

# County Employees' and Officers' Annuity and Benefit Fund of Cook County

A Component Unit of  
Cook County, Illinois



## COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Years Ended December 31, 2015 and 2014



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A Component Unit of Cook County, Illinois

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For the Fiscal Years Ended December 31, 2015 and 2014

Prepared by the staff of the  
County Employees' and Officers' Annuity and Benefit Fund of Cook County

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# Introductory Section

*This section provides information regarding the County Employees' and Officers' Annuity and Benefit Fund of Cook County's Certificate of Achievement, Board of Trustees, consultants, and organizational structure, as well as a letter of transmittal.*

# Certificate of Achievement



Government Finance Officers Association

## Certificate of Achievement for Excellence in Financial Reporting

Presented to

**County Employees' and Officers'  
Annuity and Benefit Fund  
of Cook County, Illinois**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**December 31, 2014**



Executive Director/CEO



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# Principal Officials

## Retirement Board

**Alexis Herrera**

President

Elected Cook County Employee

**Patrick J. McFadden**

Vice-President

Elected Cook County Annuitant

**Diahann Goode**

Secretary

Elected Cook County Employee

**John E. Fitzgerald**

Elected Cook County Annuitant

**Joseph Nevius**

Elected Forest Preserve District Annuitant

**Bill Kouruklis**

*Ex Officio* Cook County Treasurer (Designee)

**Dennis White**

Elected Forest Preserve District Employee

**Brent Lewandowski**

Elected Cook County Employee  
(resigned July 7, 2016)

**Lawrence L. Wilson, CPA**

*Ex Officio* Cook County Comptroller

## Professional Consultants

**Legal Counsel**

Burke Burns & Pinelli, Ltd.

**Auditor**

Legacy Professionals, LLP

**Investment Consultant**

Callan Associates, Inc.

**Consulting Actuary**

Buck Consultants, LLC

**Master Custodian**

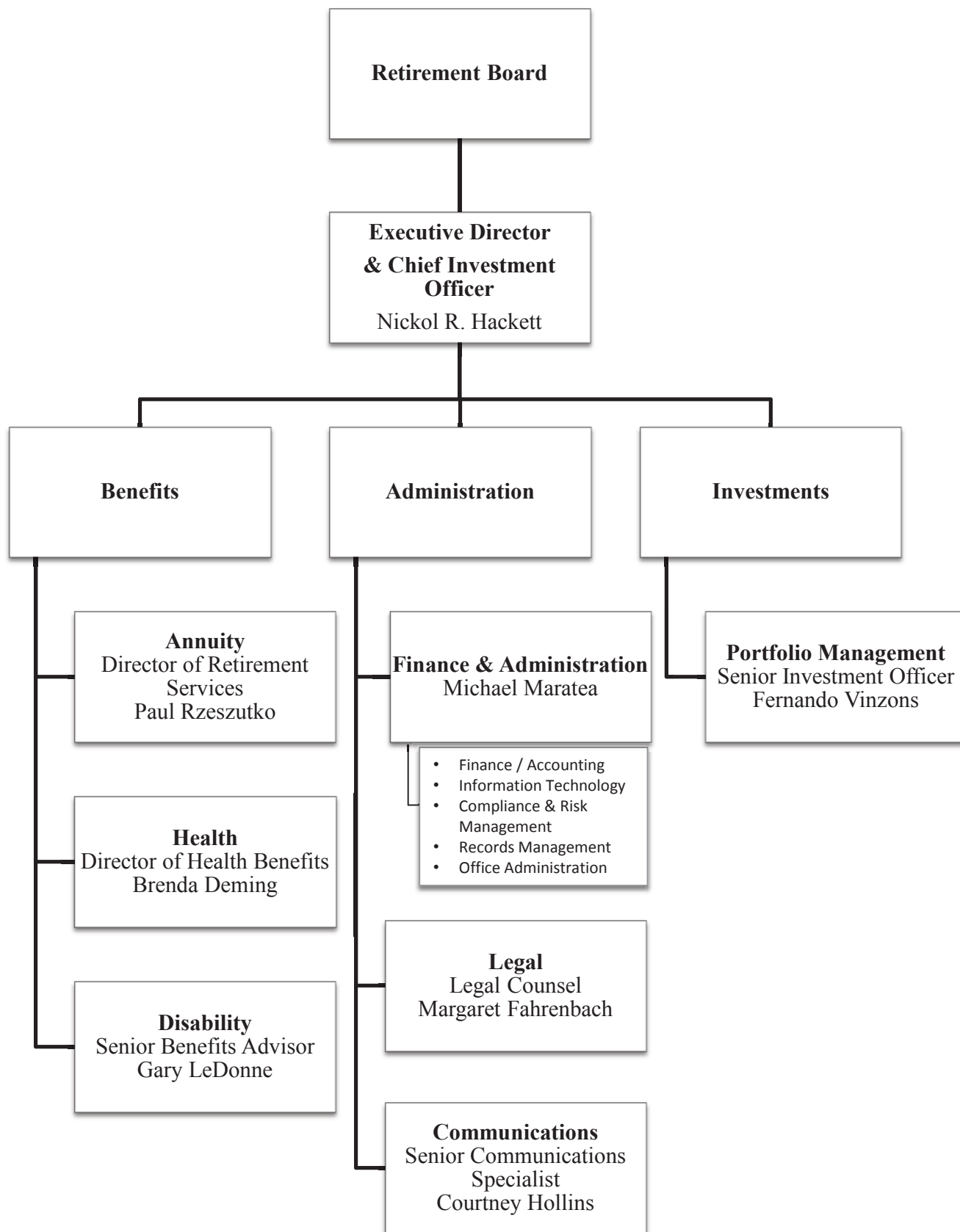
BNY Mellon

**Custodian**

Cook County Treasurer

Investment Managers are listed on pages 74-75.  
Brokers used by Investment Managers are listed on pages 76-77.

# Organizational Chart



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# Letter of Transmittal



June 2, 2016

Retirement Board  
County Employees and Officers' Annuity and Benefit Fund of Cook County  
and *ex officio* for the Forest Preserve District Employees' Annuity and Benefit Fund of Cook County  
33 N Dearborn St, Suite 1000  
Chicago, IL 60602

To the Retirement Board and Members of the fund:

We are pleased to submit to you the Comprehensive Annual Financial Report ("CAFR") of the County Employees' and Officers' Annuity and Benefit Fund of Cook County ("the fund") for the calendar year ended December 31, 2015. Fund management is responsible for the contents of this report, including the financial, investment, actuarial, and statistical information contained herein.

To the best of our knowledge and belief, the information contained in this report is complete and accurate in all material respects. This report is provided to allow the reader to gain an understanding of the fund's financial position and operational activities. Readers should review this report in conjunction with the Management's Discussion and Analysis (MD&A) found in the Financial Section.

### **Fund Profile**

As of December 31, 2015, the Cook County Pension Fund consisted of 21,596 active employees, 14,922 retirement annuitants, 2,675 survivor annuitants, and 13,190 inactive members. It was established in 1926 by an act of the Illinois General Assembly and is administered in accordance with 40 ILCS 5/9-101, et seq. It is a defined benefit pension plan that provides retirement, survivor, death, health, and disability benefits to qualified employees and retirees of Cook County and their eligible dependents and beneficiaries. The fund is considered to be a component unit of Cook County, Illinois, and is included in the County's financial statements as a pension trust fund.

The fund is governed by a nine-member Retirement Board ("Board") combined with the Forest Preserve District Fund. The nine Trustees are elected as follows: four are elected by the employees of Cook County and the Forest Preserve District, three are elected by the annuitants of Cook County and the Forest Preserve District and two are *ex officio* seats appointed by the Comptroller and Treasurer of Cook County. Elected Trustees serve staggered three-year terms, so that no more than three positions are subject to election each year. The fund has common trustees and shares office space and administrative services with the Forest Preserve Fund.

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County Employees' and Officers' Annuity and Benefit Fund of Cook County  
Forest Preserve District Employees' Annuity and Benefit Fund of Cook County  
33 N Dearborn St, Suite 1000 | Chicago, IL 60602 | 312.603.1200 | 312.603.9760 fax | [www.cookcountypension.com](http://www.cookcountypension.com)

## INTRODUCTORY SECTION

### Letter of Transmittal (continued)

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#### Summary of Financial Experience

The following table summarizes the changes in the Cook County Pension Fund's net position between December 31, 2015 and December 31, 2014 (numbers in millions):

Change in Net Position	2015	2014	\$ Change	% Change
Total additions	\$351.7	\$855.3	(\$503.6)	(-58.9%)
Total deductions	\$777.1	\$714.3	\$62.8	8.8%
Change in net position from prior year	(\$425.4)	\$ 141.0	(\$566.4)	(401.7%)

#### Investments

The Board's authority to invest fund assets is governed by 40 ILCS 5/1-101 et seq. and 40 ILCS 5/9-101 et seq. The fund's Investment Policy, which provides additional strategies and safeguards for the fund's investment objectives, can be found at [CookCountyPension.com](http://CookCountyPension.com).

