk*

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the pension fund will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. A review of the Fund's exposure to custodial credit risks reflects that there is none.



## Notes to Financial Statements (Continued)

### Note 5 – Securities Lending

Under the provisions of state statutes, the Fund lends securities (both equity and fixed income) to qualified and Fund approved brokerage firms for collateral that will be returned for the same securities in the future. The Fund's custodian, the Northern Trust Co., manages the securities lending program, which includes the securities of the Fund as well as other lenders, and receives cash, U.S. Treasury securities or letters of credit as collateral. The collateral received cannot be pledged or sold by the Fund unless the borrower defaults. However, the Fund does have the right to close the loan at any time. All security loan agreements are initially collateralized at 103% of the loaned securities. Whenever adjustments are needed to reflect changes in the fair value of the securities loaned, the collateral is adjusted accordingly. Cash collateral is invested in the lending agent's short-term investment pool, which at year end has a weighted average maturity of 75 days. As of December 31, 2016 and 2015, the Fund had loaned to borrowers securities with a fair value of \$35,358,211 and \$44,371,413, respectively. As of December 31, 2016, the fair value of the collateral received by the Fund was \$36,306,598 and the collateral invested by the Fund was \$36,306,598. As of December 31, 2015, the fair value of the collateral received by the Fund was \$45,712,100 and the collateral invested by the Fund was \$45,712,100.

At year end, the Fund has no credit risk exposure to the borrowers because the amounts the Fund owes the borrowers exceed the amounts the borrowers owe the Fund.

### Note 6 – Property and Equipment

Property and equipment are stated at cost. Depreciation has been provided using the straight-line method over periods ranging from 3-7 years. Leasehold improvements are amortized using the straight-line method over the remaining term of the lease. Major outlays for additions and improvements are capitalized. Maintenance and repairs are charged to expense. A summary of property and equipment at December 31, 2016 and 2015 is as follows:

	2016	2015
Furniture and equipment	\$ 72,426	\$ 71,211
Computer software	138,962	114,041
Leasehold improvements	<u>2,271</u>	<u>2,271</u>
	213,659	187,523
Less accumulated depreciation and amortization	<u>134,118</u>	<u>122,272</u>
Net property and equipment	<u>\$ 79,541</u>	<u>\$ 65,251</u>

Depreciation and amortization expense was \$11,846 and \$12,356 for 2016 and 2015, respectively.

### Note 7 – Operating Leases

The Fund has entered into an operating lease for office space through April 30, 2026. The lease provides that the lessee pay monthly base rent subject to annual increases, plus an escalation rent computed on costs incurred by the lessor. Upon executing the amendment, the Fund received rent abatements in the amount of \$115,587 which are being amortized over the life of the lease. The unamortized portion was \$71,079 and \$79,051 at December 31, 2016 and 2015, respectively. The total rental expense was \$166,500 and \$163,057 for 2016 and 2015, respectively.

Following is a schedule of minimum future rental payments for each of the next five years and in the aggregate under the non-cancelable operating lease at December 31, 2016:

## Notes to Financial Statements (Continued)

### Note 7 – Operating Leases (Continued)

<u>Year ended December 31</u>	<u>Amount</u>
2017	\$ 92,364
2018	94,692
2019	97,021
2020	99,349
2021	101,678
2022-2026	<u>467,253</u>
	<u>\$ 952,357</u>

The Fund leases office equipment under non-cancelable operating leases that expire at various dates through March, 2019. Total rent expense incurred under these operating leases was \$20,893 and \$23,274 for 2016 and 2015, respectively.

Minimum future rental payments under non-cancelable operating leases having remaining terms in excess of one year as of December 31, 2016 for each of the next three years and in the aggregate are:

<u>Year ended December 31</u>	<u>Amount</u>
2017	\$ 17,136
2018	17,136
2019	<u>2,406</u>
	<u>\$ 36,678</u>

### Note 8 – Commitments

The Fund has committed to purchase \$75,000,000 interest in private equity partnerships. At December 31, 2016 and 2015, the Fund had a remaining contractual obligation of \$4,453,550 and \$5,037,177, respectively, to purchase additional interest in the private equity partnerships.

### Note 9 – Deferred Compensation Plan

The Fund is a governmental eligible employer within the meaning of Code Section 457(e)(1)(A) and has established a deferred compensation plan (457(b)) for eligible employees. Individual contributions to the plan are equal to the amount of salary reductions elected by each participant for the year up to a maximum allowable by Internal Revenue Service regulations. Total employee contributions were \$42,915 and \$43,430 for 2016 and 2015, respectively. Employer contributions are not allowed.

### Note 10 – Litigation

Public Act 098-0622, which took effect January 1, 2015, affected all stakeholders: the employer, employees and retirees and is phased in over a five-year period. The main objective of the amendment is to provide sustainable funding that will secure the long-term health of the Fund.

Beginning in 2015, the multiplier for employer contributions increased to 1.70 times the total contribution by employees two years earlier. The multiplier increases in the year 2017 to 2.30 times the total contribution by employees and in the year 2019 to 2.90 times the total contribution by employees. The 2.90 multiplier will remain in effect until the Fund is 90% funded, after which time the Employer obligation is the lesser of the 2.90 multiplier or the amount necessary to maintain 90% funding. In addition to the increased multiplier, the Employer must make supplemental contributions in 2015 of \$12.5 million; in 2016 of \$12.5 million; and in 2019 of \$50 million.

### Notes to Financial Statements (Continued)

#### Note 10 – Litigation (Continued)

Under Public Act 098-0622, employee contributions increased to 10% in 2015; 11% in 2017; and 12% in 2019. Employee contributions will remain at 12% until the Fund is 90% funded, at which time employee contributions will decrease to 10.5% and remain there as long as the Fund is 90% funded. For retirees who are eligible, the annual increase, or “COLA”, is suspended for 2015, 2017 and 2019. In years 2016, 2018, 2020 and thereafter, the increase will be the lesser of ½ the Consumer Price Index-Urban (“CPI-U”) or 3% of the annuity granted at retirement.

On October 14, 2015, the Fund was served a summons and complaint, which challenges Public Act 098-0622, on the grounds that this amendment to the Illinois Pension Code diminishes and impairs the benefits of participants in the Fund. On April 25, 2016, the Fund filed its answer to the complaint. On October 19, 2016, an agreed upon order was signed that granted interim relief to parts of Public Act 098-0622. All eligible annuitants were granted retroactive pay for annual increases they would have been entitled to since January 1, 2015. However, the employees will continue to contribute 10% of their pensionable salary, and the Chicago Park District will continue to contribute 1.7 times the amount of employee contributions, pending further order of the court. The next status hearing is set for July 13, 2017.

On March 24, 2016, the Illinois Supreme Court issued an opinion striking down Public Act 098-0641 because it violated the Pension Protection clause of the Illinois Constitution, diminished, and impaired the benefits of participants in the funds in question. Public Act 098-0641 amended the Illinois Pension Code with respect to the Chicago Municipal and Laborers’ Pension Funds in various ways that are similar to the amendments made to the Fund by Public Act 098-0622. Based on the Supreme Court’s opinion, it is likely that the Circuit Court will find that Public Act 098-0622 is unconstitutional. The effects of a reversal of Public Act 098-0622 on the Fund’s financial statements have not been determined but are presumed to be significant.

# Financial Statements

## Required Supplementary Information (Unaudited)

### Schedule of Changes in Employer's Net Pension Liability

	12/31/16	12/31/15	12/31/14
<b>Total pension liability</b>			
Service Cost	\$ 13,763,768	\$ 13,417,795	\$ 12,975,774
Interest	66,523,889	65,921,805	64,929,834
Change of benefit term	93,579,710	-	-
Differences between expected and actual experience	(4,556,757)	682,159	5,447,687
Change of assumptions	198,725,863	-	-
Benefit payments, including refunds of employee contributions	(74,077,877)	(70,602,016)	(70,536,042)
<b>Net change in total pension liability</b>	<b>293,958,596</b>	<b>9,419,743</b>	<b>12,817,253</b>
<b>Total pension liability – beginning</b>	<b>910,260,360</b>	<b>900,840,617</b>	<b>888,023,364</b>
<b>Total pension liability – ending (a)</b>	<b>1,204,218,956</b>	<b>910,260,360</b>	<b>900,840,617</b>
<b>Plan fiduciary net position</b>			
Contributions – employer	30,890,241	30,588,976	11,225,438
Contributions – employee	12,246,115	12,368,636	10,831,434
Net investment income	30,920,231	8,823,613	27,490,520
Benefit payments, including refunds of employee contributions	(74,077,877)	(70,602,016)	(70,536,042)
Administrative expenses	(1,537,698)	(1,533,700)	(1,458,831)
Other	102,572	88,113	100,518
<b>Net change in plan fiduciary net position</b>	<b>(1,456,416)</b>	<b>(20,266,378)</b>	<b>(22,346,963)</b>
<b>Plan fiduciary net position – beginning</b>	<b>393,155,338</b>	<b>413,421,716</b>	<b>435,768,679</b>
<b>Plan fiduciary net position – ending (b)</b>	<b>391,698,922</b>	<b>393,155,338</b>	<b>413,421,716</b>
<b>Employer's net pension liability ending(a)-(b)</b>	<b>\$812,520,034</b>	<b>\$517,105,022</b>	<b>\$487,418,901</b>

*This is a 10 – year schedule – however, the information is not required to be presented retroactively. Information will be added to this schedule until 10 years of information is available.*

### Schedule of Employer's Net Pension Liability

	12/31/16	12/31/15	12/31/14
Total pension liability	\$1,204,218,956	\$910,260,360	\$900,840,617
Plan fiduciary net position	391,698,922	393,155,338	413,421,716
Employer's net pension liability	812,520,034	517,105,022	487,418,901
Plan fiduciary net position as a percentage of total pension liability	32.53%	43.19%	45.89%
Covered-employee payroll	\$121,126,918	\$122,382,584	\$118,987,507
Employer's net pension liability as a percentage of covered-employee payroll	670.80%	422.53%	409.64%

*This is a 10 – year schedule – however, the information is not required to be presented retroactively. Information will be added to this schedule until 10 years of information is available.*

## Required Supplementary Information (Unaudited) (Continued)

### Schedule of Employer Contributions

Period Ended	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
December 31, 2016	\$37,130,268	\$30,890,241	\$ 6,240,027	\$121,126,918	25.50%
December 31, 2015	36,273,994	30,588,976	5,685,018	122,382,584	24.99
December 31, 2014	35,307,186	11,225,438	24,081,748	118,987,507	9.43
December 31, 2013	41,834,857	15,707,814	26,127,043	117,781,596	13.34
December 31, 2012**	16,786,671	5,268,363	11,518,308	58,231,511	9.05
June 30, 2012	28,051,528	10,868,361	17,183,167	114,223,909	9.51
June 30, 2011	25,319,145	10,981,419	14,337,726	107,686,693	10.20
June 30, 2010	22,399,740	10,829,339	11,570,401	107,361,021	10.09
June 30, 2009	18,285,474	9,667,765	8,617,709	108,882,742	8.88
June 30, 2008	16,073,257	8,998,687	7,074,570	111,698,366	8.06
June 30, 2007	14,571,540	9,594,593	4,976,947	106,601,982	9.00

\*\* For the six months ended December 31, 2012, as a result of Public Act 97-0973, the Fund's year end was changed from June 30<sup>th</sup> to December 31<sup>st</sup>.

### Schedule of Investment Returns

Year ended December 31	Annual Money-Weighted Rate of Return, net of investment expense
2016	5.77%
2015	5.61%
2014	5.60%

*This is a 10 – year schedule – however, the information is not required to be presented retroactively. Information will be added to this schedule until 10 years of information is available.*

### Notes to Required Supplementary Information

Valuation date	12/31/16
Actuarial cost method	Entry age (Project 2005-June 30, 2012)
Amortization method	Level dollar
Amortization period	26 years (closed period) (open period until June 30, 2012)
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.5%, net of investment expense
Projected salary increases	15% to 2.75% based on service
Inflation rate	2.75%

**Additional Information**

**Tax Levies Receivable**

<u>Levy Year (Calendar)</u>	<u>Tax Levy</u>	<u>Collections</u>	<u>Tax Levies Receivable</u>	<u>Allowance for Uncollectible Taxes</u>	<u>Allowance for Uncollectible Write-offs as a Percentage of Tax Levy</u>	<u>Net Tax Levies Receivable</u>
At December 31, 2016:						
2016	\$17,267,157	\$ -	<u>\$17,267,157</u>	<u>\$ -</u>	0.00%	<u>\$17,267,157*</u>
At December 31, 2015:						
2015	\$17,957,112	\$ -	<u>\$17,957,112</u>	<u>\$ -</u>	0.00%	<u>\$17,957,112</u>

\* collected in March 2017

**Additional Information (Continued)**

**Administrative and General Expenses**

	<u>2016</u>	<u>2015</u>
Actuary expense	\$ 50,023	\$ 53,597
Auditing	27,000	27,000
IT consultant	30,769	49,749
Conference and convention expense	13,380	19,128
Contributions for annuities of Retirement Board employees	106,014	112,589
Depreciation	11,846	12,356
Equipment rental	20,893	23,274
Filing fee – State of Illinois	8,000	8,000
File storage expense	6,636	5,567
Hospitalization	129,835	145,199
Legal	74,145	39,298
Legislative consultant	33,000	30,000
Office supplies and expenses	34,883	30,829
Postage	12,568	15,472
Insurance - surety bond and other	3,586	3,477
Rent expense	166,500	163,057
Salaries	753,691	747,428
Payroll tax	9,583	8,428
Unemployment taxes	-	8,678
Bank fees	21,820	21,788
Telephone	7,798	5,102
Transportation	3,886	2,462
Trustees' election expense	<u>11,843</u>	<u>1,222</u>
Total administrative and general expenses	<u>\$ 1,537,699</u>	<u>\$ 1,533,700</u>

**Additional Information (Continued)**

**Professional Expenses**

	<u>2016</u>	<u>2015</u>
Legal	\$ 74,145	\$ 39,298
Actuary	50,023	53,597
Auditing	27,000	27,000
IT consultant	30,769	49,749
Legislative consultant	<u>33,000</u>	<u>30,000</u>
Total	<u>\$214,937</u>	<u>\$199,644</u>



## Additional Information (Continued)

	<u>Investment Expenses</u>	
	2016	2015
<u>U.S. EQUITY</u>		
Great Lakes Advisors, LLC	\$ 80,098	\$ 87,200
Ariel Investments	136,268	142,884
RBC Global Asset Management	92,213	90,267
Northern Trust Quantitative Advisors	<u>8,220</u>	<u>20,042</u>
	<u>316,799</u>	<u>340,393</u>
<u>NON - U.S. EQUITY</u>		
Lombardia Capital Partners	107,328	77,014
Northern Trust Quantitative Advisors	<u>13,831</u>	<u>23,219</u>
	<u>121,159</u>	<u>100,233</u>
<u>FIXED INCOME</u>		
LM Capital Group, LLC	29,667	28,571
MacKay Shields, LLC	73,932	83,406
Chicago Equity Partners	39,743	38,465
ULLICO Investment Company	<u>59,748</u>	<u>62,679</u>
	<u>203,090</u>	<u>213,121</u>
<u>HEDGED EQUITY</u>		
Entrust Capital, Inc.	265,235	283,751
K2 Advisors, LLC	<u>-</u>	<u>31,426</u>
	<u>265,235</u>	<u>315,177</u>
<u>RISK PARITY</u>		
Invesco	<u>56,496</u>	<u>57,036</u>
	<u>56,496</u>	<u>57,036</u>
<u>REAL ESTATE</u>		
Principal Global Investors	151,784	188,349
UBS Realty Investors, LLC	<u>258,144</u>	<u>271,341</u>
	<u>409,928</u>	<u>459,690</u>
<u>PRIVATE EQUITY</u>		
HarbourVest Partners, LLC	208,618	231,801
Mesirow Financial Capital Partners	115,556	169,644
GoldPoint Partners, LLC	<u>45,338</u>	<u>25,354</u>
	<u>369,512</u>	<u>426,799</u>
<u>INFRASTRUCTURE</u>		
ULLICO Infrastructure	186,507	78,642
IFM Global Infra (US) L.P.	<u>90,779</u>	<u>63,099</u>
	<u>277,286</u>	<u>141,741</u>
<u>OTHER</u>		
Custody – Northern Trust Co.	70,000	70,000
Investment consultant – Marquette Associates	<u>100,000</u>	<u>100,000</u>
	<u>170,000</u>	<u>170,000</u>
Total	<u>\$2,189,505</u>	<u>\$2,224,190</u>

# INVESTMENT

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## INTRODUCTION

The Fund is authorized to invest in bonds, notes, and other obligations of the U.S. Government; corporate debentures and obligations; insured mortgage notes and loans; common and preferred stocks; stock options; real estate; collective investment funds; and private equity partnerships as set forth in the Illinois Compiled Statutes. Income on all investments is recognized on the accrual basis. Gains and losses on sales and exchanges of investments are recognized on the transition date of such sale or exchange. Dividend income is recognized based on dividends declared. Investments are reported at fair value. Short term investments are reported at cost, which approximates fair value. Fair value for bonds and stocks are determined by quoted market prices and for investments for which market quotations are not readily available are valued at their fair values as determined by a bank administrator under the direction of the Board of Trustees, with the assistance of a valuation service.