At year-end, the total invested assets of the fund was valued at \$8.5 billion compared to \$8.8 billion at the end of 2014, a decrease of approximately \$0.3 billion. The investment portfolio's net rate of return for the year ended December 31, 2015 was -0.1% compared to 5.9% for the previous year. Strong absolute returns from the fund's real estate and hedge fund of funds programs offset traditional asset class returns, as domestic and international equities were challenged by a slowdown in emerging markets, weaknesses in commodities and concerns over global growth. Fixed income was mixed as core and core plus styles returns generally offset each other. The Board works to maintain a diversified asset allocation within acceptable risk parameters. In an effort to achieve a risk-adjusted asset allocation, the fund has rebalanced approximately \$2.0 billion among domestic equities, core fixed income, global fixed income, private equity, international equity, and real estate.

The investment portfolio represents an increasing source of funding for benefit payments. In 2015, \$0.4 billion in total additions made up of employer contributions, employee contributions, annuitant healthcare benefit contributions and net investment earnings were offset by \$0.8 billion in deductions consisting of benefits, refunds and administrative expenses. Additional information regarding performance and investment professionals who provide services to the fund can be found in the Investment Section.

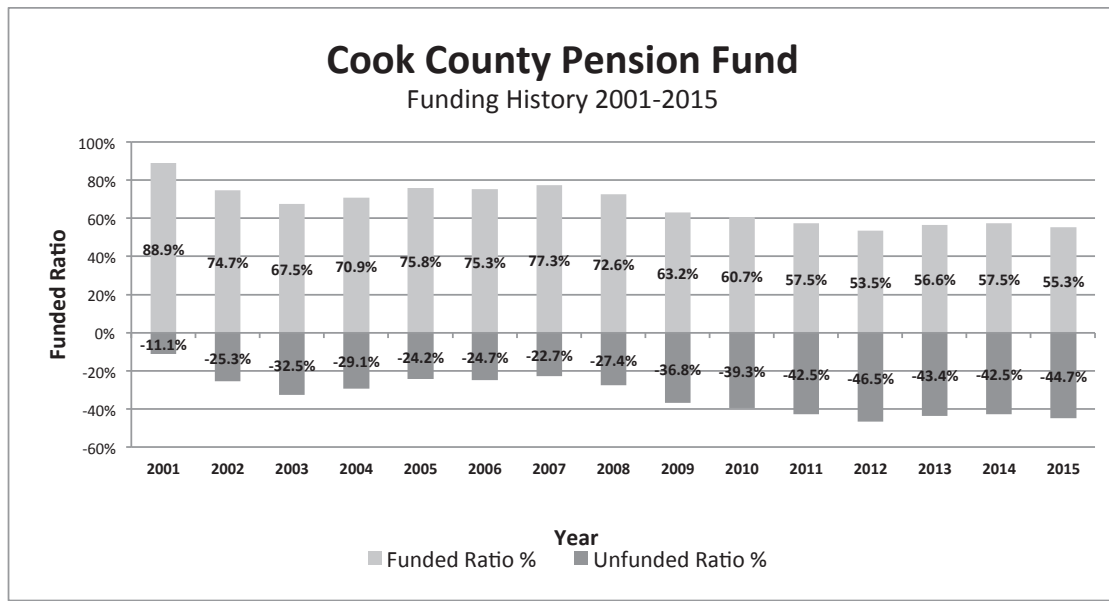
#### Funding

The fund engages an independent actuary, Buck Consultants, LLC, to perform an actuarial valuation on an annual basis pursuant to the provisions of the Illinois Pension Code.

As of December 31, 2015, the Cook County Pension Fund's combined actuarial accrued liability for pension and retiree health benefits was \$16.2 billion and the actuarial value of assets was \$9.0 billion, resulting in an unfunded actuarial accrued liability of \$7.2 billion. The funded ratio (the ratio of assets to liabilities) for pension and retiree health benefits combined was 55.4% (vs. 57.5% in 2014). The fund's actuarial accrued liability for pension benefits only was \$14.9 billion and the actuarial value of assets was \$9.0 billion, resulting in an unfunded liability of \$5.9 billion and a funded ratio of 60.2%. The fund's actuarial accrued liability for retiree health benefits was \$2.1 billion. Because there are no dedicated assets for retiree health benefits, the actuarial value of assets was \$0, resulting in an unfunded liability of \$2.1 billion and a funded ratio of 0.0%.

Based on the actuarial valuation, the principal driver for the increase in unfunded liability in 2015 was normal cost and interest on the unfunded liability exceeding contributions. The employer contribution is determined as a multiple of employee contributions from two years earlier. As identified by the actuary, in the absence of action by the legislature to establish an actuarially based funding policy, the funded ratio is expected to trend downward until the fund's assets are depleted in 2041. Additional information regarding funding can be found in the Actuarial Section.

Over the last decade, the fund has been facing a long-term funding shortfall. Based on the most recent actuarial valuation, an actuarially determined tax multiple of 5.55 is needed to adequately finance the fund in 2016 and the current statutory tax multiple of 1.54 has been less than the actuarially determined contribution requirement for the past 18 years. Based on statutory methodology, the actuary projects that fund assets will deplete in 26 years. The actuary estimates that the statutory employer contribution for 2015 represents only 28% of the actuarially required amount, a shortfall of \$503 million. A detailed discussion of funding is provided in the Actuarial Section of this report.



On December 8, 2015, the Cook County Administration (Employer) took affirmative effort to reverse this trend by identifying additional contribution sources to the fund pursuant to a one year Intergovernmental Agreement (IGA). The Employer is expected to make an additional payments in the amount of \$270.5 million in 2016 which will significantly reduce the projected shortfall for 2016.

### 2015 Initiatives

The Fund continues to implement strategic initiatives by enhancing communications to stakeholder groups, member services, organizational flexibility, systems and performance measurement, and liability and risk management. As the annuitant membership grows, the Fund continually reviews its strategic and operating imperatives to maintain quality member service.

#### *Health Benefits Administration*

Approximately 50% of annuitants utilize the Fund's health benefits and pharmacy coverage offerings. The plan year 2015 marked the first full year of self-funded coverage under the medical plan. The Board and staff continued efforts to stabilize medical plan expenses while addressing the rising costs of prescription drug coverage. Several changes were made to the pharmacy program, resulting in a total net cost per member reduction of 5.4% as compared to 2014. Drug copays were also increased to keep pace with drug price inflation.

In the absence of dedicated funding to support health benefits, the Board and fund staff continues to implement strategies designed to reduce the cost of the program with minimal member disruption. A longer-term strategy of helping retirees to manage and improve their health has resulted in additional savings both in 2015 and in future years.

## INTRODUCTORY SECTION

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### Letter of Transmittal (continued)

The Fund maintains its commitment to delivering high-touch customer service amid high volumes of benefit requests, processing over 1,000 retirement applications in the past year. Member engagement remains a primary focus as the Fund implemented targeted stakeholder campaigns and enhanced member communications to address issues ranging from retiree health benefits to local pension reform efforts.

The Fund continued to transition from paper to electronic document management in 2015. Systems enhancements improved workflow and collaboration between departments, leading to increased efficiency of benefits administration and enhanced information security.

#### *Legislation*

The Cook County administration reintroduced the pension legislation (formally HB1154) as SB843, in the Illinois Senate on May 15, 2015. SB843 passed the Senate (House Amendment 1), 5 to 4, however was not called for a vote in the House before the end of the 2015 legislative session. As a result, no changes to benefits or funding related to the bill moved forward in 2015. The County's pension reform proposal aims to return the Cook County and Forest Preserve District Funds to 100% funding in 30 years through contribution increases. Under current conditions, the fund receives insufficient contributions to meet cumulative benefit obligations and is projected to become insolvent in 2041. The new proposal would provide for increased contributions.

Throughout 2015, the Board and fund staff continued to allocate resources to tracking and analysis of legislation that would impact public pensions, particularly with respect to pension reform efforts at the Illinois General Assembly.

#### *Additional Funding*

As of the date of this letter, the Employer has made additional contributions to the Cook County Pension Fund totaling \$51,223,000 pursuant to the IGA. The Employer is expected to make additional payments in the amounts of: \$30,542,000 on June 30, 2016; \$30,157,000 on July 28, 2016; \$32,298,000 on August 31, 2016; \$34,320,000 on September 30, 2016; \$32,469,000 on October 31, 2016; and \$59,518,000 on or before November 30, 2016 for a total of \$270,500,000. This is no assurance that said payments will be made. This will significantly alleviate the cash flow burden born by the investment portfolio, especially during volatile markets and stabilize benefit payments.

#### **Accounting System & Internal Control**

This report and the financial statements included within were prepared to conform to the principles of governmental accounting and reporting pronounced by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants.

The financial statements were prepared using the accrual basis of accounting. Under the accrual basis, revenues are recognized in the accounting period in which they are earned, without regard to the date of collection, and expenses are recognized when the corresponding liabilities are incurred, regardless of when payment is made.

The fund maintains a system of internal controls to adequately safeguard its assets and assure the reliability of its financial records. The controls are designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that first, the cost of the control should not exceed the benefits likely to be derived, and second, the valuation of the cost and benefits requires estimates and judgments by management. Management and the outside auditor continually review the controls for adequacy.

The financial statements included in this report were audited by Legacy Professionals, LLP, who have issued an unqualified opinion for calendar year ended December 31, 2015. A copy of their report is contained in the Financial Section.

**Awards**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the fund for its CAFR for the fiscal year ended December 31, 2014. This was the sixth year that the fund has earned this prestigious award. In order to be awarded a Certificate of Achievement, the 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 this current CAFR 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.

The fund received the Small Public Plan of the Year award at the 13<sup>th</sup> Annual Hedge Fund Industry Awards on June 26, 2015. Consideration for the Hedge Fund Investment category is given to investors' long-term performance and overall ability to construct and manage a hedge fund portfolio.

**Acknowledgments**

This report was prepared through the combined efforts of the fund's staff under the direction of the Board. On behalf of the Board, I would like to thank the staff and professional consultants for their efforts in compiling this report.

Respectfully submitted,



Nickol R. Hackett  
Executive Director and Chief Investment Officer

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# Financial Section

*This section contains the report of the independent auditors, financial statements, analysis, and supplemental financial information.*

# Report of Independent Auditors



## REPORT OF INDEPENDENT AUDITORS

To the Board of Trustees of  
County Employees' and Officers' Annuity  
and Benefit Fund of Cook County

### *Report on the Financial Statements*

We have audited the accompanying financial statements of County Employees' and Officers' Annuity and Benefit Fund of Cook County (the Plan), a component unit of Cook County, Illinois, which comprise the combining statements of pension plan fiduciary net position and postemployment healthcare plan net position as of December 31, 2015 and 2014, and the related combining statements of changes in pension plan fiduciary net position and postemployment healthcare plan net position for the years then ended, and the related notes to the financial statements, which collectively comprise the Plan's basic 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 financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditors' 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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit includes 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 Plan'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 Plan's internal control. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. 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 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 in the first paragraph present fairly, in all material respects, the plan net position of County Employees' and Officers' Annuity and Benefit Fund of Cook County as of December 31, 2015 and 2014, and the changes in plan net position for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

***Other Matters******Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the required supplementary information, consisting of the schedule of changes in the employer's net pension liability and related ratios, schedule of employer contributions, schedule of investment returns, schedule of funding progress, schedule of employer contributions and notes to schedule of funding progress and schedule of employer contributions, 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.

***Supplementary Information***

Our audits were conducted for the purpose of forming an opinion on the Plan's basic financial statements as a whole. The accompanying supplementary information, consisting of the schedules of net administrative expenses and professional and consulting fees, schedules of investment expenses, additions by source, deductions by type and schedule of employer contributions receivable, is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits 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 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.

## FINANCIAL SECTION

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### Report of Independent Auditors (continued)

#### *Other Matters (continued)*

##### *Previously Audited Information*

We also have previously audited the basic financial statements for the years ended December 31, 2013, 2012, 2011, and 2010 (which are not presented herein), and we expressed unmodified opinions on those financial statements. In our opinion, the previously audited information presented on the additions by source and deductions by type is fairly stated in all material respects in relation to the basic financial statements from which it has been derived.

*Legacy Professionals LLP*

Chicago, Illinois

June 2, 2016

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# Management's Discussion and Analysis (Unaudited)

This section presents Management's Discussion and Analysis of the financial position and performance of the County Employees' and Officers' Annuity and Benefit Fund of Cook County (the Plan) for the years ended December 31, 2015 and 2014. This discussion is presented as an overview of the financial activities of the Plan and should be read in conjunction with the Plan's financial statements.

## Overview of the Basic Financial Statements

The following discussion and analysis is intended to serve as an introduction to the Plan's basic financial statements. The financial statements are prepared on an economic sources focus and accrual basis of accounting in accordance with Governmental Accounting Standards Board (GASB) pronouncements. The basic components of the financial package are described below:

**Combining Statements of Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position** provides a snapshot of account balances and net position held in trust for future benefit payments and any liabilities as of the Plan's year end. Over time increases and decreases in net position may serve as a useful indicator of whether the financial position of the Plan is improving or deteriorating.

**Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position** shows the revenues (additions) and expenses (deductions) during the year, where additions less deductions equal net increase (decrease) in net position. The net increase (decrease) in net position reports the change in net position as reported in the combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position of the prior year and the current year.

**Notes to the Financial Statements** provides additional information that is essential to achieving a better understanding of the data provided in the basic financial statements.

**Required Supplementary Information** provides schedules and related notes concerning actuarial information, funding progress, employer contributions and investment returns.

**Supplementary Information** includes schedules of net administrative expenses, professional and consulting fees, investment expenses, additions by source, deductions by type and employer contributions receivable.

## Financial Highlights

**Net position** increased by \$425,354,505 or 4.7% from \$9,068,398,780 at December 31, 2014 to \$8,643,044,275 at December 31, 2015. Comparatively, net position increased by \$141,032,124 or 1.6% from \$8,927,366,656 at December 31, 2013 to \$9,068,398,780 at December 31, 2014. The change in net position for both years was primarily due to the increase in the fair value of the investments.

The **rate of return** of the Plan's investment portfolio was -0.1% for 2015, 5.9% for 2014 and 15.1% for 2013.

## Plan Net Position

The condensed Combining Statements of Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position reflects the resources available to pay benefits to members. A summary of the Combining Statements of Pension Plan Fiduciary Net Position and Postemployment Plan Net Position is as follows:

	Plan Net Position as of December 31,			Current Year (Decrease) in	
	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>Dollars</u>	<u>Percent</u>
Total assets	\$ 9,901,259,891	\$10,527,247,093	\$10,317,067,570	\$(625,987,202)	-5.9%
Total liabilities	1,258,215,616	1,458,848,313	1,389,700,914	(200,632,697)	-13.8%
Net position	<u>\$ 8,643,044,275</u>	<u>\$ 9,068,398,780</u>	<u>\$ 8,927,366,656</u>	<u>\$(425,354,505)</u>	-4.7%

## Changes in Plan Net Position

The condensed Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position reflects the changes in the resources available to pay benefits to members. A summary of the Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position is as follows:

	Changes in Plan Net Position for the Years Ended December 31,			Current Year Increase/(Decrease) in	
	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>Dollars</u>	<u>Percent</u>
<b>Additions</b>					
Employer contributions	\$ 186,832,321	\$ 190,032,872	\$ 187,817,644	\$ (3,200,551)	-1.7%
Employee contributions	137,707,719	129,325,318	127,593,220	8,382,401	6.5%
Annuitant healthcare benefits contributions	37,635,349	37,358,502	35,927,206	276,847	0.7%
Investment income (includes securities lending activities)	(21,896,696)	488,890,897	1,179,440,119	(510,787,593)	-104.5%
Other	11,457,843	9,742,062	8,547,729	1,715,781	17.6%
Total additions	<u>351,736,536</u>	<u>855,349,651</u>	<u>1,539,325,918</u>	<u>(503,613,115)</u>	-58.9%
<b>Deductions</b>					
Benefits	738,666,760	682,959,960	637,697,226	55,706,800	8.2%
Refunds	33,273,171	26,347,361	29,873,030	6,925,810	26.3%
Administrative expenses	5,151,110	5,010,206	4,324,634	140,904	2.8%
Total deductions	<u>777,091,041</u>	<u>714,317,527</u>	<u>671,894,890</u>	<u>62,773,514</u>	8.8%
Net increase (decrease)	(425,354,505)	141,032,124	867,431,028	(566,386,629)	-401.6%
<b>Net position</b>					
Beginning of year	<u>9,068,398,780</u>	<u>8,927,366,656</u>	<u>8,059,935,628</u>	<u>141,032,124</u>	1.6%
End of year	<u>\$8,643,044,275</u>	<u>\$9,068,398,780</u>	<u>\$8,927,366,656</u>	<u>\$(425,354,505)</u>	-4.7%

## FINANCIAL SECTION

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

#### Additions to Plan Net Position

Total additions were \$351,736,536 in 2015, \$855,349,651 in 2014 and \$1,539,325,918 in 2013.

Employer contributions decreased to \$186,832,321 in 2015 from \$190,032,872 in 2014 and decreased from \$187,817,644 in 2013. Employer contributions are statutorily set at 1.54 times employee contributions collected two years prior.

Employee contributions, including permissive service credit purchases, increased to \$137,707,719 in 2015 from \$129,325,318 in 2014 and \$127,593,220 in 2013. The majority of members contribute 8.5% of covered wages.

Annuitant healthcare benefits contributions increased to \$37,635,349 in 2015 from \$37,358,502 in 2014 and were \$35,927,206 in 2013. Annuitant healthcare benefits contributions fluctuate from year to year based on participation and healthcare costs.

Net investment income (loss) totaled (\$21,896,696) for 2015 compared to \$488,890,897 for 2014 and \$1,179,440,119 for 2013. Investment earnings fluctuate primarily from the overall performance of the financial markets from year to year.

#### Deductions to Plan Net Position

Total deductions were \$777,091,041 in 2015, \$714,317,527 in 2014 and were \$671,894,890 in 2013.

Benefits increased to \$738,666,760 in 2015 from \$682,959,960 in 2014 and \$637,697,226 in 2013 due primarily to the 3% annual cost of living increases for annuitants and an increase in the number of retirees.

Refunds increased to \$33,273,171 in 2015 from \$26,347,361 in 2014 and \$29,873,030 in 2013. These changes are due to fluctuations in refund applications.

The cost to administer the Plan increased by 2.8% to \$5,151,110 in 2015 from \$5,010,206 in 2014. Comparatively, the cost to administer the Plan increased by 15.9% to \$5,010,206 in 2014 from \$4,324,634 in 2013.