The Investment Section was prepared by staff with assistance from Marquette Associates, Inc., the Fund's investment consultant and Northern Trust Company, the Fund's custodian. Return calculations were prepared using a time-weighted rate of return methodology in accordance with the performance presentation standards of the CFA Institute.

## Investment Recap

### Market Environment

The U.S. stock market rose 12.6% during the year ended December 31, 2016, as measured by the Dow Jones U.S. Total Stock Market Index. Within the U.S. stock market, there was some differentiation in returns between large-cap, mid-cap, and small-cap stocks over the year, with returns of 12.1%, 13.8%, and 21.3% for the Russell 1000, Russell Mid-Cap and Russell 2000, respectively. In addition, value stocks significantly outperformed growth stocks, with returns of 18.4% and 7.4% for the Russell 3000 Value and Russell 3000 Growth, respectively.

The non-U.S. equity markets, as measured by the MSCI ACWI ex US Index, significantly underperformed their U.S. counterparts, posting a return of 4.5% during the year. Emerging markets, as measured by the MSCI Emerging Markets Index, significantly outperformed non-U.S. developed markets, as measured by the MSCI EAFE Index, over the year with returns of 11.2% and 1.0%, respectively.

The broad bond market, as measured by the Barclays Aggregate Index, returned 2.6% during the year. The credit sector, as measured by the Barclays U.S. Credit Index, outperformed the government sector, as measured by the Barclays U.S. Government Index, over the year with returns of 5.6% and 1.1%, respectively.

In the private equity market, the Cambridge All Private Equity Index posted a return of 6.9% during the year. Overall deal activity ended the year at \$319 billion, which was down 25.0% from 2015, largely due to a very slow start to the year. For the seventh year in a row, aggregate exit value exceeded new deal value. Exits came in a \$330 billion for 2016, which was down 22.0% from a year ago as a slow first quarter also led to slower overall exit activity. While investment activity slowed, fundraising did not, which led to an increase in dry powder, ending the year at \$1.18 trillion.

The Federal Reserve increased the Fed Funds rate by 0.25% in December. This was the only rate hike by the Fed in 2016. Real GDP increased at a 2.1% annualized rate in the fourth quarter of 2016. This was above the 1.4% annualized rate in the fourth quarter of 2015 but a somewhat sluggish growth rate at this stage of an economic recovery. Inflation, as measured by the Core Consumer Price Index, posted an increase of 2.1% for the year ended December 31, 2016. The unemployment rate was 4.7% on December 31, 2016, an improvement from the 5.0% rate on December 31, 2015.

### Performance Commentary

The Pension Fund posted a calendar year return of 8.4%, net of fees, outperforming the custom benchmark by 1.7%. The best performing asset class for the year was U.S. Equities, which returned 14.0%, net of fees. The worst performing asset class for the year was Fixed Income, which returned 2.5%, net of fees.

## INVESTMENT

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### Investment Recap (Continued)

#### Performance Commentary (Continued)

The Fund posted a three-year annualized return of 5.9%, net of fees, outperforming the custom benchmark by 1.0%. On a five-year basis, the Fund returned 9.2%, net of fees, outperforming the custom benchmark by 1.2%.

The fixed income market, as measured by the Barclays Capital Aggregate Index, returned 2.6% during the year. The Fund's fixed income portfolio returned 2.5%, net of fees, over that period, underperforming the benchmark by 0.1%. At the end of the year, the Fund's fixed income assets comprised 17.6% of the total Fund's assets.

The broad U.S. stock market, as measured by the Dow Jones Total US Stock Index, returned 12.6% during the year. The Fund's U.S. Equity portfolio returned 14.0%, net of fees, over that period, outperforming the benchmark by 1.4%. The U.S. Equity portfolio was led by the RBC Small-Cap portfolio, which returned 25.2%, net of fees, for the year, outperforming its benchmark by 3.9%. At the end of the year, the Fund's U.S. stock market assets comprised 28.0% of the total Fund's assets.

The international stock market, as measured by the MSCI ACWI ex US Index, returned 4.5% during the year. The Fund's International Equity portfolio returned 9.7%, net of fees, over that period, outperforming the benchmark by 5.2%. The International portfolio was led by the Lombardia Large-Cap Non-U.S. portfolio, which returned 32.7%, net of fees, for the year, outperforming its benchmark by 31.7%. At the end of the year, the Fund's international stock market assets comprised 19.3% of the total Fund's assets.

The real estate market, as measured by the NCREIF - ODCE Index, returned 7.8% during the year. The Fund's real estate portfolio returned 9.1%, net of fees, over that period, outperforming the benchmark by 1.3%. At the end of the year, the Fund's real estate assets comprised 10.3% of the total Fund's assets.

The private equity market, as measured by the Cambridge All-Private Equity Index, returned 6.9% during the year. The Fund's private equity portfolio returned 5.9%, net of fees, over that period. At the end of the year, the Fund's private equity assets comprised 8.3% of the total Fund's assets.

## INVESTMENT

### Summary of Investments

Years ended December 31, 2016 and December 31, 2015

Type of Investment	December 31, 2016				December 31, 2015			
	<u>Fair Value</u>	<u>%</u>	<u>Book Value</u>	<u>%</u>	<u>Fair Value</u>	<u>%</u>	<u>Book Value</u>	<u>%</u>
Fixed income	\$ 63,255,564	18	\$ 61,776,183	20	\$ 62,725,711	17	\$ 61,272,655	19
Domestic equities	101,889,563	28	68,032,098	22	106,057,718	29	73,477,882	23
International equities	70,895,196	20	65,905,980	22	57,500,837	16	57,485,733	18
Risk parity	11,685,176	3	10,588,950	3	12,185,029	3	12,435,549	4
Hedged equity	12,107,984	3	8,908,615	3	23,565,871	6	17,817,230	6
Private equity	30,480,102	9	36,124,964	12	39,901,128	11	40,575,596	13
Real estate	38,382,589	11	27,557,455	9	41,728,500	11	32,442,893	10
Infrastructure	22,043,799	6	19,012,588	6	20,826,213	6	19,740,638	6
Short-term	<u>7,721,867</u>	<u>2</u>	<u>7,721,867</u>	<u>3</u>	<u>4,818,526</u>	<u>1</u>	<u>4,818,526</u>	<u>1</u>
Total Assets	<u>\$358,461,840</u>	<u>100</u>	<u>\$305,628,700</u>	<u>100</u>	<u>\$369,309,533</u>	<u>100</u>	<u>\$320,066,702</u>	<u>100</u>

\* Investment assets do not reflect the amounts due to or from brokers at year end. Net due from broker is \$11,597,549 and \$1,240,485 at December 31, 2016 and 2015, respectively.

## INVESTMENT

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### Statement of Investment Policy for the Park Employees' Annuity and Benefit Fund of Chicago

ADOPTED 10/94

REVISED 8/1/98; 5/19/99; 2/16/00; 5/20/03; 2/29/08; 4/21/11; 7/16/15

The purpose of this statement is to establish the investment policy for the management of the assets of the Park Employees' Annuity and Benefit Fund.

#### Distinction of Responsibilities

The Trustees are responsible for establishing the investment policy that is to guide the investment of Fund assets. The target allocation that the Trustees deem appropriate for the Fund is displayed below. The Fund's investments are distributed to a number of asset classes to minimize investment risk through diversification and simultaneously provide enhanced investment performance. The Trustees review the investment policy every three to five years.

Investment managers appointed by the Trustees to execute the policy will invest Fund assets in accordance with established guidelines, but will apply their own judgments concerning relative investment values. In particular, the investment managers are accorded full discretion, within established guidelines and policy limits, to select individual investments and diversify their portfolios.

#### Allocation of Assets

It is the Trustees' policy to invest the Fund's assets in the following proportions:

Asset Category	Board Approved Policy		
	Target (%)	Range (%)	
U.S. Equity	28.5%	18.5%	38.5%
Non U.S. Equity	20.0	10.0	30.0
Private Equity	7.0	0.0	14.0
Long-Short Equity	7.0	0.0	15.0
Risk Parity	3.0	0.0	6.0
Real Estate	9.0	4.0	14.0
Infrastructure	5.0	0.0	10.0
U.S. Bonds	<u>20.5</u>	15.5	25.5
	<u>100.0%</u>		

Normal cash flows (contributions and benefit payments) will be used to maintain the allocation as close as practical to the target allocation. If normal cash flows are insufficient to maintain the allocation within the permissible range as of any calendar quarter-end, the Trustees shall transfer balances as necessary between the asset types to bring the allocation back within the permissible ranges.

#### Active and Passive Investments

The Board of Trustees has directed that a prescribed percentage of specific asset classes be invested passively through the use of index funds. The Board of Trustees has approved the following passive investment percentages:

Asset Category	% Indexed
U.S. Equity	54.3%
Non U.S. Equity	55.0%
U.S. Bonds	0.0%

## INVESTMENT

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### **Statement of Investment Policy for the Park Employees' Annuity and Benefit Fund of Chicago (Continued)**

#### **Diversification**

The portfolio is to be diversified within each asset class to reduce the impact of large losses in individual investments in a manner that is consistent with Retirement Board policy, and otherwise at the discretion of each investment manager.

#### **Liquidity**

The cash flow needs of the Fund are approximately 15% of the total Fund assets annually.

#### **Individual Investment Management Performance Benchmark**

Individual performance benchmarks will be established by the Board of Trustees and used to evaluate individual manager's performance.

#### **Investment Objective**

The investment objective of the Fund is to equal or exceed the rate of return of a benchmark comprised of 32.5% Willshire 5000 Stock Index, 16.0% MSCI All Country World Ex-US Index, 25.5% BarCap Aggregate Index, 7% Cambridge All Private Equity Index, 10% HFRX Hedged Equity Index, and 9.0% NCREIF ODCE Index on a net-of-fee basis. As a secondary benchmark, the Fund is to achieve an above-median ranking in a universe of other public funds over a reasonable measurement period.

## INVESTMENT

### Schedule of Investment Performance

	Years ended December 31, 2016- 2013; Six months ended December 31, 2012; Year ended June 30, 2012						Year ended December 31, 2016		
	<u>12/31/16</u>	<u>12/31/15</u>	<u>12/31/14</u>	<u>12/31/13</u>	<u>12/31/12</u>	<u>6/30/12</u>	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>
<b>Total Fund</b>	8.4%	1.9%	6.9%	16.9%	6.2%	1.4%	5.9%	9.2%	5.5%
Benchmark Portfolio	6.7	1.4	6.7	13.8	5.4	1.2	4.9	8.0	4.7
Public Funds Median Return	7.4	-0.4	5.5	14.9	6.3	1.0	4.1	7.8	4.9
Actuarial Assumed Rate of Return	7.5	7.5	7.5	7.5	7.5	8.0	7.5	7.5	7.5
Consumer Price Index	2.1	0.8	0.8	1.5	1.8	1.7	1.2	1.4	1.9
<b>Fixed Income</b>	2.5%	0.9%	5.5%	-1.1%	2.2%	7.5%	3.0%	2.5%	4.8%
BarCap Aggregate	2.6	0.6	6.0	-2.0	1.8	7.5	3.0	2.2	4.3
Universe Median	4.3	0.0	3.6	-1.3	3.4	6.2	2.5	2.7	4.9
<b>U.S. Equities</b>	14.0%	-0.4%	11.6%	35.8%	7.1%	1.6%	8.2%	14.8%	7.8%
Dow Jones Total US Stock Index	12.6	0.4	12.5	33.1	6.4	4.0	8.4	14.6	7.2
Universe Median	12.7	-0.1	11.0	34.1	6.6	1.6	7.6	14.0	6.8
<b>Non U.S. Equities</b>	9.7%	-4.9%	-4.9%	17.7%	13.9%	-13.8%	-0.3%	6.5%	1.3%
MSCI ACWI Ex US	4.5	-5.3	-3.4	15.8	13.8	-14.1	-1.8	5.0	1.0
Universe Median	4.3	-3.8	-3.7	16.7	13.9	-14.0	-1.3	5.5	0.8
<b>Long-Short Equities</b>	2.9%	-4.4%	4.9%	17.4%	6.4%	-3.8%	1.1%	5.8%	n/a
HFRX Hedged Equity	0.1	-2.3	1.4	11.1	3.6	-10.7	-0.3	2.9	-1.2
Universe Median	2.0	-0.5	4.2	12.2	4.8	-1.7	1.7	4.8	2.8
<b>Risk Parity</b>	12.6%	-3.2%	n/a	n/a	n/a	n/a	n/a	n/a	n/a
60% MSCI World/40% BarCap Agg	5.7	-0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Real Estate</b>	9.1%	14.3%	11.5%	12.0%	4.9%	12.0%	11.6%	11.5%	4.9%
NCREIF-ODCE	7.8	13.9	11.5	13.0	4.7	11.3	11.0	11.2	4.8
Universe Median	7.1	13.3	12.2	11.7	4.6	10.8	10.9	10.7	4.7
<b>Infrastructure</b>	9.2%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
CPI+4%	6.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Private Equity</b>	5.9%	8.9%	11.1%	13.0%	2.8%	5.2%	10.4%	11.6%	8.2%
Cambridge All Private Equity	6.9	5.4	11.0	8.4	7.6	5.3	8.3	11.6	8.9

**NOTE: The basis for the calculations is a time-weighted rate of return based on the market rate of return.**

As of December 1, 2013, the Policy Benchmark consists of 32.5% Willshire 5000 Stock Index, 16.0% MSCI All Country World Ex-US Index, 25.5% BarCap Aggregate Index, 7% Venture Economics All Private Equity Index, 10% HFRX Hedged Equity Index, and 9.0% NCREIF ODCE Index. Prior to December 1, 2013, the Policy Benchmark consisted of 27% BarCap Aggregate, 27% Wilshire 5000, 17% MSCI ACWI ex U.S., 12% NCREIF ODCE, 10% HFRX Hedged Equity, and 7% Venture Economics All Private Equity Index. Prior to April 1, 2011, the Policy Benchmark consists of 35% BarCap Aggregate, 38% Wilshire 5000, 12% MSCI ACWI ex U.S., 10% NCREIF Property Index, and 5% Venture Economics All Private Equity Index. Prior to February 29, 2008, the Policy Benchmark consisted of 35% BarCap Aggregate, 38% Wilshire 5000, 12% MSCI EAFE, 10% NCREIF Property Index, and 5% Venture Economics All Private Equity Index.