## Actuarial Information

### Pension Benefits

Under GASB Statement No. 67, *Financial Reporting for Pension Plans*, the Plan's funding for pension benefits is as follows:

	<b>Funding for Pension Benefits</b>		
	<b>For the Years Ended December 31,</b>		
	<b><u>2015</u></b>	<b><u>2014</u></b>	<b><u>2013</u></b>
Total pension liability	\$23,963,085,690	\$21,945,961,866	\$21,117,643,943
Plan fiduciary net position	8,643,044,275	9,068,398,780	8,927,366,656
Employer's net pension liability	<u>\$15,320,041,415</u>	<u>\$12,877,563,086</u>	<u>\$12,190,277,287</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>36.07%</u>	<u>41.32%</u>	<u>42.27%</u>

### Postemployment Healthcare Benefits

Under GASB Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, the Plan's funding for postemployment healthcare benefits is as follows:

	<b>Funding for Postemployment Healthcare Benefits</b>		
	<b>For the Years Ended December 31,</b>		
	<b><u>2015</u></b>	<b><u>2014</u></b>	<b><u>2013</u></b>
Unfunded actuarial accrued liability	<u>\$2,134,106,707</u>	<u>\$1,980,088,617</u>	<u>\$1,978,767,490</u>
Funded ratio	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>

Contributions for postemployment healthcare benefits are made on a "pay-as-you-go" basis, resulting in a 0.00% funded ratio.

## FINANCIAL SECTION

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

#### Actuarial Information (continued)

##### Combined

The Plan actuary has performed a combined valuation of the pension and postemployment healthcare benefits provided by the Plan to measure the overall funded status and contribution requirements of the Plan. Such a valuation is required under Chapter 40, Article 5/9-199 of the Illinois Pension Code which provides that the Plan shall submit a report each year containing a detailed statement of the affairs of the Plan, its income and expenditures, and assets and liabilities. The combined valuation reflects the actuarial assumptions adopted by the Board based on the results of an actuarial experience study. These assumptions conform to the actuarial standards recommended by the Plan's actuary and were used by the Plan's actuary to present the combined funding status in accordance with Section 9-199. The Plan's funding under the combined actuarial valuation is as follows:

	<b>Funding for Combined Pension and Postemployment Healthcare Benefits For the Years Ended December 31,</b>		
	<b><u>2015</u></b>	<b><u>2014</u></b>	<b><u>2013</u></b>
Unfunded actuarial accrued liability	<u>\$ 7,241,166,616</u>	<u>\$ 6,508,281,618</u>	<u>\$ 6,430,643,390</u>
Funded ratio	<u>55.39%</u>	<u>57.51%</u>	<u>56.59%</u>

#### Contact Information

This financial report is designed to provide the employer, plan participants and others with a general overview of the Plan's finances and show accountability for money it receives. Questions concerning any data provided in the report or requests for additional information should be addressed to:

County Employees' and Officers' Annuity  
and Benefit Fund of Cook County  
Attention: Executive Director  
33 North Dearborn Street  
Suite 1000  
Chicago, Illinois 60602

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# Combining Statements of Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position

Year Ended December 31, 2015

<u>ASSETS</u>	<u>Total</u>	<u>Pension</u>	<u>Postemployment Healthcare</u>
Receivables			
Employer contributions less allowance of \$11,090,380 in 2015	\$ 195,994,802	\$ 188,307,034	\$ 7,687,768
Employee contributions	5,709,813	5,709,813	-
Accrued investment income	20,729,923	20,729,923	-
Receivable for securities sold	101,749,176	101,749,176	-
Due from Forest Preserve District Employees' Annuity and Benefit Fund of Cook County	443,584	443,584	-
Medicare Part D subsidy	887,467	-	887,467
Other	1,472,731	52,025	1,420,706
Total receivables	<u>326,987,496</u>	<u>316,991,555</u>	<u>9,995,941</u>
Investments			
U.S. and international equities	3,925,905,225	3,925,905,225	-
U.S. Government and government agency obligations	1,031,502,731	1,031,502,731	-
Corporate bonds	765,044,107	765,044,107	-
Collective international equity fund	51,962,976	51,962,976	-
Commingled fixed income fund	25,666,065	25,666,065	-
Private global fixed fund limited partnership	191,345,512	191,345,512	-
Exchange traded funds	458,949,498	458,949,498	-
Private equities	160,785,243	160,785,243	-
Hedge funds	803,013,247	803,013,247	-
Real estate	591,993,643	591,993,643	-
Short-term investments	453,717,122	453,717,122	-
Total investments	<u>8,459,885,369</u>	<u>8,459,885,369</u>	<u>-</u>
Collateral held for securities on loan	1,114,387,026	1,114,387,026	-
Total assets	<u>9,901,259,891</u>	<u>9,891,263,950</u>	<u>9,995,941</u>
<b><u>LIABILITIES</u></b>			
Accounts payable	5,134,977	5,134,977	-
Healthcare insurance payable	9,995,941	-	9,995,941
Payable for securities purchased	128,697,672	128,697,672	-
Securities lending collateral	1,114,387,026	1,114,387,026	-
Total liabilities	<u>1,258,215,616</u>	<u>1,248,219,675</u>	<u>9,995,941</u>
Net position			
Net position restricted for pensions	8,643,044,275	8,643,044,275	-
Net position held in trust for postemployment healthcare benefits	-	-	-
Total	<u>\$8,643,044,275</u>	<u>\$8,643,044,275</u>	<u>\$ -</u>

See accompanying notes to financial statements.

**Combining Statements of Pension Plan Fiduciary Net Position and Postemployment Healthcare  
Plan Net Position (continued)**

**Year Ended December 31, 2014**

<u>ASSETS</u>	<u>Total</u>	<u>Pension</u>	<u>Postemployment Healthcare</u>
Receivables			
Employer contributions less allowance of \$10,823,230 in 2014	\$ 199,576,926	\$ 191,514,519	\$ 8,062,407
Employee contributions	1,995,317	1,995,317	-
Accrued investment income	22,205,338	22,205,338	-
Receivable for securities sold	162,275,218	162,275,218	-
Due from Forest Preserve District Employees' Annuity and Benefit Fund of Cook County	542,267	542,267	-
Medicare Part D subsidy	1,266,803	-	1,266,803
Other	525,003	51,185	473,818
Total receivables	<u>388,386,872</u>	<u>378,583,844</u>	<u>9,803,028</u>
Investments			
U.S. and international equities	4,110,040,451	4,110,040,451	-
U.S. Government and government agency obligations	1,109,668,190	1,109,668,190	-
Corporate bonds	857,209,577	857,209,577	-
Collective international equity fund	57,477,592	57,477,592	-
Commingled fixed income fund	25,893,428	25,893,428	-
Private global fixed fund limited partnership	199,275,761	199,275,761	-
Exchange traded funds	607,454,824	607,454,824	-
Private equities	86,623,407	86,623,407	-
Hedge funds	800,093,500	800,093,500	-
Real estate	388,902,521	388,902,521	-
Short-term investments	587,544,323	587,544,323	-
Total investments	<u>8,830,183,574</u>	<u>8,830,183,574</u>	<u>-</u>
Collateral held for securities on loan	1,308,676,647	1,308,676,647	-
Total assets	<u>10,527,247,093</u>	<u>10,517,444,065</u>	<u>9,803,028</u>
 <u>LIABILITIES</u>			
Accounts payable	5,031,192	5,031,192	-
Healthcare insurance payable	9,803,028	-	9,803,028
Payable for securities purchased	135,337,446	135,337,446	-
Securities lending collateral	1,308,676,647	1,308,676,647	-
Total liabilities	<u>1,458,848,313</u>	<u>1,449,045,285</u>	<u>9,803,028</u>
Net position			
Net position restricted for pensions	9,068,398,780	9,068,398,780	-
Net position held in trust for postemployment healthcare benefits	-	-	-
Total	<u>\$9,068,398,780</u>	<u>\$9,068,398,780</u>	<u>\$ -</u>

*See accompanying notes to financial statements.*

## Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position

**Year Ended December 31, 2015**

	<u>Total</u>	<u>Pension</u>	<u>Postemployment Healthcare</u>
<b>Additions</b>			
Employer contributions	\$ 186,832,321	\$ 136,075,504	\$ 50,756,817
Employee contributions			
Salary deductions	132,637,621	132,637,621	-
Refund repayments	2,651,848	2,651,848	-
Former and miscellaneous service payments	659,843	659,843	-
Optional payments and deductions	42,030	42,030	-
Deductions in lieu of disability	1,716,377	1,716,377	-
Total employee contributions	<u>137,707,719</u>	<u>137,707,719</u>	<u>-</u>
Annuitant healthcare benefits contributions	<u>37,635,349</u>	<u>-</u>	<u>37,635,349</u>
<b>Investment income</b>			
Net appreciation (depreciation) in fair value of investments	(173,161,584)	(173,161,584)	-
Dividends	111,215,391	111,215,391	-
Interest	68,785,887	68,785,887	-
	<u>6,839,694</u>	<u>6,839,694</u>	<u>-</u>
Less investment expenses	<u>(33,698,935)</u>	<u>(33,698,935)</u>	<u>-</u>
Net investment income	<u>(26,859,241)</u>	<u>(26,859,241)</u>	<u>-</u>
<b>Securities lending</b>			
Income	5,927,926	5,927,926	-
Expenses	(965,381)	(965,381)	-
Net securities lending income	<u>4,962,545</u>	<u>4,962,545</u>	<u>-</u>
<b>Other</b>			
Employer federal subsidized programs	3,847,725	3,847,725	-
Medicare Part D subsidy	3,872,127	-	3,872,127
Prescription plan rebates	3,205,423	-	3,205,423
Employee transfers (to) from Forest Preserve District			
Employees' Annuity and Benefit Fund of Cook County	18,370	18,370	-
Miscellaneous	514,198	514,198	-
Total other additions	<u>11,457,843</u>	<u>4,380,293</u>	<u>7,077,550</u>
Total additions	<u>351,736,536</u>	<u>256,266,820</u>	<u>95,469,716</u>

*See accompanying notes to financial statements.*

**Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position (continued)**

**Year Ended December 31, 2014**

	<u><b>Total</b></u>	<u><b>Pension</b></u>	<u><b>Postemployment Healthcare</b></u>
<b>Additions</b>			
Employer contributions	\$ 190,032,872	\$ 146,075,414	\$ 43,957,458
Employee contributions			
Salary deductions	124,443,943	124,443,943	-
Refund repayments	2,386,762	2,386,762	-
Former and miscellaneous service payments	630,942	630,942	-
Optional payments and deductions	44,042	44,042	-
Deductions in lieu of disability	1,819,629	1,819,629	-
Total employee contributions	<u>129,325,318</u>	<u>129,325,318</u>	<u>-</u>
Annuitant healthcare benefits contributions	<u>37,358,502</u>	<u>-</u>	<u>37,358,502</u>
<b>Investment income</b>			
Net appreciation (depreciation) in fair value of investments	325,036,291	325,036,291	-
Dividends	117,138,325	117,138,325	-
Interest	73,642,376	73,642,376	-
	<u>515,816,992</u>	<u>515,816,992</u>	<u>-</u>
Less investment expenses	<u>(31,791,345)</u>	<u>(31,791,345)</u>	<u>-</u>
Net investment income	<u>484,025,647</u>	<u>484,025,647</u>	<u>-</u>
<b>Securities lending</b>			
Income	5,833,409	5,833,409	-
Expenses	<u>(968,159)</u>	<u>(968,159)</u>	<u>-</u>
Net securities lending income	<u>4,865,250</u>	<u>4,865,250</u>	<u>-</u>
<b>Other</b>			
Employer federal subsidized programs	3,538,369	3,538,369	-
Medicare Part D subsidy	4,529,585	-	4,529,585
Prescription plan rebates	1,458,517	-	1,458,517
Employee transfers (to) from Forest Preserve District			
Employees' Annuity and Benefit Fund of Cook County	175,370	175,370	-
Miscellaneous	40,221	40,221	-
Total other additions	<u>9,742,062</u>	<u>3,753,960</u>	<u>5,988,102</u>
Total additions	<u>855,349,651</u>	<u>768,045,589</u>	<u>87,304,062</u>

*See accompanying notes to financial statements.*

**FINANCIAL SECTION**

**Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position (continued)**

**Year Ended December 31, 2015**

	<u>Total</u>	<u>Pension</u>	<u>Postemployment Healthcare</u>
Deductions			
Benefits			
Annuity			
Employee	\$ 587,861,744	\$ 587,861,744	\$ -
Spouse and children	45,002,859	45,002,859	-
Disability			
Ordinary	9,916,487	9,916,487	-
Duty	415,954	415,954	-
Healthcare	95,469,716	-	95,469,716
Total benefits	<u>738,666,760</u>	<u>643,197,044</u>	<u>95,469,716</u>
Refunds	33,273,171	33,273,171	-
Net administrative expenses	5,151,110	5,151,110	-
Total deductions	<u>777,091,041</u>	<u>681,621,325</u>	<u>95,469,716</u>
Net increase (decrease)	(425,354,505)	(425,354,505)	-
Net position			
Beginning of year	<u>9,068,398,780</u>	<u>9,068,398,780</u>	<u>-</u>
End of year	<u>\$8,643,044,275</u>	<u>\$8,643,044,275</u>	<u>\$ -</u>

*See accompanying notes to financial statements.*



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**Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position (continued)**


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**Year Ended December 31, 2014**


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	<u>Total</u>	<u>Pension</u>	<u>Postemployment Healthcare</u>
Deductions			
Benefits			
Annuity			
Employee	\$ 543,274,840	\$ 543,274,840	\$ -
Spouse and children	41,865,298	41,865,298	-
Disability			
Ordinary	9,988,572	9,988,572	-
Duty	527,188	527,188	-
Healthcare	<u>87,304,062</u>	<u>-</u>	<u>87,304,062</u>
Total benefits	682,959,960	595,655,898	87,304,062
Refunds	26,347,361	26,347,361	-
Net administrative expenses	<u>5,010,206</u>	<u>5,010,206</u>	<u>-</u>
Total deductions	<u>714,317,527</u>	<u>627,013,465</u>	<u>87,304,062</u>
Net increase (decrease)	141,032,124	141,032,124	-
Net position			
Beginning of year	<u>8,927,366,656</u>	<u>8,927,366,656</u>	<u>-</u>
End of year	<u>\$9,068,398,780</u>	<u>\$9,068,398,780</u>	<u>\$ -</u>

*See accompanying notes to financial statements.*

# Notes to Financial Statements

## Note 1: Summary of Significant Accounting Policies

The County Employees' and Officers' Annuity and Benefit Fund of Cook County (the Plan) is administered in accordance with Chapter 40, Article 5/9 of the Illinois Compiled Statutes.

**Reporting Entity** - Accounting principles generally accepted in the United States of America define a financial reporting entity as consisting of the primary government and its component units for which the primary government is financially accountable. Financial accountability includes appointing a voting majority of a component unit's governing board, the ability of a primary government to impose its will on the component unit, or a potential for a component unit to provide specific financial benefits to or impose specific financial burdens on the primary government.

Based on the above criteria, the Plan is considered to be a component unit of Cook County, Illinois (the County) and is included in the County's financial statements as a pension trust fund.

**Method of Accounting** - The financial statements are prepared using the accrual basis of accounting. Employer contributions are recognized as income pursuant to legal requirements as specified by the Illinois Compiled Statutes. Employee contributions are recognized in the period in which the contributions are due. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

**Investments** - Investments are reported at fair value, which generally represents reported market value as of the last business day of the year. Private equities, hedge funds, real estate investments, and limited partnerships are carried at fair value as estimated by each investment manager. Short-term investments are carried at cost which approximates fair value. Where less than an entire investment holding is sold, average value is used to determine realized gain or loss.

**Allocated Expenses** - Administrative expenses are initially paid by the Plan. These expenses are allocated between the Plan and the Forest Preserve District Employees' Annuity and Benefit Fund of Cook County (the Forest Fund) on a pro rata basis, as applicable.

**Capital Assets** - The Plan has set a capitalization threshold of \$100,000 for all capital asset types. As of December 31, 2015 and 2014, the Plan does not have any capital assets.

**Estimates** - The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures in the financial statements. Actual results could differ from those estimates.

**Reclassifications** - Certain prior year amounts have been reclassified to conform to the current year presentation.

**Subsequent Events** - Subsequent events have been evaluated through June 2, 2016, which is the date the financial statements were available to be issued.

## Note 2: Plan Description

The Plan was established on January 1, 1926, and is governed by legislation contained in Illinois Compiled Statutes (the Statutes), particularly Chapter 40, Article 5/9 (the Article). Effective with the signing of Public Act 96-0889 into law on April 14, 2010, participants that first became contributors on or after January 1, 2011 are Tier 2 participants. All other participants that were contributing prior to January 1, 2011 are Tier 1 participants. The Plan can be amended only by the Illinois Legislature. The Plan is a single employer defined benefit pension plan with a defined contribution minimum. The Plan was created for the purpose of providing retirement, death and disability benefits for full-time employees of Cook County (the County) and the dependents of such employees. The Plan is considered to be a component unit of Cook County, Illinois and is included in the County's financial statements as a pension trust fund.

The Statutes authorize a Board of Trustees (the Board) of nine members to carry out the provisions of the Article. According to the Article, two members of the Board are ex officio, four are elected by the employee members of the Plan and three are elected by the annuitants of the Plan. The two ex officio members are the Comptroller of Cook County, or someone chosen by the Comptroller, and the Treasurer of Cook County, or someone chosen by the Treasurer. All members of the Board are fiduciaries with respect to the Plan and are statutorily mandated to discharge their duties, as such, solely in the interest of the Plan's participants and beneficiaries.

The Board has the powers and duties required in the Article to collect all contributions due to the Plan, to invest the Plan's reserves, to have an annual audit, to appoint employees, to authorize or suspend payment of any benefit and to have exclusive original jurisdiction in all matters relating to or affecting the Plan. The Board approves its own budget which is prepared by the administrative staff of the Plan. The Board is required annually to submit to the County Board of Cook County a detailed report of the financial affairs and status of the Plan. Provisions in other articles of Chapter 40 require the Board to submit its annual audit and actuarial valuation reports to the State of Illinois Department of Insurance, as well as another detailed annual report, the form and content of which is specified by the Department of Insurance.