## INVESTMENT

### Schedule of Ten Largest Stock and Bond Holdings

For the year ended  
December 31, 2016

#### U.S. Stocks\*

Shares	Holdings	Fair Value
29,000	Lazard Ltd	\$ 1,191,610
13,000	Zebra Technologies Corporation	1,114,880
30,800	Kennametal Inc	962,808
40,900	MSG Network Inc	879,350
36,800	Interpublic Group Companies Inc	861,488
6,600	Laboratories Corp of America Holdings	847,308
10,300	Royal Caribbean Cruises	845,012
4,600	Bio Rad Labs	838,488
10,300	Anixter Intl Inc	834,815
8,250	Jones Lang LaSalle Inc	833,580

#### International Stocks\*

Shares	Holdings	Fair Value
27,543	Suzuken Co	\$ 902,081
23,226	Teva Pharmaceutical Industries	841,943
50,362	Danieli & C Di Risp	804,226
21,721	NN Group N.V.	737,595
58,591	Buzzi Unicem Spa	712,541
127,599	Aegon NV	703,611
104,093	Ericsson Ser'B'	613,013
87,937	Capita	576,981
17,232	Sankyo	557,730
734,104	Debenhams	519,766

#### Bonds\*

Holdings	Fair Value
United States Treasury Note 2.25% due 11/15/2024	\$ 894,480
United States Treasury Note 1.5% due 1/31/2022	840,583
United States Treasury Bond 2.75% due 8/15/2042	788,847
United States Treasury Note 2.5% due 5/15/2024	725,697
United States Treasury Note 1.75% due 5/15/2023	652,569
United States Treasury Note 2.00% due 2/15/2025	632,633
United States Treasury Note 1.25% due 10/31/2019	597,445
United States Treasury Note 2.00% due 2/15/2023	570,261
United States Treasury Note 2.125% due 8/15/2021	555,221
United States Treasury Note 3.50% due 5/15/2020	531,465

\* A complete listing of all individual securities held is available for review upon request.



## INVESTMENT

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### Schedule of Investment Brokerage Commissions

<b>Broker Name</b>	<b>Shares*</b>	<b>Commission</b>
Loop Capital Markets	138,227	\$ 4,917
Macquarie Bank Limited	1,303,348	3,569
Drexel Hamilton LLC	85,964	3,044
Jefferies & Company	1,211,855	2,362
BNY Convergenx Execution Solutions	888,315	2,166
Williams Capital Group L.P.	89,196	2,033
Cheevers and Company Inc.	51,400	2,022
M Ramsey King Securities	33,753	1,312
KCG Americas LLC	254,752	1,274
J.P. Morgan Securities LLC	114,342	1,229
Penserra Securities	27,100	1,052
BNP Paribas Securities Services	256,372	999
CastleOak Securities Inc.	26,100	965
Baypoint Trading LLC	28,020	574
Broker commissions under \$500	<u>761,785</u>	<u>6,816</u>
Total Broker Commissions	<u>5,270,529</u>	<u>\$34,334</u>

*\* Total shares traded 5,270,529 at an average cost of \$0.01 per share.*



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June 13, 2017

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, 2016. 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, 2017, 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.

Since the effective date of the last actuarial valuation, portions of Public Act 098-0622, which changed certain benefit and eligibility provisions and increased member and employer contributions, were modified by judicial order. This order reinstated the 3% post-retirement increases for Tier 1 participants and temporarily suspended the increase in member and employer contribution rates for Fiscal Year 2017. This valuation reflects these benefit and funding provision changes.

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, 2016 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 set by the Actuarial Standards of Practice and the parameters for disclosure in GASB Statement No. 67. 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 2017, employer contributions come from a property tax levied by the Chicago Park 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 2018 and then increase 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 amount of \$50,000,000 in 2019.

**The funding methods mandated by the Illinois Pension Code are inadequate to appropriately fund the Park Employees' Annuity and Benefit Fund of Chicago. We strongly recommend an actuarial funding method that targets 100% funding with payments at least covering interest on the unfunded actuarial accrued and a portion of the principal balance.**

## ACTUARIAL

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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. Therefore, this report includes all of the supporting schedules in the actuarial section.


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.

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

# ACTUARIAL

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## 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, 2016. 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, 2016, provided by the Fund staff;
- The assets of the Fund as of December 31, 2016, 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. Since the last valuation, portions of Public Act 098-0622 were modified by judicial order. The following changes have occurred, effective with this valuation:
  - Post-retirement increases for participants hired before January 1, 2011 will be 3% of the originally granted benefit. Increases will be granted for all eligible participants in 2017 and each year thereafter.
  - The tax multiple will remain at 1.7 and then increase to 2.3 for 2018 and to 2.9 for 2019 and thereafter. Employee contributions will remain at 10% for 2017 and then increase to 11% for 2018 and to 12% for 2019 and thereafter.
2. **As a result, the liability of the Fund increased, projected contributions for 2017 fiscal year decreased, and the Fund is now projected to become insolvent after 2055. A 40-year projection of the Fund's financial status is shown in Exhibit V.**
3. **The funding methods mandated by the Illinois Pension Code are inadequate to appropriately fund the Park Employees' Annuity and Benefit Fund of Chicago. We strongly recommend an actuarial funding method that targets 100% funding with payments at least covering interest on the unfunded actuarial accrued and a portion of the principal balance.**
4. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2016, is 39.1%, compared to 43.5% as of December 31, 2015. 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, 2016, is 39.0%, compared to 43.2% as of December 31, 2015. These measurements are not necessarily appropriate for assessing the sufficiency of Fund assets to cover the estimated cost of settling the Fund's benefit obligation or the need for or the amount of future contributions.
5. 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, 2017, the actuarially determined contribution amount (ADC) is \$45,253,238. 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, 2017, to be \$20,175,936. **Compared to the ADC of \$45,253,238, the contribution deficiency is \$25,077,302 as of January 1, 2017. In the prior fiscal year, actual contributions were \$6,240,027 less than the ADC. Each year of contribution deficiency leads to an increased deficiency in all future years.**

## ACTUARIAL

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

#### Significant Issues in Valuation Year (Continued)

6. For the year ended December 31, 2016, Segal has determined that the asset return on a fair value basis was 8.2%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 8.0%. This represents an experience gain when compared to the assumed rate of 7.5%. As of December 31, 2016, the actuarial value of assets (\$393.6 million) represents 100.5% of the fair value (\$391.7 million).
7. The portion of deferred investment gains and losses recognized in the calculation of the December 31, 2016, actuarial value of assets resulted in a gain of \$1,975,541. Additionally, the demographic and liability experience resulted in a \$4,710,853 gain.
8. The total unrecognized investment loss as of December 31, 2016, is \$1,906,075. 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 7.5% 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 7.5% rate and all other actuarial assumptions are met, the contribution requirements would increase over the next few years.
9. As mentioned above, the current method used to determine the actuarial value of assets yields an amount that is 100.5% of the fair value of assets as of December 31, 2016. 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.
10. When measuring pension liability for GASB purposes, the same actuarial cost method (Entry Age method) is used for funding purposes. However, as of December 31 2016, the GASB blended discount rate calculation results in a lower discount rate (5.82%) than is used for funding purposes (7.50%). This means that the total pension liability (TPL) measure for financial reporting shown in this report will differ from the actuarial accrued liability (AAL) measure for funding. We note that the same is true for the normal cost component of the annual plan cost for funding and financial reporting.
11. 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, 2016, is \$812,520,034.
12. Since portions of Public Act 098-0622 were modified by judicial order, the TPL and NPL measures have increased, primarily as a result of the lower discount rate that is required due to the blended discount rate calculation under paragraphs 44 and 45 of Statement 67.
13. 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, 2016, 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 in the context of all the other demographic assumptions as part of the experience study planned for 2017.
14. This actuarial report as of December 31, 2016, 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.

## ACTUARIAL

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

#### Summary of Key Valuation Results

	2017 After Plan Changes	2017 Before Plan Changes	2016
<b>Contributions for fiscal year beginning:</b>			
Actuarially determined contribution requirement	\$ 45,253,238	\$ 37,967,494	\$ 37,130,268
Estimated employer contributions (provided by the Fund, reflecting 3% loss on collections), including supplemental contribution of \$12,500,000 due in 2016	20,175,936	20,175,936	30,235,701
Actual employer contribution	--	--	30,890,241
<b>Funding elements for fiscal year beginning:</b>			
Employer normal cost, including administrative expenses	\$ 2,830,000	\$ 2,032,296	\$ 2,142,355
Fair value of assets	391,698,922	391,698,922	393,155,338
Actuarial value of assets	393,604,997	393,604,997	395,652,106
Actuarial accrued liability	1,005,493,093	911,913,383	910,260,360
Unfunded actuarial accrued liability	611,888,096	518,308,386	514,608,254
Funded ratio	39.15%	43.16%	43.47%
<b>GASB Information:</b>			
Long-term expected rate of return	7.50%	7.50%	7.50%
Municipal bond index	3.78%	3.78%	3.57%
Single equivalent discount rate	5.82%	7.50%	7.50%
Total pension liability	\$1,204,218,956	\$911,913,383	\$910,260,360
Plan fiduciary net position	391,698,922	391,698,922	393,155,338
Net pension liability	812,520,034	520,214,461	517,105,022
Plan fiduciary net position as a percentage of total pension liability	32.53%	42.95%	43.19%
<b>Demographic data for plan year beginning:</b>			
Number of retired participants and beneficiaries	2,870	2,870	2,876
Number of vested former participants	149	149	145
Number of active participants	3,114	3,114	3,063
Total salary supplied by the Fund	\$ 124,502,908	\$124,502,908	\$126,294,812
Average salary	39,982	39,982	41,232

# ACTUARIAL

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

### **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.

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.

## ACTUARIAL

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### **SECTION 1: Valuation Summary for the Park Employees' Annuity and Benefit Fund of Chicago (Continued)**

#### **Important Information About Actuarial Valuations (Continued)**

- 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.



## ACTUARIAL

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### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit 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: 2008 – 2016

Census Date	Active Members	Vested Terminated Members*	Retirees and Beneficiaries	Ratio of Actives to Retirees and Beneficiaries
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
December 31, 2016	3,114	149	2,870	1.09

*\*Excludes terminated members due a refund of employee contributions.*

# ACTUARIAL

## SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

### A. MEMBER DATA (Continued)

#### Active Members

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there were 3,114 active members with an average age of 41.3, average years of service of 11.2 years and average salary of \$39,982. The 3,063 active participants in the prior valuation had an average age of 41.8, average years of service of 11.1 years and average salary of \$41,232.

#### Inactive Participants

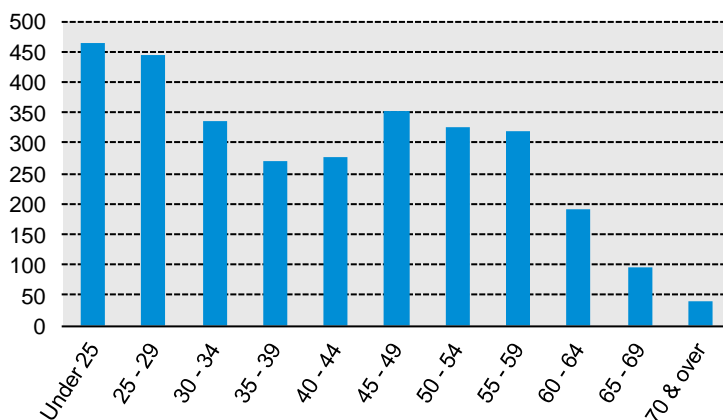
In this year's valuation, there were 149 members with a vested right to a deferred or immediate vested benefit.

In addition, there were 4,070 members entitled to a return of their employee contributions.

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

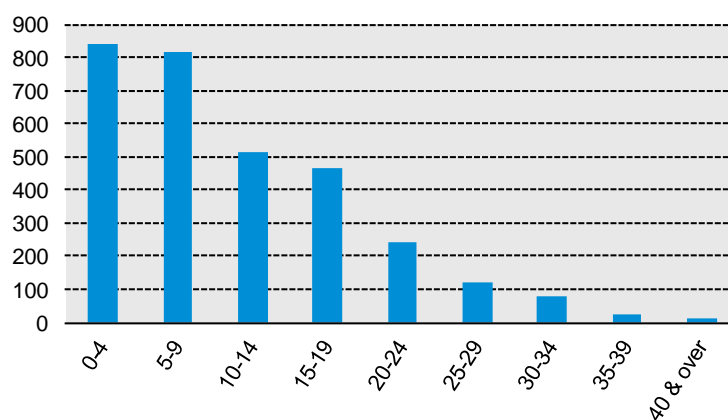
**CHART 2**

**Distribution of Active Members by Age as of December 31, 2016**



**CHART 3**

**Distribution of Active Members by Years of Service as of December 31, 2016**



**SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)**

**A. MEMBER DATA (Continued)**

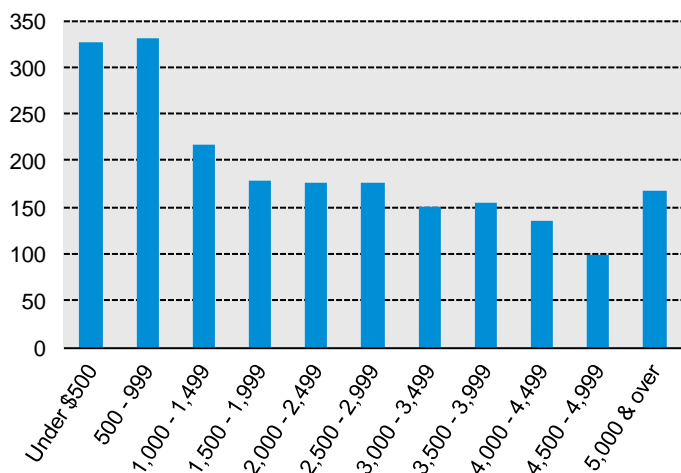
**Retirees and Beneficiaries**

As of December 31, 2016, 2,113 retirees, 744 beneficiaries, and 13 dependent children were receiving total monthly benefits of \$5,890,068. For comparison, in the previous valuation, there were 2,097 retirees, 767 beneficiaries, and 12 dependent children receiving total monthly benefits of \$5,673,167.

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

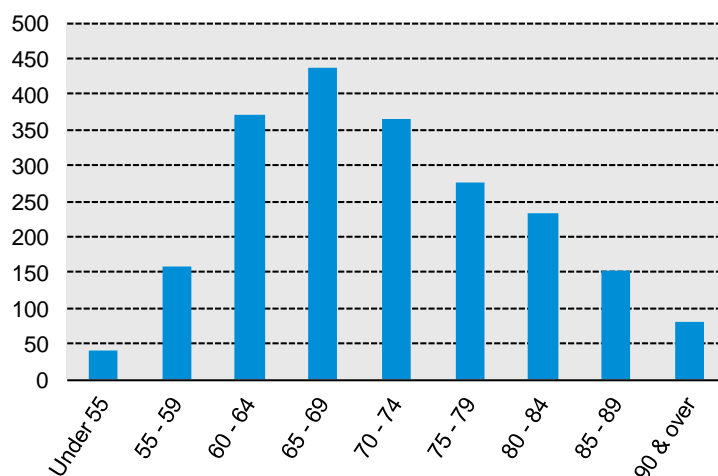
**CHART 4**

**Distribution of Retirees by Monthly Amount as of December 31, 2016**



**CHART 5**

**Distribution of Retirees by Age as of December 31, 2016**



**SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)**

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

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

*\*\* 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.*

## ACTUARIAL

### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

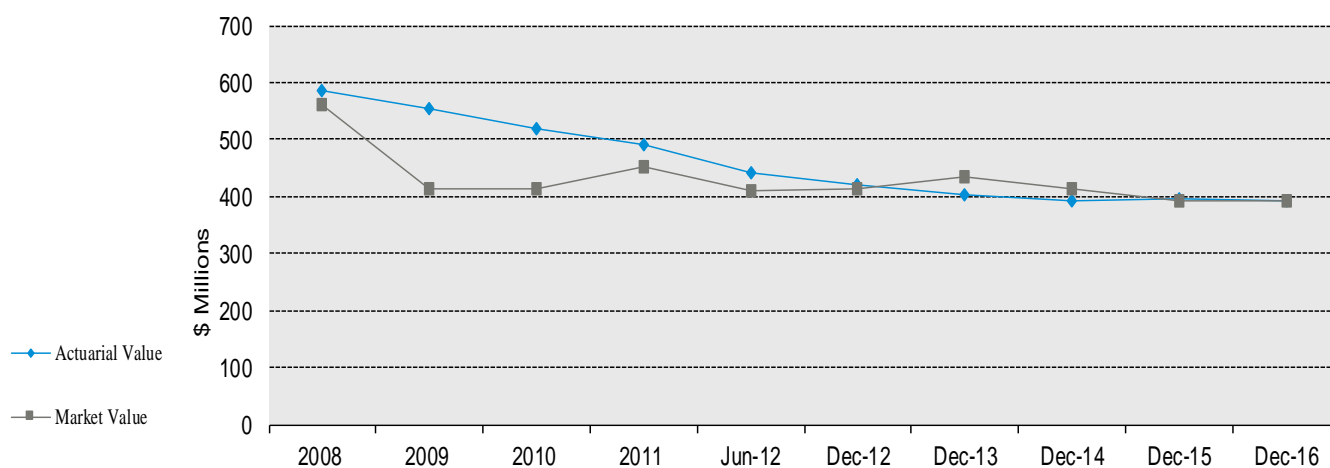
#### B. FINANCIAL INFORMATION (Continued)

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, 2008 – December 31, 2016



## ACTUARIAL

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### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

#### 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 \$6,766,814: \$1,975,541 from investment gains and \$4,791,273 in gains from all other sources. The net experience variation from individual sources other than investments was 0.5% 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, 2016**

1. Net gain from investments*	\$1,975,541
2. Net gain from administrative expenses	80,420
3. Net gain from other experience**	<u>4,710,853</u>
4. Net experience gain: (1) + (2) + (3)	\$6,766,814

\* Details in Chart 9.

\*\* Details in Chart 12.

## ACTUARIAL

### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

#### C. ACTUARIAL EXPERIENCE (Continued)

##### 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 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, 2016, was 8.02%.

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, 2016, 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, 2016**

1. Actual return	\$ 30,431,501
2. Average value of assets	379,412,801
3. Actual rate of return: (1) ÷ (2)	8.02%
4. Assumed rate of return	7.50%
5. Expected return: (2) x (4)	\$ 28,455,960
6. Actuarial gain: (1) – (5)	<u>\$ 1,975,541</u>

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**

<u>Fiscal Year Ended</u>	<u>Fair Value</u>	<u>Actuarial Value</u>
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%*
December 31, 2016	8.4%**	8.0%*
Average Returns		
Last 5 valuation years:	8.9%	7.6%
Last 10 valuation years:	4.9%	5.0%

\* As determined by Segal

\*\* As determined by Investment Consultant

## ACTUARIAL

### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

#### C. ACTUARIAL EXPERIENCE (Continued)

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.

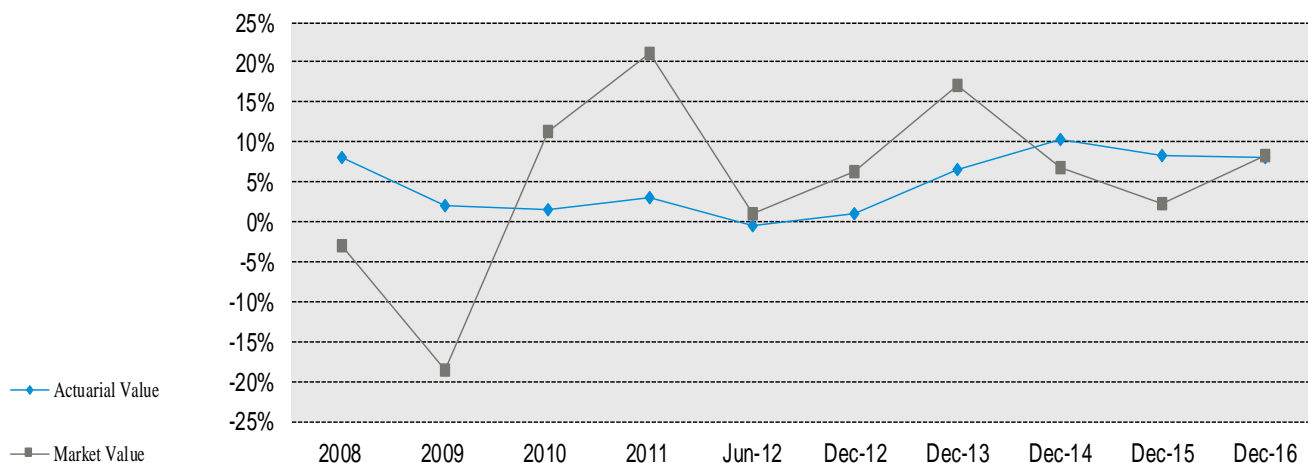
##### Administrative Expenses

Administrative expenses for the year ended December 31, 2016 totaled \$1,537,699 compared to the assumption of \$1,558,218. This resulted in a gain of \$80,420 for the year when adjusted for timing.

*This chart illustrates how this leveling effect has actually worked over the years 2008 - 2016.*

##### **CHART 11**

##### **Fair and Actuarial Rates of Return for Years Ended June 30, 2008 - December 31, 2016**





## ACTUARIAL

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### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

#### C. ACTUARIAL EXPERIENCE (Continued)

##### 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 gain from this other experience for the year ended December 31, 2016, amounted to \$4,710,853, which is 0.5% of the actuarial accrued liability.

A brief summary of the demographic gain/(loss) experience of the Fund for the year ended December 31, 2016 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, 2016**

1. Turnover	-\$3,757,396
2. Retirement	-2,208,322
3. Experience among retired members and beneficiaries related to mortality	1,897,844
4. Salary/service increase for continuing actives	9,317,165
5. Other	<u>-538,438</u>
6. Total	<u><u>\$4,710,853</u></u>

## ACTUARIAL

### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

#### 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 34.85% 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, 2017, there are 26 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			
	2017		2016	
	Amount	% of Payroll	Amount	% of Payroll
1. Total normal cost	\$ 14,287,888	11.00%	\$ 13,763,768	10.49%
2. Administrative expenses	1,562,280	1.20%	1,558,218	1.19%
3. Expected employee contributions	<u>-13,120,083</u>	<u>-10.10%</u>	<u>-13,255,268</u>	<u>-10.10%</u>
4. Employer normal cost: (1) + (2) + (3)	\$ 2,730,085	2.10%	\$ 2,066,718	1.57%
5. Employer normal cost, adjusted for timing*	2,830,000	2.18%	2,142,355	1.63%
6. Actuarial accrued liability	1,005,493,093		910,260,360	
7. Actuarial value of assets	<u>393,604,997</u>		<u>395,652,106</u>	
8. Unfunded actuarial accrued liability: (6) – (7)	\$611,888,096		\$514,608,254	
9. Payment on unfunded actuarial accrued liability	42,423,238	32.67%	34,987,913	26.66%
10. Actuarially determined contribution, adjusted for timing*: (5) + (9)	<u>\$ 45,253,238</u>	<u>34.85%</u>	<u>\$ 37,130,268</u>	<u>28.29%</u>
11. Projected payroll	\$129,855,576		\$131,229,459	

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

## ACTUARIAL

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### SECTION 2: Valuation Results for the Park Employees' Annuity and Benefit of Chicago (Continued)

#### D. DEVELOPMENT OF EMPLOYER COSTS (Continued)

The actuarially determined contribution as of January 1, 2017, 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, 2016 to January 1, 2017**

<b>Actuarially Determined Contribution as of January 1, 2016</b>	<b>\$37,130,268</b>
Effect of reinstating 3% post-retirement increases for Tier 1 members	7,285,744
Effect of expected change in amortization payment due to payment growth	962,168
Effect of change in administrative expense assumption	4,211
Effect of change in other actuarial assumptions	0
Effect of contributions less than recommended contribution	540,445
Effect of investment gains	-130,916
Effect of other gains and losses on accrued liability	-317,509
Effect of net other changes	<u>-221,173</u>
<b>Total change</b>	<b><u>\$ 8,122,970</u></b>
<b>Actuarially Determined Contribution as of January 1, 2017</b>	<b>\$45,253,238</b>

# ACTUARIAL

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

### EXHIBIT A

#### Table of Fund Coverage

	December 31		Change From Prior Year
<u>Category</u>	2016	2015	
<b>Active members in valuation:</b>			
Number	3,114	3,063	1.7%
Average age	41.3	41.8	N/A
Average years of service	11.2	11.1	N/A
Total salary supplied by the Fund	\$124,502,908	\$126,294,812	-1.4%
Average salary	\$ 39,982	\$ 41,232	-3.0%
Total active vested members with at least 10 years of service	1,457	1,334	9.2%
<b>Vested terminated members</b>	149	145	2.8%
<b>Non-vested terminated members eligible for a return of contributions</b>	4,070	3,976	2.4%
<b>Service retirees:</b>			
Number in pay status	2,113	2,097	0.8%
Average age	72.0	71.8	N/A
Average monthly benefit	\$ 2,318	\$ 2,224	4.2%
<b>Beneficiaries (including children) in pay status:</b>			
Number in pay status	757	779	-2.8%
Average age	77.8	77.6	N/A
Average monthly benefit	\$ 1,280	\$ 1,271	0.7%
<b>Total number of members</b>	10,203	10,060	1.4%

# ACTUARIAL

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

### EXHIBIT B

Participants in Active Service as of December 31, 2016  
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	465	285	180	--	--	--	--	--	--	--
	\$19,352	\$18,402	\$20,855	--	--	--	--	--	--	--
25 - 29	444	166	224	54	--	--	--	--	--	--
	27,210	27,229	27,868	\$24,420	--	--	--	--	--	--
30 - 34	336	101	100	108	27	--	--	--	--	--
	38,061	37,753	37,280	38,343	\$40,982	--	--	--	--	--
35 - 39	271	73	60	66	63	9	--	--	--	--
	45,611	46,888	43,075	43,871	47,315	\$52,995	--	--	--	--
40 - 44	277	71	70	45	57	34	--	--	--	--
	47,757	53,001	34,391	51,011	55,287	47,397	--	--	--	--
45 - 49	351	50	61	82	81	53	21	3	--	--
	47,663	43,595	43,021	45,189	46,221	56,756	\$59,085	\$75,830	--	--
50 - 54	326	32	40	60	87	49	31	26	1	--
	50,477	45,890	36,939	37,267	52,954	61,642	61,593	63,738	\$79,475	--
55 - 59	318	37	47	49	76	39	34	23	13	--
	48,486	33,779	30,154	46,913	50,620	44,991	71,038	67,874	67,278	--
60 - 64	191	17	24	28	44	32	17	18	7	4
	51,543	50,160	37,343	48,578	52,286	51,110	63,057	56,269	57,456	\$78,101
65 - 69	96	4	9	19	25	17	11	5	4	2
	50,710	34,690	33,971	47,534	52,824	46,011	70,606	63,262	68,986	24,399
70 & over	39	3	3	4	8	7	5	5	--	4
	44,322	48,992	28,359	39,956	38,792	30,179	58,551	64,548	--	49,899
Total	3,114	839	818	515	468	240	119	80	25	10
	\$39,982	\$31,943	\$31,201	\$41,386	\$49,932	\$52,086	\$64,763	\$63,721	\$65,289	\$56,080

## ACTUARIAL

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

#### EXHIBIT C

##### History of Active Member Valuation Data

Actuarial Valuation Date	Active Members	Percent Increase	Annual Salaries	Percent Increase	Average Salary	Percent Increase
06/30/2008	3,031	(0.30%)	\$111,698,366	4.78%	\$36,852	5.09%
06/30/2009	2,865	(5.48%)	108,882,742	(2.52%)	38,004	3.13%
06/30/2010	2,816	(1.71%)	107,361,021	(1.40%)	38,125	0.32%
06/30/2011	2,795	(0.75%)	107,686,693	0.30%	38,528	1.06%
06/30/2012	2,977	6.51%	109,798,508	1.96%	36,882	(4.27%)
12/31/2012	3,053	2.55%	113,934,756*	3.77%	37,319	1.18%
12/31/2013	3,076	0.75%	115,617,428	1.48%	37,587	0.72%
12/31/2014	2,973	(3.35%)	120,376,477	4.12%	40,490	7.72%
12/31/2015	3,063	3.03%	126,294,812	4.92%	41,232	1.83%
12/31/2016	3,114	1.67%	124,502,908	(1.42%)	39,982	(3.03%)
Average Increase/(Decrease)						
Last 5 years		0.93%		2.57%		1.68%

\* Annualized for short plan year.

## ACTUARIAL

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

#### EXHIBIT D

#### Reconciliation of Member Data

	Active Members	Inactive Members	Retirees	Beneficiaries	Total
Number as of December 31, 2015	3,063	4,121	2,097	779	10,060
New participants	419	N/A	N/A	N/A	419
Terminations	(145)	145	0	0	0
Retirements	(68)	(31)	99	N/A	0
New disabilities	0	0	N/A	N/A	0
Died with beneficiary	(1)	(1)	(29)	31	0
Died without beneficiary	(5)	0	(54)	(53)	(112)
Refunds	(161)	(20)	0	0	(181)
Rehire	12	(12)	0	N/A	0
Certain period expired	N/A	N/A	0	0	0
Data adjustments	<u>0</u>	<u>17</u>	<u>0</u>	<u>0</u>	<u>17</u>
Number as of December 31, 2016	3,114	4,219	2,113	757	10,203

## ACTUARIAL

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

#### EXHIBIT E

#### Schedule of Pensioners and Beneficiaries Added to and Removed from Rolls

Fiscal Year	<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>Rolls – End of Year</u>		% Increase in Avg. Annual Allowances	Average Annual Allowances
	<u>Number</u>	<u>Annual Allowances</u>	<u>Number</u>	<u>Annual Allowances</u>	<u>Number*</u>	<u>Annual Allowances</u>		
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
12/2016	126	5,283,834	133	2,711,190	2,857	70,396,114	4.0	24,640

\* Does not include child beneficiaries receiving a pension.