Covered employees are required to contribute 8.5% (9% for sheriffs) of their salary to the Plan, subject to the salary limitations for Tier 2 participants in Article 5/1-160. If an employee leaves covered employment without qualifying for an annuity, accumulated contributions are refunded with interest (3% or 4% depending on when the employee became a participant). The County's total contribution is the amount of contributions made by the employees to the Plan in the calendar year two years prior to the year for which annual applicable tax is levied, multiplied by 1.54%. The source of funds for the County's contributions has been designated by State Statute as the County's annual property tax levy. The County's payroll for employees covered by the Plan for 2015 and 2014 was \$1,572,417,298 and \$1,514,550,023 respectively.

The Plan provides retirement as well as death and disability benefits. Tier 1 employees age 50 or older and Tier 2 employees age 62 or older are entitled to receive a minimum formula annuity of 2.4% for each year of credited service if they have at least 10 years of service. The maximum benefit is 80% of the final average monthly salary. For Tier 1 employees under age 60 and Tier 2 employees under age 67, the monthly retirement benefit is reduced by ½% for each month the participant is below that age. The reduction is waived for Tier 1 participants having 30 or more years of credited service.

Participants should refer to the applicable State Statutes for more complete information.

## FINANCIAL SECTION

### Notes to Financial Statements (continued)

#### Note 2: Plan Description (continued)

At December 31, 2015 and 2014, participants consisted of the following:

	<u>2015</u>	<u>2014</u>
Active Members	21,596	21,656
Retired Members	14,922	14,437
Beneficiaries	2,675	2,639
Inactive Members	<u>13,190</u>	<u>13,194</u>
Total	<u>52,383</u>	<u>51,926</u>

#### Note 3: Employer's Pension Liability

##### Net Pension Liability

The components of the net pension liability of the Plan for the years ended December 31, 2015 and 2014 are as follows:

	<u>2015</u>	<u>2014</u>
Total pension liability	\$23,963,085,690	\$21,945,961,866
Plan fiduciary net position	<u>8,643,044,275</u>	<u>9,068,398,780</u>
Employer's net pension liability	<u>\$15,320,041,415</u>	<u>\$12,877,563,086</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>36.07%</u>	<u>41.32%</u>

See the Schedule of Changes in the Employer's Net Pension Liability and Related Ratios in the required supplementary information for additional information related to the funded status of the Plan.

**Note 3: Employers' Pension Liability (continued)**

The net pension liability was determined by actuarial valuations performed as of December 31, 2015 and 2014 using the following actuarial methods and assumptions:

Actuarial valuation date	December 31, 2015 and 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar - Open
Remaining amortization period	30 years
Asset valuation method	Five Year Smoothed Average Market
Actuarial assumptions:	
Inflation	3.25% per year, compounded annually
Salary increases	3.75% to 8.00%, based on age
Investment Rate of Return	7.50% per year, compounded annually
Retirement age	Rates of retirement for each age from 50 to 75 based on recent experience of the Plan where all employees are assumed to retire by age 75
Mortality	RP-2000 Blue Collar Mortality Table, base year 2000, fully generational based on Scale BB
Postretirement annuity increase	Tier 1 participants - 3.0% compounded annually Tier 2 participants - the lesser of 3.0% or one half of the increase in the Consumer Price Index

The actuarial assumptions used in the December 31, 2015 and 2014 valuations were based on the results of an actuarial experience study conducted by Buck Consultants, LLC dated January 2014.

**Note 3: Employers’ Pension Liability (continued)**

**Discount Rate**

The blended discount rates used to measure the total pension liability at December 31, 2015 and 2014 were 4.15% and 4.50%, respectively. The projection of cash flows used to determine the discount rate assumed that the employer’s contributions will continue to follow the current funding policy. Based on this assumption, the Plan’s fiduciary net position was projected to be insufficient to make all projected future benefit payments of current plan members. Municipal bond rates of 3.20% and 3.34% at December 31, 2015 and 2014, respectively, and the long-term investment rate of return of 7.50% were used in the development of the blended discount rates. The municipal bond rates are based on the S&P Municipal Bond 20 Year High Grade Rate Index.

**Discount Rate Sensitivity**

The following is an analysis of the net pension liability’s sensitivity to changes in the discount rate at December 31, 2015 and 2014. The following table presents the net pension liability of the employer using the blended discount rate as well as the employer’s net pension liability calculated using a discount rate 1 percent lower and 1 percent higher than the current discount rate:

<b>December 31, 2015</b>			
	<b>1% Decrease</b>	<b>Current Discount Rate</b>	<b>1% Increase</b>
	3.15%	4.15%	5.15%
Net Pension Liability	<u>\$19,821,767,092</u>	<u>\$15,320,041,415</u>	<u>\$ 11,800,111,612</u>
<b>December 31, 2014</b>			
	<b>1% Decrease</b>	<b>Current Discount Rate</b>	<b>1% Increase</b>
	3.50%	4.50%	5.50%
Net Pension Liability	<u>\$16,898,354,682</u>	<u>\$12,877,563,086</u>	<u>\$ 9,717,606,697</u>

**Note 4: Summary of Employer Funding Policies**

Employer contributions are funded primarily through a tax levied by Cook County, Illinois. The tax levy, when extended, is limited to an amount not to exceed an amount equal to the total contributions by the employees to the Plan made in the calendar year two years prior to the year for which the annual applicable tax is levied, multiplied by 1.54.

The combined funding information of the pension and postemployment healthcare benefits of the Plan as of December 31, 2015 and 2014 are as follows:

	<b>2015</b>			
	<b>Pension</b>	<b>Postemployment Healthcare</b>	<b>Assumption Adjustment</b>	<b>Combined</b>
Employer normal cost	\$107,422,954	\$ 67,311,816	\$(47,557,915)	\$127,176,855
Amortization of UAAL	407,465,533	116,326,024	(11,173,653)	512,617,904
Interest cost	-	7,233,612	(7,233,612)	-
Actuarially determined contribution	514,888,487	190,871,452		639,794,759
Expected net employer contribution	(136,075,504)	(50,756,817)	(3,766,431)	(190,598,752)
Expected employer contribution short-fall	<u>\$378,812,983</u>	<u>\$140,114,635</u>		<u>\$449,196,007</u>
Actuarially determined multiplier				<u>5.17</u>
Present authorized multiplier				<u>1.54</u>

	<b>2014</b>			
	<b>Pension</b>	<b>Postemployment Healthcare</b>	<b>Assumption Adjustment</b>	<b>Combined</b>
Employer normal cost	\$ 99,828,114	\$ 66,437,678	\$(38,046,472)	\$128,219,320
Amortization of UAAL	419,814,817	116,248,411	(29,560,416)	506,502,812
Interest cost	-	7,221,113	(7,221,113)	-
Actuarially determined contribution	519,642,931	189,907,202		634,722,132
Expected net employer contribution	(146,075,414)	(43,957,458)	(5,013,489)	(195,046,361)
Expected employer contribution short-fall	<u>\$373,567,517</u>	<u>\$145,949,744</u>		<u>\$439,675,771</u>
Actuarially determined multiplier				<u>5.01</u>
Present authorized multiplier				<u>1.54</u>

The assumption adjustment is due to a change in the interest rate assumptions, which is 7.5% for the pension and combined valuations and 4.5% for the postemployment healthcare benefits valuation.

## FINANCIAL SECTION

### Notes to Financial Statements (continued)

#### Note 5: Investments

##### Investment Policy

The Board of Trustees is responsible for establishing reasonable and consistent investment objectives, policies and guidelines governing the investment of Plan assets in accordance with the Illinois Compiled Statutes. The Plan is authorized to invest in bonds, notes, certificates of indebtedness, mortgage notes, real estate, stocks, shares, debentures, or other obligations or securities as set forth in the “prudent person” provisions of the State Statutes. All of the Plan’s financial instruments are consistent with the permissible investments outlined in the State Statutes and any index-linked financial instruments are limited to those indices that replicate the permissible investments outlined in the State Statutes. During the year ended December 31, 2015 and 2014, there were no changes to the investment policy.

The Plan’s investment policy in accordance with the Illinois Compiled Statutes establishes the following target allocation across asset classes

<u>Asset Class</u>	<u>Target Allocation %</u>	<u>Long-term Expected Rate of Return</u>
Domestic equities	25.00%	9.36%
International equities	20.00%	7.61%
Fixed income	32.00%	2.03%
Real estate	8.00%	6.91%
Private equity	9.00%	4.68%
Hedge funds	6.00%	12.40%
Total investments	<u>100.00%</u>	

##### Long-term expected rate of return

The long-term expected rate of return on the Plan’s investments was determined based on the results of an experience study performed by Buck Consultants. The results of the experience study were adopted by the Board in January 2014. The investment return assumption was based on the current asset allocation of the Plan. In the experience study, Buck Consultants developed best estimate ranges of expected future real rates of return (net of pension plan investment expense and inflation) for each major asset class. These ranges were 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 or geometric real rates of return for each major asset class included in the Plan’s target asset allocation as of December 31, 2013 are listed in the table above.

##### Annual Money-Weighted Rate of Return

The annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was (0.1)% and 5.9% for years ended December 31, 2015 and 2014, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.



**Note 5: Investments (continued)****Investment Summary**

The following table presents a summarization of the aggregate fair value (carrying amount) of the Plan's investments as of December 31, 2015 and 2014. Investments that represent 5% or more of the Plan's net position are separately identified.

<u>Investments</u>	<u>2015</u>	<u>2014</u>
U.S and international equities	\$3,925,905,225	\$4,110,040,451
U.S. Government and government agency obligations	1,031,502,731	1,109,668,190
Corporate bonds	765,044,107	857,209,577
Collective international equity fund	51,962,976	57,477,592
Commingled fixed income fund	25,666,065	25,893,428
Private global fixed fund limited partnership	191,345,512	199,275,761
Exchange traded funds	458,949,498	607,454,824
Private equities	160,785,243	86,623,407
Hedge funds		
Burnham Harbor Fund Ltd.	432,883,250	424,100,631*
Other	370,129,997	375,992,869
Real estate		
Limited partnerships	591,993,643	388,902,521
Short-term investments		
EB Temporary Investment Fund	449,960,872	585,088,974
Other	3,756,250	2,455,349
Total investments	<u>\$8,459,885,369</u>	<u>\$8,830,183,574</u>

\* - Not 5%.

**Investment Risk**

GASB Statement No. 40, *Deposit and Investment Risk Disclosures*, specifies various disclosure requirements.

**Custodial Credit Risk**

Custodial credit risk is the risk that, in the event of the failure of the counterparty, the Plan will not be able to recover the value of its investments or collateral securities in the possession of an outside party.

The Plan had no investments that were uninsured and unregistered, with securities held by the counterparty, or by its trust department or agent, but not held in the Plan's name, as of December 31, 2015 and 2014.

**FINANCIAL SECTION**

**Notes to Financial Statements (continued)**

**Note 5: Investments (continued)**

**Investment Risk (continued)**

**Credit Risk**

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Plan's investment policy is an average credit quality for each manager's total fixed income portfolio (corporate and U.S. Government holdings) of not less than A- by two out of three credit agencies (Moody's Investor Service, Standard & Poor's and/or Fitch). The following table presents a summarization of the Plan's credit quality ratings of investments at December 31, 2015 and 2014 valued by Moody's Investors Service and/or Standard & Poor's and/or Fitch:

<u>Type of Investment</u>	<u>Rating</u>	<u>2015</u>	<u>2014</u>
U.S. Government and government agency obligations	Aa/AA	\$ 965,636,744	\$1,015,205,277
	Not Rated	65,865,987	94,462,913
		<u>\$1,031,502,731</u>	<u>\$1,109,668,190</u>
Corporate bonds	Aaa/AAA	\$ 57,113,576	\$ 62,891,457
	Aa/AA	28,938,979	37,418,471
	A/A	174,154,771	206,170,324
	Baa/BBB	325,354,126	354,985,380
	Ba/BB	84,495,383	91,019,797
	B/B	39,063,698	54,425,799
	Caa/CCC	9,675,474	10,785,181
	Ca/CC	474,788	30
	D/D	227,406	247,796
	Not Rated	45,545,906	39,265,342
	<u>\$ 765,044,107</u>	<u>\$ 857,209,577</u>	
Commingled fixed income fund	Baa/BBB	<u>\$ 25,666,065</u>	<u>\$ 25,893,428</u>
Short-term investments	Not Rated	<u>\$ 453,717,122</u>	<u>\$ 587,544,323</u>

**Note 5: Investments (continued)****Investment Risk (continued)****Interest Rate Risk**

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Investments held for longer periods are subject to increased risk of adverse interest rate changes. The Plan's investment policy for duration for each manager's total fixed income portfolio is within plus or minus 30% of the duration for the fixed income performance benchmark (*Barclays Capital Aggregate Fixed Income*, which was 5.68 years at December 31, 2015 and 5.55 years at December 31, 2014). The following table presents a summarization of the Plan's debt investments at December 31, 2015 and 2014, using the segmented time distribution method:

<u>Type of Investment</u>	<u>Maturity</u>	<u>2015</u>	<u>2014</u>
U.S. Government and government agency obligations	Less than 1 year	\$ 34,489,303	\$ 20,307,592
	1 - 5 years	275,344,178	337,059,785
	6 - 10 years	199,568,985	186,525,528
	Over 10 years	522,100,265	565,775,285
		<u>\$1,031,502,731</u>	<u>\$1,109,668,190</u>
Corporate bonds	Less than 1 year	\$ 319,667,924	\$ 70,779,443
	1 - 5 years	106,319,205	201,547,638
	6 - 10 years	194,184,823	342,338,742
	Over 10 years	144,872,155	242,543,754
		<u>\$ 765,044,107</u>	<u>\$ 857,209,577</u>
Commingled fixed income	1 - 5 years	<u>\$ 25,666,065</u>	<u>\$ 25,893,428</u>
Short-term investments	Less than 1 year	<u>\$ 453,717,122</u>	<u>\$ 587,544,323</u>

## FINANCIAL SECTION

### Notes to Financial Statements (continued)

## Note 5: Investments (continued)

### Investment Risk (continued)

#### Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The Plan's investment policy limits the amount of investments in foreign equities to 20% of total Plan assets and foreign fixed income obligations to 2.5% of the total Plan assets. The Plan's exposure to foreign currency risk at December 31, 2015 and 2014 is as follows:

<u>Type of Investment</u>	<u>Fair Value (USD)</u> <u>2015</u>	<u>Fair Value (USD)</u> <u>2014</u>
U.S. and international equities		
Australian dollar	\$ 67,145,553	\$ 78,719,386
Brazilian real	15,342,482	22,787,891
British pound sterling	314,998,719	310,585,893
Canadian dollar	64,015,512	79,080,044
Chilean peso	2,191,251	2,301,572
Colombian peso	395,721	783,224
Czech koruna	43,778	417,393
Danish krone	23,422,657	17,806,342
Egyptian pound	291,663	261,423
European euro	381,778,462	397,005,393
Hong Kong dollar	108,983,901	120,414,087
Hungarian forint	360,318	406,489
Indian rupee	10,620,170	8,911,786
Indonesian rupiah	4,946,620	6,301,082
Israeli shekel	6,014,267	5,080,245
Japanese yen	286,510,705	266,333,255
Malaysian ringgit	5,659,128	7,439,038
Mexican peso	9,752,911	12,044,327
New Taiwan dollar	29,347,463	33,495,677
New Turkish lira	656,541	1,227,993
New Zealand dollar	8,260,832	6,863,110
Norwegian krone	16,463,743	15,627,486
Philippines peso	5,987,426	6,012,595
Polish zloty	1,842,172	2,967,480
Russian ruble	342,695	318,206
Singapore dollar	19,942,448	22,737,009
South African rand	12,463,900	17,832,068
South Korean won	44,461,886	50,399,004
Swedish krona	41,815,199	39,994,815
Swiss franc	102,611,092	129,100,613
Thailand baht	7,869,619	12,057,123
United Arab Emirates dirham	1,131,081	1,494,666
U.S. dollar	<u>2,330,235,310</u>	<u>2,433,233,736</u>
Total U.S. and international equities	<u>\$3,925,905,225</u>	<u>\$ 4,110,040,451</u>

**Note 5: Investments (continued)****Investment Risk (continued)****Foreign Currency Risk (continued)**

<u>Type of Investment</u>	<u>Fair Value (USD)</u> <u>2015</u>	<u>Fair Value (USD)</u> <u>2014</u>
Corporate bonds		
Brazilian real	\$ -	\$ 8,670,503
British pound sterling	1,414,207	3,962,173
European euro	2,045,354	2,335,997
Mexican peso	9,271,891	13,999,411
Philippines peso	1,483,988	2,273,582
U.S. dollar	750,828,667	825,967,911
Total corporate bonds	<u>\$ 765,044,107</u>	<u>\$857,209,577</u>
Private equities		
European euro	\$ 4,393,640	\$ 1,806,596
U.S. dollar	156,391,603	84,816,811
Total private equities	<u>\$160,785,243</u>	<u>\$ 86,623,407</u>

For the years ended December 31, 2015 and 2014, net realized gain on investments sold, reflecting the difference between the proceeds received and cost value of securities sold, was \$286,603,188 and \$357,866,673 respectively. These amounts are included in the net appreciation (depreciation) in fair value of investments as reported on the Combining Statements of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position. The calculation of realized gains and losses is independent of the calculation of net appreciation (depreciation) in the fair value of plan investments. Investments purchased in a previous year and sold in the current year result in their realized gains and losses being reported in the current year and their net appreciation (depreciation) in Plan assets being reported in both the current year and the previous years.

**Note 6: When-Issued Transactions**

The Plan may purchase securities on a when-issued basis, that is, obligate itself to purchase securities with delivery and payment to occur at a later date. At the time the Plan enters into a commitment to purchase the security, the transaction is recorded at purchase price which equals value. The value at delivery may be more or less than the purchase price. No interest accrues to the Plan until delivery and payment takes place. As of December 31, 2015 and 2014, the Plan contracted to acquire securities on a when-issued basis with a total principal amount of \$65,866,000 and \$89,770,000 respectively.

## Note 7: Derivatives

The Plan's investment policy permits the use of financial futures for hedging purposes only. Speculation and leveraging of financial futures within the portfolio is prohibited. The Plan uses derivative financial instruments to gain exposure to an asset class, manage portfolio risk or to facilitate international portfolio trading.

A derivative security is a financial contract whose value is based on, or "derived" from, a traditional security, an asset, or a market index. Derivative instruments include forward currency contracts and futures contracts as part of the Plan's investment portfolio.

Derivative transactions involve, to varying degrees, credit risk, interest rate risk and market risk. Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to the previously agreed upon terms. Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Market risk is the possibility that a change in interest or currency rates will cause the value of a financial instrument to decrease or become more costly to settle.