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



# ACTUARIAL

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

### EXHIBIT F

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

	<u>2016</u>	<u>2015</u>
<b>Net position at fair value at the beginning of the year</b>	\$393,155,338	\$413,421,716
<b>Contribution income:</b>		
Employer contributions	\$30,890,241	\$30,588,976
Employee contributions	12,246,115	12,368,636
Less administrative expenses	<u>-1,537,699</u>	<u>-1,533,700</u>
Net contribution income	41,598,657	41,423,912
<b>Securities lending income</b>	101,963	87,963
<b>Other income</b>	609	150
<b>Investment income:</b>		
Interest, dividends and other income	\$13,790,816	\$18,965,869
Asset appreciation	19,318,920	(7,918,066)
Less investment and administrative fees	<u>-2,189,505</u>	<u>-2,224,190</u>
Net investment income	<u>30,920,231</u>	<u>8,823,613</u>
<b>Total income available for benefits</b>	\$72,621,460	\$50,335,638
<b>Less benefit payments:</b>		
Annuity payments	-\$71,029,420	-\$67,935,347
Disability & death	-538,963	-618,494
Refund of contributions	<u>-2,509,493</u>	<u>-2,048,175</u>
Net benefit payments	-\$74,077,876	-\$70,602,016
<b>Change in reserve for future benefits</b>	-\$ 1,456,416	-\$20,266,378
<b>Net position at fair value at the end of the year</b>	\$391,698,922	\$393,155,338

# ACTUARIAL

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

### EXHIBIT G

#### Summary Statement of Fund Assets at Fiscal Year Ended December 31

	<u>2016</u>	<u>2015</u>
<b>Accounts receivable</b>	\$ 30,191,222	\$ 20,420,057
<b>Investments, at fair value:</b>		
Collective investment funds	\$93,965,505	\$ 93,042,804
Bonds	63,255,564	62,725,711
Common and preferred stocks	58,654,400	53,062,089
Real estate	38,382,589	41,728,500
Private equity partnerships	30,480,102	39,901,128
Hedged equity	12,107,984	23,565,871
Infrastructure	22,043,799	20,826,213
Mutual funds	15,327,740	16,017,830
Foreign common stocks	16,522,290	13,620,861
Short-term investments	<u>7,721,867</u>	<u>4,818,526</u>
Total investments at fair value	358,461,840	369,309,533
<b>Invested securities lending collateral</b>	36,306,598	45,712,100
<b>Prepaid annuity benefits</b>	4,616,935	4,308,029
<b>Furniture and fixtures, net</b>	79,541	65,251
<b>Prepaid expenses</b>	<u>68,278</u>	<u>65,046</u>
<b>Total assets</b>	\$429,724,414	\$439,880,016
<b>Less accounts payable:</b>		
Accounts payable	-\$ 501,064	-\$ 410,862
Accrued benefits payable	-565,033	-405,881
Securities lending collateral	-36,306,598	-45,712,100
Due to broker	-581,718	-116,784
Deferred rent	<u>-71,079</u>	<u>-79,051</u>
Total accounts payable	-\$ 38,025,492	-\$ 46,724,678
<b>Net position at fair value</b>	<u>\$391,698,922</u>	<u>\$393,155,338</u>
<b>Net position at actuarial value</b>	<u>\$393,604,997</u>	<u>\$395,652,106</u>

## ACTUARIAL

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

#### EXHIBIT H

##### Development of the Fund Through December 31, 2016

Fiscal Year Ended	Employer Contributions	Employee Contributions	Net Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
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
December 31, 2016	30,890,241	12,246,115	30,432,110	1,537,699	74,077,876	393,604,997

\* On an actuarial basis, net of investment fees, and includes other income.

## ACTUARIAL

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

#### EXHIBIT I

#### Development of Unfunded Actuarial Accrued Liability

	<u>Plan Year Ended December 31</u>	
	<u>2016</u>	<u>2015</u>
1. Unfunded actuarial accrued liability at beginning of year	\$514,608,254	\$507,077,925
2. Normal cost (including administrative expenses) at beginning of year	15,321,986	14,949,567
3. Total contributions	43,136,356	42,957,612
4. Interest		
(a) Unfunded actuarial accrued liability and normal cost	\$39,744,768	\$39,152,063
(b) Total contributions	<u>1,463,452</u>	<u>1,457,388</u>
(c) Total interest: (4a) – (4b)	<u>38,281,316</u>	<u>37,694,675</u>
5. Expected unfunded actuarial accrued liability: (1) + (2) – (3) + (4c)	\$525,075,200	\$516,764,555
6. Changes due to (gain)/loss from:		
(a) Investments	-\$1,975,541	-\$ 2,629,339
(b) Demographics and other	<u>-4,791,273</u>	<u>473,038</u>
(c) Total changes due to (gain)/loss: (6a) + (6b)	-\$ 6,766,814	-\$ 2,156,301
7. Change due to reinstating 3% post-retirement increases for Tier 1 members	<u>93,579,710</u>	<u>0</u>
8. Unfunded accrued liability at end of year: (5) + (6c) + (7)	<u>\$611,888,096</u>	<u>\$514,608,254</u>

# ACTUARIAL

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

### EXHIBIT J

#### 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.

**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):**

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:

- a. Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)
- b. 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, and
- c. Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

## ACTUARIAL

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

#### EXHIBIT J

#### Definitions of Pension Terms (Continued)

##### **Actuarial Present Value of Future Plan Benefits:**

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.

##### **Actuarial Valuation:**

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).

##### **Actuarial Value of Assets:**

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.

##### **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.

## ACTUARIAL

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

#### EXHIBIT J

#### Definitions of Pension Terms (Continued)

##### Assumptions or Actuarial

##### Assumptions:

The estimates on which the cost of the Fund is calculated including:

- (a) Investment return - the rate of investment yield that the Fund will earn over the long-term future;
- (b) Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates - the rate or probability of retirement at a given age;
- (d) Turnover rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;
- (e) Salary increase rates - the rates of salary increase due to inflation and productivity growth.

##### 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.

##### GASB:

Governmental Accounting Standards Board.

## ACTUARIAL

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

#### EXHIBIT J

#### Definitions of Pension Terms (Continued)

<b>GASB 67 and GASB 68:</b>	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.
<b>Investment Return:</b>	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.
<b>Net Pension Liability (NPL):</b>	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
<b>Normal Cost:</b>	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.
<b>Open Amortization Period:</b>	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.
<b>Plan Fiduciary Net Position:</b>	Fair value of assets.
<b>Total Pension Liability (TPL):</b>	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.
<b>Unfunded Actuarial Accrued Liability:</b>	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.
<b>Valuation Date or Actuarial Valuation Date:</b>	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.



## ACTUARIAL

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### 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 744 beneficiaries and 13 dependent children)	2,870
2. Members inactive as of the valuation date with vested rights	149
3. Members active as of the valuation date	3,114
Fully vested	1,457
Not vested	1,657
4. Other non-vested inactive members as of the valuation date	4,070

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

1. Employer normal cost, including administrative expenses	\$ 2,830,000
2. Actuarial accrued liability	1,005,493,093
Retirees and beneficiaries	\$694,881,116
Inactive members with vested rights	23,479,580
Active members	287,132,397
3. Actuarial value of assets (\$391,698,922 at fair value)	393,604,997
4. Unfunded actuarial accrued liability	<u>\$611,888,096</u>
5. Funded ratio: (3) ÷ (2)	39.1%

The determination of the actuarially determined contribution is as follows:

1. Total normal cost	\$ 14,287,888
2. Administrative expenses	1,562,280
3. Expected employee contributions	<u>-13,120,083</u>
4. Employer normal cost: (1) + (2) + (3)	\$ 2,730,085
5. Employer normal cost projected, adjusted for timing	2,830,000
6. Payment on projected unfunded/(overfunded) actuarial accrued liability, adjusted for timing	42,423,238
7. Total actuarially determined contributions: (5) + (6)	<u>\$ 45,253,238</u>
8. Estimated employer contributions provided by the Fund, reflecting 3% loss on collections	\$ 20,175,936
9. Projected payroll	129,855,576
10. Total actuarially determined contribution as a percentage of projected payroll: (7) ÷ (9)	34.85%

## ACTUARIAL

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

#### EXHIBIT II

#### Comparison of Employer Contribution to Actuarially Determined Contribution

Fiscal Year Ended	Actuarially Determined Contribution (ADC)*	Actual Contributions	Percentage Contributed
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	30,890,241	83.2%
December 31, 2017	45,253,238	- -	- -

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

## ACTUARIAL

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

#### 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)
06/30/2008	\$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%
12/31/2016	393,604,997	1,005,493,093	611,888,096	39.15%	121,126,918	505.16%

\* Not less than zero

\*\* Adjusted for annualized covered payroll

#### EXHIBIT IV

##### Solvency Test at December 31

	12/31/2016	12/31/2015	12/31/2014	12/31/2013	12/31/2012	06/30/2012
1. Actuarial accrued liability (AAL)						
a. Active member contributions	\$ 172,808,623	\$173,241,768	\$169,952,178	\$171,065,449	\$166,554,660	\$158,144,793
b. Retirees and beneficiaries	694,881,116	625,396,307	625,641,580	621,827,982	662,153,615	599,353,146
c. Active and inactive members (employer financed)	<u>137,803,354</u>	<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>
d. Total	\$1,005,493,093	\$910,260,360	\$900,840,617	\$888,023,364	\$971,807,222	\$866,370,565
2. Actuarial value of assets	393,604,997	395,652,106	393,762,692	404,292,435	421,448,001	440,692,006
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	31.8%	35.6%	35.8%	37.5%	38.5%	47.1%
c. Active and inactive members (employer financed)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

## ACTUARIAL

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### **SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago (Continued)**

#### **EXHIBIT V**

#### **Projection of Contributions, Liabilities, and Assets**

Based on the results of the December 31, 2016, actuarial valuation, we have projected valuation results for a 40-year period commencing with Fiscal Year 2017.

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 2017 through 2055 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.

# ACTUARIAL

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

### EXHIBIT V (Continued)

#### Projection of Contributions, Liabilities, and Assets (Continued)

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
2016								1,005,493.1	393,605.0	611,888.1	39.1%
2017	13,120.1	20,175.9	0.0	129,855.6	14,287.9	76,001.9	1,614.6	1,017,412.6	381,656.3	635,756.3	37.5%
2018	14,137.4	27,345.7	0.0	127,299.3	14,113.9	77,072.3	1,695.3	1,028,928.4	367,901.3	661,027.2	35.8%
2019	15,191.4	36,940.0	50,000.0	125,474.1	14,005.2	78,033.2	1,780.1	1,040,194.1	415,079.6	625,114.5	39.9%
2020	15,041.0	39,804.5	0.0	124,220.3	13,978.8	79,085.1	1,869.1	1,051,185.1	419,458.1	631,727.0	39.9%
2021	14,919.2	42,772.0	0.0	123,205.3	13,958.6	79,938.2	1,962.5	1,062,093.6	425,616.3	636,477.3	40.1%
2022	14,837.7	42,348.3	0.0	122,526.7	13,954.6	80,698.5	2,060.7	1,073,027.2	430,847.0	642,180.2	40.2%
2023	14,779.7	42,005.4	0.0	122,042.8	13,948.5	81,513.1	2,163.7	1,083,929.1	435,199.1	648,730.0	40.2%
2024	14,730.5	41,776.1	0.0	121,633.4	13,906.2	82,258.2	2,271.9	1,094,830.1	438,753.5	645,076.6	40.1%
2025	14,698.6	41,612.6	0.0	121,367.3	13,880.5	83,105.4	2,385.5	1,105,642.0	441,375.2	664,266.9	39.9%
2026	14,666.5	41,474.3	0.0	121,099.8	13,819.1	83,905.8	2,504.7	1,116,368.5	443,068.1	673,300.3	39.7%
2027	14,623.4	41,384.4	0.0	120,740.2	13,716.6	84,620.9	2,630.0	1,127,047.3	443,881.4	683,165.8	39.4%
2028	14,608.4	41,294.0	0.0	120,615.9	13,655.1	85,268.0	2,761.5	1,137,789.4	443,839.9	693,949.6	39.0%
2029	14,620.7	41,172.5	0.0	120,718.0	13,617.2	86,307.4	2,899.6	1,148,218.1	442,460.6	705,757.5	38.5%
2030	14,643.1	41,130.5	0.0	120,905.2	13,586.5	87,382.2	3,044.5	1,158,280.9	439,692.4	718,588.5	38.0%
2031	14,666.8	41,165.0	0.0	121,102.0	13,547.5	88,470.6	3,196.8	1,167,927.3	435,489.8	732,437.5	37.3%
2032	14,698.7	41,228.3	0.0	121,368.3	13,505.5	89,474.4	3,356.6	1,177,210.6	429,863.6	747,347.0	36.5%
2033	14,747.5	41,294.8	0.0	121,775.1	13,480.0	90,301.0	3,524.4	1,186,305.1	422,903.3	763,401.8	35.6%
2034	14,812.5	41,384.7	0.0	122,316.3	13,457.5	91,094.2	3,700.7	1,195,234.5	414,576.1	780,658.5	34.7%
2035	14,880.2	41,522.2	0.0	122,880.6	13,428.1	91,855.1	3,885.7	1,204,012.7	404,855.7	799,157.0	33.6%
2036	14,960.9	41,705.1	0.0	123,553.0	13,409.0	92,561.4	4,080.0	1,212,695.8	393,745.3	818,950.5	32.5%
2037	15,040.7	41,895.7	0.0	124,218.1	13,389.2	90,983.7	4,284.0	1,223,645.8	383,507.5	840,138.2	31.3%
2038	15,134.8	42,122.9	0.0	125,002.3	13,374.4	91,447.5	4,498.2	1,234,919.9	372,131.8	862,788.1	30.1%
2039	15,252.6	42,347.6	0.0	125,984.1	13,392.1	91,910.9	4,723.1	1,246,577.8	359,544.2	887,033.7	28.8%
2040	15,377.1	42,612.5	0.0	127,021.3	13,407.7	92,245.7	4,959.2	1,258,779.5	345,824.1	912,955.4	27.5%
2041	15,512.9	42,944.3	0.0	128,152.8	13,430.7	92,498.4	5,207.2	1,271,658.9	331,040.6	940,618.3	26.0%
2042	15,673.4	43,294.7	0.0	129,490.3	13,473.2	92,702.1	5,467.6	1,285,338.6	315,197.0	970,141.6	24.5%
2043	15,846.7	43,677.0	0.0	130,934.7	13,532.0	92,449.7	5,740.9	1,300,369.3	298,719.8	1,001,649.5	23.0%
2044	16,045.9	44,128.9	0.0	132,594.8	13,611.1	92,283.4	6,028.0	1,316,784.9	281,557.0	1,035,227.9	21.4%
2045	16,260.8	44,616.9	0.0	134,385.9	13,704.2	91,878.2	6,329.4	1,334,952.1	263,944.1	1,071,008.0	19.8%
2046	16,491.4	45,177.8	0.0	136,307.3	13,803.4	91,440.0	6,645.8	1,355,043.2	245,957.6	1,109,085.6	18.2%
2047	16,742.9	45,782.9	0.0	138,403.0	13,925.9	90,886.5	6,978.1	1,377,347.0	227,740.4	1,149,606.6	16.5%
2048	17,008.5	46,432.1	0.0	140,616.3	14,060.5	90,188.2	7,327.0	1,402,192.9	209,468.5	1,192,724.4	14.9%
2049	17,294.8	47,140.2	0.0	143,002.3	14,208.7	89,509.9	7,693.4	1,429,765.2	191,181.5	1,238,583.7	13.4%
2050	17,597.1	49,388.0	0.0	145,521.7	14,371.9	88,708.8	8,078.1	1,460,412.1	174,600.8	1,285,811.3	12.0%
2051	17,925.7	53,694.1	0.0	148,259.4	14,551.2	88,025.8	8,482.0	1,494,258.8	161,874.6	1,332,384.2	10.8%
2052	18,273.5	51,545.3	0.0	151,157.8	14,752.0	87,494.3	8,906.1	1,531,411.2	146,436.7	1,384,974.5	9.6%
2053	18,636.3	50,470.3	0.0	154,181.7	14,960.7	86,959.9	9,351.4	1,572,129.0	129,194.7	1,442,934.3	8.2%
2054	19,024.4	51,449.5	0.0	157,415.2	15,198.8	86,472.6	9,818.9	1,616,662.0	112,098.5	1,504,563.5	6.9%
2055	19,431.6	52,471.2	0.0	160,809.1	15,198.8	85,791.4	10,309.9	1,665,512.2	95,400.0	1,570,112.2	5.7%

## ACTUARIAL

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

#### EXHIBIT VI

#### Actuarial Assumptions and Actuarial Cost Method

**Rationale for Assumptions:** The information and analysis used in supporting each assumption that has a significant effect on this actuarial valuation is shown in the Experience Review dated April 15, 2013. Current data is reviewed in conjunction with each annual valuation.

**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 below. Select rates are as follows:

<b>Years of Service</b>	<b>Rate (%)</b>
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

Ultimate rates:

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

## ACTUARIAL

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

#### EXHIBIT VI (Continued)

#### Actuarial Assumptions and Actuarial Cost Method (Continued)

##### 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	<u>Rate (%)</u>	
	<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

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

## ACTUARIAL

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

#### EXHIBIT VI (Continued)

#### Actuarial Assumptions and Actuarial Cost Method (Continued)

##### 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.

##### Investment Return:

7.50% per year, net of investment expenses (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.



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

### 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:** 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.

This 8% towards the retirement pension will increase to 9% in 2018 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%.

**Tiers:** Tier 1: First hired before January 1, 2011.  
Tier 2: First hired on or after January 1, 2011.

**Retirement Pension:** 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.

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.

The maximum pension payable is 80% of the highest annual salary.

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 2017, the annual salary is limited to \$112,408.42. 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.

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

**EXHIBIT VII (Continued)**

**Summary of Plan Provisions (Continued)**

**Retirement Pension: (Continued)**

3. A participant is eligible to retire with unreduced benefits after attainment of age 65 with at least 10 years of service credit. However, a participant may elect to retire at age 60 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 65.

**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 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 are payable starting at age 65 effective January 1, 2015.

**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  $\frac{1}{2}$  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  $66 \frac{2}{3}\%$  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.

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

**EXHIBIT VII (Continued)**

**Summary of Plan Provisions (Continued)**

<b>Single Sum Death Benefit:</b>	<p>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:</p> <p>\$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.</p> <p>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.</p>
<b>Ordinary Disability Benefit:</b>	<p>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 <math>\frac{1}{4}</math> of the length of service or five years, whichever is less.</p>
<b>Occupational Disability Benefit:</b>	<p>Upon disability resulting from an injury incurred while on duty, an employee is entitled to a disability benefit of 73% of salary from the first day of absence without pay. The occupational disability benefit is decreased to 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.</p>
<b>Occupational Death Benefit:</b>	<p>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.</p>
<b>Refunds:</b>	<p>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.</p>
<b>Plan Year:</b>	<p>January 1 through December 31. Prior to December 31, 2012, the plan year was July 1 through June 30.</p>

## ACTUARIAL

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### **SECTION 4: Reporting Information for the Park Employees' Annuity and Benefit Fund of Chicago (Continued)**

#### **EXHIBIT VII (Continued)**

##### **Summary of Plan Provisions (Continued)**

###### **Employer Contributions:**

The tax multiple is 1.7 for 2017, and increases to 2.3 for 2018 and to 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%. An additional employer contribution will be made in the amount of \$50,000,000 in 2019.

## ACTUARIAL

### 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, 2016 were as follows:

Total pension liability	\$1,204,218,956
Plan fiduciary net position	391,698,922
Net pension liability	812,520,034
Plan fiduciary net position as a percentage of the total pension liability	32.53%

*Actuarial assumptions.* The total pension liability was determined by an actuarial valuation as of December 31, 2016, 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%
Single equivalent discount rate	5.82%, net of pension plan investment expense, including inflation
Cost of living adjustments	3% of original benefit for employees who first became a participant before January 1, 2011; the lesser of 3% and ½ of CPI of original benefit for employees who first became a participant on or after January 1, 2011; beneficiary COLAs are 3% compounded.

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, 2016, 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 5.82%. The projection of cash flows used to determine the discount rate assumed member contributions will be made at the 10% contribution rate for 2017 and then increase to 11% for 2018 and to 12% for 2019 and thereafter. Employer contributions will be made at the 1.7 multiple of member contributions from two years prior for 2017 and then increase to 2.3 for 2018 and to 2.9 for 2019 and thereafter. 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 fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. The projected benefit payments through 2047 were discounted at the expected long-term rate of return (7.50%). Starting in 2048, the projected benefit payments were discounted at the municipal bond index (3.78%). Therefore, a single equivalent, blended discount rate of 5.82% was calculated using the long-term expected rate of return and the municipal bond index.

*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 5.82%, 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 (4.82%) or 1-percentage-point higher (6.82%) than the current rate:

	<b>1% Decrease (4.82%)</b>	<b>Current Discount Rate (5.82%)</b>	<b>1% Increase (6.82%)</b>
Net pension liability as of December 31, 2016	\$963,979,197	\$812,520,034	\$687,016,505

# ACTUARIAL

## SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago (Continued)

### EXHIBIT 2

#### Schedule of Changes in Net Pension Liability

	<u>2016</u>	<u>2015</u>
<b>Total pension liability</b>		
Service cost	\$13,763,768	\$13,417,795
Interest	66,523,889	65,921,805
Change of benefit term	93,579,710	0
Differences between expected and actual experience	-4,556,757	682,159
Changes of assumptions	198,725,863	0
Benefit payments, including refunds of employee contributions	<u>-74,077,877</u>	<u>-70,602,016</u>
<b>Net change in total pension liability</b>	293,958,596	9,419,743
<b>Total pension liability – beginning</b>	<u>910,260,360</u>	<u>900,840,617</u>
<b>Total pension liability – ending (a)</b>	<u>1,204,218,956</u>	<u>910,260,360</u>
<b>Plan fiduciary net position</b>		
Contributions – employer	30,890,241	30,588,976
Contributions – employee	12,246,115	12,368,636
Net investment income	30,920,231	8,823,613
Benefit payments, including refunds of employee contributions	-74,077,877	-70,602,016
Administrative expense	-1,537,698	-1,533,700
Other	<u>102,572</u>	<u>88,113</u>
<b>Net change in plan fiduciary net position</b>	-1,456,416	-20,266,378
<b>Plan fiduciary net position – beginning</b>	<u>393,155,338</u>	<u>413,421,716</u>
<b>Plan fiduciary net position – ending (b)</b>	<u>391,698,922</u>	<u>393,155,338</u>
<b>Fund's net pension liability – ending (a) – (b)</b>	<u>812,520,034</u>	<u>517,105,022</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	32.53%	43.19%
<b>Covered employee payroll</b>	\$121,126,918	\$122,382,584
<b>Fund's net pension liability as percentage of covered employee payroll</b>	670.80%	422.53%

# ACTUARIAL

## SECTION 5: GASB Information for Park Employees' Annuity and Benefit Fund of Chicago (Continued)

### 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, 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%
December 31, 2016	37,130,268	30,890,241	6,240,027	121,126,918	25.50%

### 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	26-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	3% of original benefit for employees who first became a participant before January 1, 2011; the lesser of 3% and ½ of CPI of original benefit for employees who first became a participant on or after January 1, 2011; beneficiary COLAs are 3% compounded.

#### Other assumptions:

Same as those used in the December 31, 2016, actuarial funding valuations.

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**Statistical Section Overview**

The information in this section is not covered by the Independent Auditor’s Report, but is presented as supplemental data for the benefit of the readers of the Comprehensive Annual Financial Report. The objectives of the statistical section information are to provide financial statement users with additional historical perspective, context, and detail to assist in using the financial statements, notes to financial statements, and required supplementary information, to better understand and assess the Fund’s overall financial health.

**Contents**

<b>Membership Statistics</b>	
These schedules provide financial data regarding the Fund’s members.	94-107
<b>Other Financial Data</b>	
These schedules provide additional information regarding members as well as data regarding refunds and disability.	108-109
<b>GASB No. 44</b>	
Additional schedules to address the requirements defined by GASB No. 44.	110-112



## STATISTICAL

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### MEMBERSHIP STATISTICS

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Active participants	3,114	3,063
Retired employees' - annuities	2,113	2,097
Surviving spouses' – annuities	744	767
Children - annuities	13	12
Retirements granted during the year	99	84
Retirement deductions due to deaths and pension terminations	136	139
New members	419	407
Withdrawals with refund	161	119

The above schedule provides details about the changes in the number of active participants, as well as the changes in the number and type of annuitants for the year.

**Active Members and Total Annual Salaries by Age  
for the year ended December 31, 2016**
**Table I**

<b>Age at 12/31/16</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	<b>Number</b>	<b>Annual Salaries</b>	<b>Number</b>	<b>Annual Salaries</b>	<b>Number</b>	<b>Annual Salaries</b>
18	2	\$ 23,780	3	\$ 17,436	5	\$ 41,216
19	3	13,365	8	36,848	11	50,213
20	18	238,068	27	243,236	45	481,304
21	32	500,711	32	397,010	64	897,721
22	29	458,870	31	495,669	60	954,539
23	56	1,093,182	43	599,093	99	1,692,275
24	52	878,939	62	1,003,025	114	1,881,964
25	63	1,394,418	57	1,031,571	120	2,425,989
26	51	1,200,689	48	1,059,889	99	2,260,578
27	40	990,710	42	1,045,031	82	2,035,741
28	46	1,140,126	48	1,094,677	94	2,234,803
29	44	1,203,540	36	919,735	80	2,123,275
30	36	1,406,112	28	804,968	64	2,211,080
31	48	1,618,690	42	1,288,641	90	2,907,331
32	41	1,569,971	19	513,919	60	2,083,890
33	27	1,139,256	34	1,312,775	61	2,452,031
34	47	1,760,727	20	789,028	67	2,549,755
35	37	1,741,442	22	711,997	59	2,453,439
36	31	1,256,414	22	891,027	53	2,147,441
37	39	1,541,112	24	844,917	63	2,386,029
38	37	2,055,627	18	765,721	55	2,821,348
39	23	1,111,290	21	1,010,226	44	2,121,516
40	31	1,574,652	18	781,989	49	2,356,641
41	36	1,468,665	23	1,039,053	59	2,507,718
42	30	1,349,930	27	1,298,900	57	2,648,830
43	32	1,464,024	26	1,307,470	58	2,771,494
44	34	1,828,021	21	715,596	55	2,543,617
45	33	1,811,436	25	1,162,628	58	2,974,064
46	32	1,430,962	35	1,476,906	67	2,907,868
47	53	2,465,227	23	1,065,064	76	3,530,291
48	40	1,852,281	27	1,180,905	67	3,033,186
49	50	2,398,572	26	1,076,674	76	3,475,246
50	41	1,890,219	30	1,404,226	71	3,294,445
51	33	1,620,178	26	1,083,667	59	2,703,845
52	42	2,189,911	40	1,917,333	82	4,107,244

# STATISTICAL

## Active Members and Total Annual Salaries by Age for the year ended December 31, 2016

**Table I**  
(continued)

Age at 12/31/16	Male		Female		Total	
	Number	Annual Salaries	Number	Annual Salaries	Number	Annual Salaries
53	35	\$ 2,091,186	27	\$ 1,207,408	62	\$ 3,298,594
54	35	1,703,595	18	966,196	53	2,669,791
55	39	2,173,583	32	1,303,764	71	3,477,347
56	35	2,051,379	32	1,460,609	67	3,511,988
57	42	2,066,299	24	1,066,593	66	3,132,892
58	47	2,250,359	22	1,094,561	69	3,344,920
59	37	1,653,028	19	734,116	56	2,387,144
60	26	1,367,268	15	498,417	41	1,865,685
61	30	1,627,039	16	672,521	46	2,299,560
62	31	1,594,158	11	566,218	42	2,160,376
63	19	1,012,306	15	631,667	34	1,643,973
64	20	1,203,730	15	638,155	35	1,841,885
65	22	1,125,684	9	426,949	31	1,552,633
66	20	1,339,658	9	424,873	29	1,764,531
67	21	1,005,742	6	194,621	27	1,200,363
68	8	403,742	2	94,549	10	498,291
69	11	449,824	1	40,081	12	489,905
70	2	57,000	-	-	2	57,000
71	8	274,401	-	-	8	274,401
72	6	166,146	2	55,428	8	221,574
73	3	126,187	-	-	3	126,187
74	4	263,750	1	95,316	5	359,066
75	1	88,974	1	41,686	2	130,660
76	1	40,991	2	119,445	3	160,436
77	1	99,528	-	-	1	99,528
78	1	42,957	-	-	1	42,957
79	3	145,504	-	-	3	145,504
80	2	131,054	-	-	2	131,054
83	-	-	1	9,541	1	9,541
85	<u>1</u>	<u>10,881</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>10,881</u>
	<u>1,800</u>	<u>\$ 74,247,070</u>	<u>1,314</u>	<u>\$ 44,729,564</u>	<u>3,114</u>	<u>\$118,976,634</u>

	<u>Male</u>	<u>Female</u>	<u>Both</u>
Average Age:	42.7	39.5	41.3
Average Salary:	\$ 41,248	\$ 34,041	\$ 38,207

Note: The average salary reported by The Segal Company is annualized in order to take a conservative approach in reporting. The variances are immaterial in nature.

# STATISTICAL

**Active Members and Total Annual Salaries by Length of Service  
for the year ended December 31, 2016**

**Table II**

Years of Service	Male		Female		Total	
	Number	Annual Salaries	Number	Annual Salaries	Number	Annual Salaries
< 1	194	\$ 1,473,876	201	\$ 1,376,880	395	\$ 2,850,756
1	188	6,211,036	150	3,366,966	338	9,578,002
2	133	4,286,753	85	2,363,495	218	6,650,248
3	121	4,458,932	86	2,441,643	207	6,900,575
4	98	3,236,250	65	2,056,455	163	5,292,705
5	88	3,968,497	75	2,521,479	163	6,489,976
6	40	1,634,038	31	863,866	71	2,497,904
7	29	954,074	25	961,506	54	1,915,580
8	56	2,417,792	20	713,043	76	3,130,835
9	63	2,414,656	51	1,900,550	114	4,315,206
10	61	2,480,155	53	2,032,927	114	4,513,082
11	83	3,852,375	54	2,042,649	137	5,895,024
12	54	3,315,651	21	1,136,936	75	4,452,587
13	34	1,263,704	17	774,164	51	2,037,868
14	28	1,614,487	10	632,200	38	2,246,687
15	39	1,962,802	39	1,551,997	78	3,514,799
16	47	2,504,273	35	1,678,120	82	4,182,393
17	62	3,553,404	40	2,068,588	102	5,621,992
18	55	2,859,974	28	1,410,562	83	4,270,536
19	38	2,124,300	37	1,787,465	75	3,911,765
20	34	1,856,204	36	1,935,564	70	3,791,768
21	27	1,148,767	28	1,552,544	55	2,701,311
22	16	951,972	16	944,108	32	1,896,080
23	6	401,734	8	492,237	14	893,971
24	18	979,969	11	714,968	29	1,694,937
25	35	2,036,985	17	976,371	52	3,013,356
26	20	1,393,461	9	447,980	29	1,841,441
27	17	1,248,224	18	1,129,336	35	2,377,560
28	10	759,238	8	434,668	18	1,193,906
29	9	569,024	3	207,644	12	776,668
30	20	1,231,300	6	395,842	26	1,627,142
31	26	1,733,482	11	657,378	37	2,390,860
32	9	578,874	4	261,302	13	840,176
33	4	268,032	2	116,282	6	384,314
34	7	406,022	5	314,080	12	720,102

**Active Members and Total Annual Salaries by Length of Service  
for the year ended December 31, 2016**

**Table II**  
(continued)

Years of Service	Male		Female		Total	
	Number	Annual Salaries	Number	Annual Salaries	Number	Annual Salaries
35	7	\$ 551,442	1	\$ 72,895	8	\$ 624,337
36	7	468,305	2	121,032	9	589,337
37	4	250,976	1	44,327	5	295,303
38	5	329,738	1	57,777	6	387,515
39	1	54,355	-	-	1	54,355
40	1	72,776	1	52,878	2	125,654
42	1	41,011	-	-	1	41,011
43	3	212,871	1	69,700	4	282,571
44	1	73,421	-	-	1	73,421
45	-	-	1	7,786	1	7,786
47	<u>1</u>	<u>41,858</u>	<u>1</u>	<u>41,374</u>	<u>2</u>	<u>83,232</u>
	<u>1,800</u>	<u>\$ 74,247,070</u>	<u>1,314</u>	<u>\$ 44,729,564</u>	<u>3,114</u>	<u>\$118,976,634</u>

	<u>Male</u>	<u>Female</u>	<u>Both</u>
Average Service:	10.4 years	9.3 years	9.9 years
Average Salary:	\$ 41,248	\$ 34,041	\$ 38,207

Note: The average salary reported by The Segal Company is annualized in order to take a conservative approach in reporting. The variances are immaterial in nature.

**Retirement Pensions by Age and Annual Payments  
for the year ended December 31, 2016**
**Table III**

<b>Age at 12/31/16</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	<b>Number</b>	<b>Annual Salaries</b>	<b>Number</b>	<b>Annual Salaries</b>	<b>Number</b>	<b>Annual Salaries</b>
50	3	\$ 50,901	-	\$ -	3	\$ 50,901
51	2	45,880	4	110,690	6	156,570
52	5	128,950	1	17,935	6	146,885
53	10	349,738	2	94,042	12	443,780
54	10	287,878	4	81,380	14	369,258
55	14	449,027	9	213,808	23	662,835
56	16	485,374	6	156,439	22	641,813
57	26	930,463	12	264,964	38	1,195,427
58	35	1,231,249	5	216,258	40	1,447,507
59	26	1,004,505	10	240,401	36	1,244,906
60	43	1,266,824	15	533,355	58	1,800,179
61	46	1,664,583	21	621,255	67	2,285,838
62	59	2,022,012	20	561,370	79	2,583,382
63	60	1,815,642	25	620,754	85	2,436,396
64	55	1,577,695	29	599,197	84	2,176,892
65	63	2,176,347	25	649,936	88	2,826,283
66	72	1,954,580	27	770,592	99	2,725,172
67	57	2,040,955	19	491,277	76	2,532,232
68	56	1,547,351	19	477,002	75	2,024,353
69	75	2,127,148	19	478,553	94	2,605,701
70	50	1,317,169	19	360,365	69	1,677,534
71	55	1,346,518	12	284,434	67	1,630,952
72	37	1,263,698	25	531,734	62	1,795,432
73	61	1,955,280	19	452,554	80	2,407,834
74	62	1,654,130	25	397,082	87	2,051,212
75	38	1,136,903	14	310,337	52	1,447,240
76	41	1,355,774	19	260,374	60	1,616,148
77	34	1,005,286	16	274,632	50	1,279,918
78	55	1,484,813	10	184,984	65	1,669,797
79	41	1,117,118	9	89,735	50	1,206,853
80	33	822,684	15	381,540	48	1,204,224
81	40	1,146,259	7	160,089	47	1,306,348
82	37	1,251,330	16	169,466	53	1,420,796
83	30	955,398	7	188,287	37	1,143,685
84	32	745,724	16	185,122	48	930,846
85	31	668,914	4	77,198	35	746,112

**Retirement Pensions by Age and Annual Payments  
for the year ended December 31, 2016**

**Table III**  
(continued)

<u>Age at 12/31/16</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Salaries</u>	<u>Number</u>	<u>Annual Salaries</u>	<u>Number</u>	<u>Annual Salaries</u>
86	21	\$ 624,162	6	\$ 130,425	27	\$ 754,587
87	25	808,290	5	94,805	30	903,095
88	27	826,602	5	55,134	32	881,736
89	20	636,780	8	113,066	28	749,846
90	9	331,479	5	101,427	14	432,906
91	11	346,625	5	68,702	16	415,327
92	4	205,661	5	114,557	9	320,218
93	9	260,226	5	58,374	14	318,600
94	5	87,063	3	23,955	8	111,018
95	7	254,186	4	69,940	11	324,126
96	1	28,280	-	-	1	28,280
97	2	20,174	-	-	2	20,174
98	1	70,680	-	-	1	70,680
99	2	35,818	-	-	2	35,818
100	-	-	1	4,049	1	4,049
101	<u>1</u>	<u>1,883</u>	<u>1</u>	<u>1,572</u>	<u>2</u>	<u>3,455</u>
	<u>1,555</u>	<u>\$ 46,922,009</u>	<u>558</u>	<u>\$ 12,343,147</u>	<u>2,113</u>	<u>\$ 59,265,156</u>
			<u>Male</u>	<u>Female</u>	<u>Both</u>	
Average Age:			71.5	71.1	71.4	
Average Annual Payments:			\$ 30,175	\$ 22,120	\$ 28,048	

**Retirement Pensions by Age at Time of Retirement  
for the year ended December 31, 2016**

**Table IV**

<b>Age at 12/31/16</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	<b>Number</b>	<b>Annual Salaries</b>	<b>Number</b>	<b>Annual Salaries</b>	<b>Number</b>	<b>Annual Salaries</b>
50	153	\$ 4,487,105	38	\$ 981,504	191	\$ 5,468,609
51	101	3,984,046	26	987,733	127	4,971,779
52	88	3,196,968	27	730,558	115	3,927,526
53	79	2,856,082	23	711,344	102	3,567,426
54	82	3,044,909	33	1,122,246	115	4,167,155
55	108	3,124,377	48	1,079,680	156	4,204,057
56	100	2,649,824	29	504,839	129	3,154,663
57	74	2,453,802	24	660,029	98	3,113,831
58	77	2,203,349	26	508,343	103	2,711,692
59	61	1,956,747	28	592,614	89	2,549,361
60	100	2,760,877	47	711,856	147	3,472,733
61	68	1,987,570	30	465,123	98	2,452,693
62	98	2,388,699	41	792,574	139	3,181,273
63	58	1,493,291	18	330,309	76	1,823,600
64	42	1,176,304	15	243,739	57	1,420,043
65	72	1,914,869	30	509,050	102	2,423,919
66	45	1,060,192	15	340,067	60	1,400,259
67	41	1,192,584	16	266,245	57	1,458,829
68	21	659,337	15	240,419	36	899,756
69	16	563,127	6	77,680	22	640,807
70	23	407,316	8	148,994	31	556,310
71	10	378,728	3	78,027	13	456,755
72	6	162,888	1	60,773	7	223,661
73	3	62,906	2	50,166	5	113,072
74	6	132,675	2	22,692	8	155,367
75	8	254,339	1	25,667	9	280,006
76	6	123,726	2	8,298	8	132,024
77	2	35,905	3	80,836	5	116,741
78	2	105,597	-	-	2	105,597
79	2	11,463	1	11,742	3	23,205
80	1	66,314	-	-	1	66,314
81	1	22,054	-	-	1	22,054



**Retirement Pensions by Age at Time of Retirement  
for the year ended December 31, 2016**
**Table IV**  
(continued)

<u>Age at 12/31/16</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Salaries</u>	<u>Number</u>	<u>Annual Salaries</u>	<u>Number</u>	<u>Annual Salaries</u>
82	<u>1</u>	<u>\$ 4,039</u>	<u>-</u>	<u>\$ -</u>	<u>1</u>	<u>\$ 4,039</u>
	<u>1,555</u>	<u>\$ 46,922,009</u>	<u>558</u>	<u>\$ 12,343,147</u>	<u>2,113</u>	<u>\$ 59,265,156</u>
			<u>Male</u>	<u>Female</u>	<u>Both</u>	
Average Age:			58.2	58.8	58.4	
Average Annual Payments:			\$ 30,175	\$ 22,120	\$ 28,048	

STATISTICAL

**Surviving Spouses' Pension by Age and Annual Payments  
for the year ended December 31, 2016**

**Table V**

<u>Age at 12/31/16</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age at 12/31/16</u>	<u>Number</u>	<u>Annual Payments</u>
38	1	\$ 3,516	74	22	\$ 409,405
43	1	18,810	75	14	223,080
45	2	5,883	76	22	365,707
47	1	32,573	77	25	368,158
48	1	1,659	78	36	555,658
49	2	38,368	79	19	315,685
50	1	30,675	80	23	328,515
52	2	23,905	81	25	407,837
53	4	33,553	82	28	452,310
54	2	9,432	83	23	322,758
55	4	60,679	84	29	511,725
56	4	79,050	85	26	430,493
57	7	125,796	86	26	463,596
58	5	134,098	87	25	434,296
59	4	79,049	88	30	443,059
60	7	148,242	89	27	367,728
61	10	263,706	90	17	243,587
62	12	181,934	91	23	280,519
63	12	268,929	92	13	164,491
64	8	154,147	93	23	294,400
65	16	266,820	94	6	98,272
66	17	340,365	95	8	83,189
67	8	128,480	96	8	73,263
68	12	227,214	97	4	55,106
69	20	355,269	98	2	10,829
70	21	348,695	99	6	54,987
71	9	161,109	100	2	12,647
72	14	270,911	101	1	836
73	23	409,317	102	<u>1</u>	<u>17,916</u>
				<u>744</u>	<u>\$11,992,236</u>

Average Age: 78.4  
Average Annual Payments: \$ 16,119

**Surviving Spouses' Pension by Age at Commencement  
for the year ended December 31, 2016**

**Table VI**

<u>Age at Commencement</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age at Commencement</u>	<u>Number</u>	<u>Annual Payments</u>
27	1	\$ 3,953	61	17	\$ 226,728
28	2	11,671	62	17	270,357
29	2	5,491	63	16	301,819
30	1	14,742	64	23	311,623
31	2	11,390	65	19	331,879
32	1	792	66	21	364,162
33	2	23,432	67	29	461,738
34	1	7,601	68	23	421,471
35	2	4,735	69	28	469,910
36	5	41,346	70	27	445,599
37	3	24,850	71	19	334,204
38	4	20,759	72	21	274,211
39	6	96,554	73	16	239,528
40	2	42,296	74	20	262,264
41	5	76,161	75	18	248,735
42	8	121,686	76	22	360,130
43	6	93,640	77	14	286,504
44	9	96,210	78	23	323,167
45	10	141,092	79	17	228,258
46	6	95,862	80	15	213,736
47	4	76,664	81	10	188,664
48	11	198,020	82	9	158,395
49	12	262,273	83	5	63,049
50	17	261,014	84	8	110,534
51	11	192,948	85	8	93,383
52	7	118,651	86	5	72,342
53	14	254,666	87	4	59,276
54	13	313,420	88	7	105,502
55	20	358,894	89	2	19,192
56	14	249,634	90	3	36,765
57	17	371,477	91	1	654
58	20	419,820	92	5	47,258
59	18	324,310	93	<u>1</u>	<u>13,657</u>
60	15	311,488		<u>744</u>	<u>\$11,992,236</u>

Average Age: 64.4  
Average Annual Payments: \$ 16,119

## STATISTICAL

### Annuities and Refunds by Type Last Ten Years

Table VII

<u>Year Ended</u>	<u>Retirement</u>	Surviving <u>Spouse</u>	<u>Children</u>	<u>Refunds</u>	
				<u>Employees'</u>	<u>Pensioners'</u>
June 30, 2008	\$ 47,935,949	\$ 9,440,330	\$ 22,299	\$ 1,743,368	\$ 221,470
June 30, 2009	49,910,083	9,819,764	24,250	2,200,749	479,610
June 30, 2010	50,528,497	10,083,124	17,400	1,368,903	-
June 30, 2011	50,950,848	10,374,674	18,519	1,524,460	137,898
June 30, 2012	52,051,852	10,801,985	14,719	1,786,275	201,878
December 31, 2012	26,428,994	5,529,729	10,859	789,406	188,506
December 31, 2013	54,256,588	11,319,614	21,619	2,033,334	82,829
December 31, 2014	55,519,537	11,665,763	20,800	2,427,646	301,745
December 31, 2015	56,094,931	11,823,316	17,100	1,493,229	554,946
December 31, 2016	58,967,909	12,043,511	18,000	2,228,079	281,414

### Death and Disability Benefits Last Ten Years

Table VIII

<u>Year Ended</u>	<u>Death</u> <u>Benefit</u>	<u>Ordinary</u> <u>Disability</u>	<u>Duty</u> <u>Disability</u>		<u>Total</u>
June 30, 2008	\$ 295,900	\$ 286,764	\$ (7,626)	(a)	\$ 575,038
June 30, 2009	252,500	245,383	12,733		510,616
June 30, 2010	249,500	290,747	22,071		562,318
June 30, 2011	307,000	339,197	52,294		698,491
June 30, 2012	371,225	366,541	(91,817)	(a)	645,949
December 31, 2012	136,775	187,808	8,935		333,518
December 31, 2013	266,000	302,316	53,667		621,983
December 31, 2014	279,500	281,640	39,411		600,551
December 31, 2015	317,000	207,846	93,648		618,494
December 31, 2016	255,000	184,173	99,790		538,963

(a) Reflects net of recoveries of prior duty disability payments in accordance with state statute.

## STATISTICAL

### Number of Active Participants

Table IX

Last Ten Years

<u>Year Ended</u>	<u>Male Participants</u>	<u>Female Participants</u>	<u>Total</u>
June 30, 2008	1,846	1,185	3,031
June 30, 2009	1,750	1,115	2,865
June 30, 2010	1,714	1,102	2,816
June 30, 2011	1,674	1,121	2,795
June 30, 2012	1,804	1,173	2,977
December 31, 2012	1,829	1,224	3,053
December 31, 2013	1,819	1,257	3,076
December 31, 2014	1,742	1,231	2,973
December 31, 2015	1,796	1,267	3,063
December 31, 2016	1,800	1,314	3,114

### Active Participants Statistical Averages

Table X

Last Ten Years

<u>Year Ended</u>	<u>Male</u>			<u>Female</u>			<u>Combined</u>		
	<u>Annual Salary</u>	<u>Age</u>	<u>Service</u>	<u>Annual Salary</u>	<u>Age</u>	<u>Service</u>	<u>Annual Salary</u>	<u>Age</u>	<u>Service</u>
June 30, 2008	\$ 36,721	41.9	9.5	\$ 31,108	38.4	7.9	\$ 34,526	40.5	8.9
June 30, 2009	38,208	42.5	10.0	32,598	38.9	8.4	36,024	41.1	9.4
June 30, 2010	38,131	43.2	10.5	32,393	39.5	9.0	35,886	41.8	9.9
June 30, 2011	38,680	43.5	10.9	32,873	39.9	9.3	36,351	42.1	10.3
June 30, 2012	36,623	42.9	10.2	32,585	39.7	9.1	35,032	41.6	9.8
December 31, 2012	19,201	43.3	10.1	16,829	39.7	8.9	18,250	41.9	9.6
December 31, 2013	37,809	43.1	10.0	32,664	39.5	8.9	35,706	41.6	9.6
December 31, 2014	41,199	43.4	10.7	35,245	39.8	9.6	38,734	41.9	10.3
December 31, 2015	40,361	43.0	10.5	34,578	40.0	9.6	37,969	41.8	10.1
December 31, 2016	41,248	42.7	10.4	34,041	39.5	9.3	38,207	41.3	9.9

## STATISTICAL

### Retirees and Beneficiaries Receiving Benefits Last Ten Years

**Table XI**

<u>Year Ended</u>	<u>Retirees</u>	<u>Surviving Spouses</u>	<u>Children</u>	<u>Total</u>
June 30, 2008	2,152	843	18	3,013
June 30, 2009	2,167	829	17	3,013
June 30, 2010	2,125	817	14	2,956
June 30, 2011	2,096	803	14	2,913
June 30, 2012	2,104	804	13	2,921
December 31, 2012	2,090	798	18	2,906
December 31, 2013	2,102	786	16	2,904
December 31, 2014	2,101	773	17	2,891
December 31, 2015	2,097	767	12	2,876
December 31, 2016	2,113	744	13	2,870

### Average Annual Retirees/Surviving Spouses' Benefit Payments Last Ten Years

**Table XII**

<u>Year Ended</u>	<u>Average Annual Payments</u>	
	<u>Retiree</u>	<u>Spouse</u>
June 30, 2008	\$ 22,688	\$ 11,321
June 30, 2009	23,440	11,835
June 30, 2010	23,997	12,481
June 30, 2011	24,668	12,941
June 30, 2012	25,367	13,544
December 31, 2012	25,747	14,018
December 31, 2013	26,330	14,500
December 31, 2014	26,855	15,062
December 31, 2015	26,683	15,525
December 31, 2016	28,048	16,119

**Funded Ratio**  
Last Ten Years

**Table I**

	(1)	(2)	(3)	(4)
	Actuarial	Unfunded	Statutory	%
	Value of	Accrued	Reserve	Percent
<u>Year Ended</u>	<u>Assets</u>	<u>Liabilities</u>	<u>(1) + (2)</u>	<u>(1) / (3)</u>
June 30, 2008	\$ 586,676,032	\$ 208,703,097	\$ 795,379,129	73.8%
June 30, 2009	553,754,517	270,142,419	823,896,936	67.2
June 30, 2010	518,582,601	314,443,347	833,025,948	62.3
June 30, 2011	489,370,505	354,572,735	843,943,240	58.0
June 30, 2012	440,692,006	425,678,559	866,370,565	50.9
December 31, 2012	421,448,001	550,359,221	971,807,222	43.4
December 31, 2013	404,292,435	483,730,929	888,023,364	45.5
December 31, 2014	393,762,692	507,077,925	900,840,617	43.7
December 31, 2015	395,652,106	514,608,254	910,260,360	43.5
December 31, 2016	393,604,997	611,888,096	1,005,493,093	39.1

**Ratio of Unfunded Liability to Payroll**  
Last Ten Years

**Table II**

<u>Year Ended</u>	<u>Covered Payroll</u>	<u>Unfunded Liability</u>	<u>Liability % of Payroll</u>
June 30, 2008	\$ 111,698,366	\$ 208,703,097	186.8%
June 30, 2009	108,882,742	270,142,419	248.1
June 30, 2010	107,361,021	314,443,347	292.9
June 30, 2011	107,686,693	354,572,735	329.3
June 30, 2012	114,223,909	425,678,559	372.6
December 31, 2012	58,231,511	550,359,221	472.6
December 31, 2013	117,781,596	483,730,929	410.7
December 31, 2014	118,987,507	507,077,925	426.2
December 31, 2015	122,382,584	514,608,254	420.5
December 31, 2016	121,126,918	611,888,096	505.2

**Revenue by Sources**  
 Last Ten Years
**Table III**

<u>Year Ended</u>	<u>Employer Contributions</u>	<u>Employee Contributions</u>	<u>Net Investment Income/(Loss) (a)</u>	<u>Total</u>
June 30, 2008	\$ 8,998,687	\$ 10,264,805	\$ (17,391,594)	\$ 1,871,898
June 30, 2009	9,677,765	10,141,146	(103,488,375)	(83,669,464)
June 30, 2010	10,829,339	9,829,998	41,419,975	62,079,312
June 30, 2011	10,981,419	9,791,650	84,890,838	105,663,907
June 30, 2012	10,868,361	10,404,827	3,861,173	25,134,361
December 31, 2012	5,268,363	5,371,084	24,956,796	35,596,243
December 31, 2013	15,804,452	10,732,730	66,642,528	93,179,710
December 31, 2014	11,225,438	10,831,434	27,591,038	49,647,910
December 31, 2015	30,588,976	12,368,636	8,911,726	51,869,338
December 31, 2016	30,890,241	12,246,115	31,022,803	74,159,159

(a) includes income from securities lending



# STATISTICAL

Required Schedules (GASB No. 44)

## Average Benefit Payments

**Table I**

Last Ten Years

(Dollars in Thousands)

	<u>Years of Credited Service</u>						
	<u>0 – 5</u>	<u>5 – 10</u>	<u>10 – 15</u>	<u>15 – 20</u>	<u>20 – 25</u>	<u>25 – 30</u>	<u>30+</u>
Period 7/1/07 to 6/30/08							
Average monthly benefit	\$ 363	\$ 678	\$ 698	\$ 1,535	\$ 2,145	\$ 2,428	\$ 3,269
Average final average salary	\$ 5,962	\$ 4,837	\$ 2,806	\$ 4,166	\$ 4,280	\$ 3,763	\$ 4,684
Number of retired members	15	4	11	6	8	9	27
Period 7/1/08 to 6/30/09							
Average monthly benefit	\$ 440	\$ 821	\$ 1,374	\$ 1,189	\$ 1,939	\$ 2,089	\$ 3,785
Average final average salary	\$ 5,734	\$ 5,152	\$ 4,714	\$ 3,449	\$ 3,882	\$ 3,516	\$ 4,858
Number of retired members	15	13	15	6	12	11	30
Period 7/1/09 to 6/30/10							
Average monthly benefit	\$ 389	\$ 970	\$ 1,287	\$ 1,046	\$ 3,302	\$ 3,552	\$ 4,039
Average final average salary	\$ 5,923	\$ 6,512	\$ 4,078	\$ 2,892	\$ 6,083	\$ 5,668	\$ 5,222
Number of retired members	13	6	8	12	5	9	8
Period 7/1/10 to 6/30/11							
Average monthly benefit	\$ 475	\$ 1,001	\$ 665	\$ 1,244	\$ 1,893	\$ 2,800	\$ 4,406
Average final average salary	\$ 7,516	\$ 5,633	\$ 2,288	\$ 3,216	\$ 3,728	\$ 4,484	\$ 5,911
Number of retired members	19	7	12	5	11	8	16
Period 7/1/11 to 6/30/12							
Average monthly benefit	\$ 572	\$ 871	\$ 995	\$ 1,419	\$ 1,999	\$ 3,222	\$ 3,909
Average final average salary	\$ 7,210	\$ 4,957	\$ 3,198	\$ 4,088	\$ 4,339	\$ 5,175	\$ 4,633
Number of retired members	21	14	7	9	14	13	22
Period 7/1/12 to 12/31/12							
Average monthly benefit	\$ 444	\$ 1,040	\$ 687	\$ 1,245	\$ 2,199	\$ 3,727	\$ 4,432
Average final average salary	\$ 6,780	\$ 5,896	\$ 2,590	\$ 3,180	\$ 4,638	\$ 5,510	\$ 5,677
Number of retired members	9	5	6	7	4	4	16
Period 1/1/13 to 12/31/13							
Average monthly benefit	\$ 581	\$ 822	\$ 1,311	\$ 1,288	\$ 2,221	\$ 3,234	\$ 3,877
Average final average salary	\$ 7,186	\$ 4,677	\$ 4,797	\$ 3,344	\$ 4,428	\$ 4,780	\$ 5,076
Number of retired members	10	17	21	12	16	14	20
Period 1/1/14 to 12/31/14							
Average monthly benefit	\$ 299	\$ 736	\$ 941	\$ 1,364	\$ 2,615	\$ 3,762	\$ 4,608
Average final average salary	\$ 5,274	\$ 4,072	\$ 3,198	\$ 3,320	\$ 4,844	\$ 5,705	\$ 5,893
Number of retired members	13	8	11	15	13	9	21
Period 1/1/15 to 12/31/15							
Average monthly benefit	\$ 466	\$ 914	\$ 1,019	\$ 1,623	\$ 2,323	\$ 3,478	\$ 3,740
Average final average salary	\$ 7,554	\$ 5,306	\$ 3,671	\$ 3,652	\$ 4,401	\$ 5,433	\$ 4,752
Number of retired members	8	10	16	14	7	7	22
Period 1/1/16 to 12/31/16							
Average monthly benefit	\$ 391	\$ 869	\$ 1,087	\$ 1,546	\$ 1,984	\$ 3,249	\$ 3,973
Average final average salary	\$ 6,774	\$ 5,489	\$ 3,956	\$ 3,407	\$ 3,949	\$ 4,619	\$ 4,838
Number of retired members	13	13	11	12	11	12	27

# STATISTICAL

Required Schedules (GASB No. 44)

## Principal Participating Employers Current Year and Nine Years Ago

**Table II**

<u>Participating Government</u>	<u>December 31, 2016</u>			<u>June 30, 2008</u>		
	<u>Covered Employees'</u>	<u>Rank</u>	<u>Percentage of Total System</u>	<u>Covered Employees'</u>	<u>Rank</u>	<u>Percentage of Total System</u>
Chicago Park District Retirement Board of the Park Employees' Annuity and Benefit Fund	3,104	1	99.68%	3,020	1	99.64%
City of Chicago	10	2	0.32	11	2	0.36
	-	3	0.00	-	3	0.00
Total (3 Governments)	<u>3,114</u>		<u>100.00%</u>	<u>3,031</u>		<u>100.00%</u>

## Changes in Fiduciary Net Position

**Table III**

Last Ten Years  
(Dollars in Thousands)

	<u>Years ended</u>				<u>Six Months Ended</u>	<u>Fiscal years ended June 30</u>				
	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>12/31/12</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>
<b>ADDITIONS</b>										
Employer Contributions	\$30,890	\$30,589	\$11,226	\$15,804	\$ 5,268	\$10,868	\$10,981	\$ 10,829	\$ 9,678	\$ 8,999
Employee Contributions	12,246	12,369	10,831	10,733	5,371	10,405	9,792	9,830	10,141	10,265
Investment Income	<u>31,023</u>	<u>8,912</u>	<u>27,591</u>	<u>66,643</u>	<u>24,957</u>	<u>3,861</u>	<u>84,891</u>	<u>41,420</u>	<u>(103,488)</u>	<u>(17,392)</u>
Total Additions	74,159	51,870	49,648	93,180	35,596	25,134	105,664	62,079	(83,669)	1,872
<b>DEDUCTIONS (see Table IV)</b>										
Benefit Payments	71,568	68,554	67,807	66,220	32,303	63,514	62,043	61,191	60,265	57,974
Refunds	2,509	2,048	2,729	2,116	978	1,988	1,662	1,369	2,680	1,965
Administrative Expenses	<u>1,538</u>	<u>1,534</u>	<u>1,459</u>	<u>1,464</u>	<u>724</u>	<u>1,645</u>	<u>1,522</u>	<u>1,466</u>	<u>1,335</u>	<u>1,289</u>
Total Deductions	75,615	72,136	71,995	69,800	34,005	67,147	65,227	64,026	64,280	61,228
Changes in Fiduciary Net Position	<u>\$( 1,456)</u>	<u>\$(20,266)</u>	<u>\$(22,347)</u>	<u>\$23,380</u>	<u>\$ 1,591</u>	<u>\$(42,013)</u>	<u>\$40,437</u>	<u>\$( 1,947)</u>	<u>\$(147,949)</u>	<u>\$(59,356)</u>

# STATISTICAL

Required Schedules (GASB No. 44)

## Benefit and Refund Deductions from Fiduciary Net Position by Type

Table IV

Last Ten Years

(Dollars in Thousands)

	Years ended				Six Months Ended	Fiscal years ended June 30,				
	2016	2015	2014	2013	12/31/12	2012	2011	2010	2009	2008
TYPE OF BENEFIT										
Age and Service Benefits										
Retirees	\$58,968	\$56,095	\$55,520	\$54,256	\$26,429	\$52,052	\$50,951	\$50,528	\$49,910	\$47,936
Spousal	12,044	11,823	11,666	11,320	5,529	10,802	10,375	10,083	9,820	9,440
Children	18	17	21	22	11	15	19	17	24	22
Death Benefits	255	317	280	266	137	371	307	250	253	296
Disability Benefits										
Member-Duty	99	94	39	54	9	(92)	52	22	13	(8)
Member-Non-Duty	184	208	281	302	188	366	339	291	245	288
Total Benefits	<u>\$71,568</u>	<u>\$68,554</u>	<u>\$67,807</u>	<u>\$66,220</u>	<u>\$32,303</u>	<u>\$63,514</u>	<u>\$62,043</u>	<u>\$61,191</u>	<u>\$60,265</u>	<u>\$57,974</u>
TYPE OF REFUND										
Separation	\$ 2,228	\$ 1,493	\$ 2,427	\$ 2,033	\$ 789	\$ 1,786	\$ 1,524	\$ 1,369	\$ 2,200	\$ 1,743
Death	281	555	302	83	189	202	138	-	480	222
Total Refunds	<u>\$ 2,509</u>	<u>\$ 2,048</u>	<u>\$ 2,729</u>	<u>\$ 2,116</u>	<u>\$ 978</u>	<u>\$ 1,988</u>	<u>\$ 1,662</u>	<u>\$ 1,369</u>	<u>\$ 2,680</u>	<u>\$ 1,965</u>

## Retired Members by Type of Benefit

Table V

Amount of Monthly Benefit	Number of Retired Members	Type of Retirement		
		1	2	3
\$ 1 - \$ 250	208	123	72	13
251 - 500	296	206	90	-
501 - 750	258	174	84	-
751 - 1,000	225	154	71	-
1,001 - 1,250	201	126	75	-
1,251 - 1,500	150	91	59	-
1,501 - 1,750	161	86	75	-
1,751 - 2,000	163	92	71	-
Over 2,000	<u>1,208</u>	<u>1,061</u>	<u>147</u>	<u>-</u>
Total	<u>2,870</u>	<u>2,113</u>	<u>744</u>	<u>13</u>

### Type of Retirement

- 1 Normal Retirement for age and service, including incentive retirements
- 2 Beneficiary payment, normal surviving spouse
- 3 Beneficiary payments, child(ren)