Forward currency contracts are used to hedge against fluctuations in foreign currency-denominated assets used primarily in portfolio trade settlements. These contracts are a cash contract in which a seller agrees to deliver a specific cash commodity to a buyer sometime in the future. Forward agreements are subject to the creditworthiness of the counterparties, which are principally large financial institutions. Forward currency contracts are reported at fair value in the receivable for securities sold and payable for securities purchased on the Combining Statement of Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position included in investments. The gain or loss on forward currency contracts is recognized and recorded on the Combining Statement of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position as part of investment income. The foreign currency contracts are short-term in nature, typically ranging from one week to three months.

The Plan uses futures contracts as an investment vehicle to gain exposure to an asset class with minimal market entry costs to the Plan. At December 31, 2015, the Plan had futures contracts with a fair value of \$745,803 a notional value of \$236,370,350 and a maturity date of March 18, 2016 for all contracts. Comparatively, at December 31, 2014, the Plan had futures contracts with a fair value of \$13,566,225 and a notional value of \$341,238,940 with a maturity date of March 20, 2015 for all contracts.

Futures contracts are reported at fair value in the equity investments on the Combining Statement of Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position. The gain or loss on futures contracts is reported as part of investment income on the Combining Statement of Changes in Pension Plan Fiduciary Net Position and Postemployment Healthcare Plan Net Position. See Note 5 for investment risk for the Plan's equity investments.

**Note 7: Derivatives (continued)**

The Plan's portfolio includes the following derivative instruments at December 31, 2015 and 2014:

	<u>2015</u>	<u>2014</u>
Hedging derivative instruments		
Forward currency contract receivables	\$17,256,284	\$20,662,823
Forward currency contract payable	<u>(17,183,165)</u>	<u>(20,407,274)</u>
Total hedging derivative instruments	<u>73,119</u>	<u>255,549</u>
Investment derivative instruments		
U.S. Equity Index Futures Contracts	<u>745,803</u>	<u>13,566,225</u>
Total	<u>\$ 818,922</u>	<u>\$13,821,774</u>

For the years ended December 31, 2015 and 2014, the change in fair value of the deferred inflows and outflows of the foreign currency contracts was not material to these financial statements.

**Note 8: Securities Lending**

State Statutes and the investment policy permit the Plan to lend its securities to broker-dealers and other entities with a simultaneous agreement to return collateral for the same securities in the future. The Plan's custodian, acting as the lending agent, lends securities for collateral in the form of cash, U.S. Government obligations and irrevocable letters of credit equal to 102% of the fair value of domestic securities plus accrued interest and 105% of the fair value of foreign securities plus accrued interest.

The Plan does not have the right to sell or pledge securities received as collateral unless the borrower defaults. The average term of securities loaned was 103 days for 2015 and 108 days for 2014; however, any loan may be terminated on demand by either the Plan or the borrower. Cash collateral was invested in a separately managed portfolio, which had an average weighted maturity at December 31, 2015 and 2014 of 64 and 57 days, respectively.

As of December 31, 2015 and 2014, the fair value (carrying amount) of loaned securities was \$1,365,261,211 and \$1,386,654,050 respectively. As of December 31, 2015 and 2014, the fair value (carrying amount) of cash collateral received by the Plan was \$1,114,387,026 and \$1,308,676,647 respectively. The cash collateral is included as an asset and a corresponding liability on the combining statements of pension plan and postemployment healthcare plan net position. As of December 31, 2015 and 2014, the fair value (carrying amount) of non-cash collateral received by the Plan was \$287,086,886 and \$114,258,432 respectively.

## FINANCIAL SECTION

### Notes to Financial Statements (continued)

#### Note 8: Securities Lending (continued)

Although the Plan's securities lending activities are collateralized as described above, they involve both market and credit risk. In this context, market risk refers to the possibility that the borrower of securities will be unable to collateralize the loan upon a sudden material change in the fair value of the loaned securities. Credit risk refers to the possibility that counterparties involved in the securities lending program may fail to perform in accordance with the terms of their contracts.

Indemnification deals with the situation in which a client's securities are not returned due to the insolvency of a borrower. The contract with the lending agent requires indemnification to the Plan if borrowers fail to return the securities or fail to pay the Plan for income distributions by the issuers of securities while the securities are on loan.

During 2015 and 2014, there were no losses due to default of a borrower or the lending agent.

A summary of securities loaned at fair value as of December 31, 2015 and 2014 is as follows:

	<u>2015</u>	<u>2014</u>
Securities loaned - cash collateral		
U.S. and international equities	\$ 764,542,280	\$ 778,694,618
U.S. Government and government agency obligations	85,059,135	214,759,009
Exchange traded funds	149,394,555	176,699,691
Corporate bonds	<u>85,557,467</u>	<u>104,884,614</u>
Total securities loaned - cash collateral	1,084,553,437	1,275,037,932
Securities loaned - non-cash collateral		
U.S. Government and government agency obligations	<u>280,707,774</u>	<u>111,616,118</u>
Total	<u>\$1,365,261,211</u>	<u>\$1,386,654,050</u>

#### Note 9: Commitments

As of December 31, 2015, the Plan had capital commitments of approximately \$385,000,000 for various limited partnership and private equity investments



## Note 10: Postemployment Group Healthcare Benefit Plan

### Plan Description

The Plan administers a Postemployment Group Healthcare Benefit Plan (PGHBP), a single-employer defined benefit postemployment health plan. PGHBP is administered in accordance with Chapter 40, Article 5/10 of the Illinois Compiled Statutes, which assigns the authority to establish and amend benefit provisions to the Plan's Board of Trustees. PGHBP provides a healthcare benefit to annuitants who elect to participate in PGHBP.

As of January 1, 2015, all benefit elections under the PGHBP are fully self-insured. Prior to January 1, 2015, certain benefit elections were insured and others were self-insured. The Plan is currently allowed, in accordance with State Statutes, to pay all or a portion of medical costs for the annuitants. Presently, the employee and spouse annuitants pay approximately 48% and 33% of the annual medical costs, respectively. The remaining costs are borne by the Plan. The Plan does not maintain stop-loss coverage for the PGHBP.

At December 31, 2015 and 2014, the number of annuitants and surviving spouses participating in the PGHBP, totaled 8,783 and 8,591 respectively.

The following is a reconciliation of healthcare benefits payable for the years ended December 31, 2015 and 2014:

	<u>2015</u>	<u>2014</u>
Healthcare benefits payable, January 1	\$ 9,803,028	\$ 9,325,390
Claims incurred	95,662,629	87,781,700
Claims paid	<u>(95,469,716)</u>	<u>(87,304,062)</u>
Healthcare benefits payable, December 31	<u>\$ 9,995,941</u>	<u>\$ 9,803,028</u>

The Plan's actuary, Segal Consultants, estimated medical claims incurred but not reported (IBNR) as of December 31, 2015 based on industry standards including historical IBNR levels, insurance company studies, lag studies and actuarial assumptions. Prior to January 1, 2015, the Plan estimated the medical claims liability based on actual claims paid and known unpaid claims subsequent to year end. The Plan estimated the prescription claims liability for both December 31, 2015 and 2014 based claims paid subsequent to year end.

The Plan's employees are also participants in the PGHBP. The Plan had 31 and 27 employees at December 31, 2015 and 2014, respectively. During years ended December 31, 2015 and 2014, the Plan paid healthcare premiums for 11 and 9 retired Plan employees, respectively. For active and retired Plan employees, the actuarially determined liability under GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, is included in the total actuarial liability and related GASB Statement No. 43 disclosure.

## Note 10: Postemployment Group Healthcare Benefit Plan (continued)

### Summary of Significant Accounting Policies

**Method of Accounting** - PGHBP's financial statements have been combined with the Plan's financial statements and are presented using the accrual basis of accounting. The Plan subsidizes the cost for postemployment group health benefits in excess of the retiree healthcare premiums with no contribution rate or asset allocation associated with it. Post-employment group healthcare costs are recognized when incurred and estimable.

**Contributions** - The Plan funds PGHBP on a "pay-as-you-go" basis.

**Administrative Costs** - Administrative costs associated with PGHBP are paid by the Plan's employer contributions and annuitant health benefit contributions.

### Health Care Cost Trend Rates -

2015 - 7.75% in the first year, decreasing by .25% per year until an ultimate rate of 4.75% is reached for pre-medicare and 6.25% in the first year, decreasing by .25% until an ultimate rate of 4.75% is reached for post-medicare.

2014 - 8.0% in the first year, decreasing by .25% per year until an ultimate rate of 4.75% is reached for pre-medicare and 6.50% in the first year, decreasing by .25% until an ultimate rate of 4.75% is reached for post-medicare.

**Inflation Rate Assumption** - 3.25% per year.

**Actuarial Valuations** - Actuarial valuations of the Plan involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Actuarially determined amounts are subject to continual revision as results are compared to past expectations and new estimates are made about the future. Actuarial calculations of the Plan reflect a long-term perspective and are based on the benefits provided under the terms of the Plan in effect at the time of each valuation and on the historical pattern of sharing of costs between the employer and Plan members to that point.

### Funded Status and Funding Progress

As of December 31, 2015, the most recent actuarial valuation date, the PGHBP was 0% funded on an actuarial basis. The actuarial accrued liability for benefits was \$2,134,106,707 and the actuarial value of assets was \$0, resulting in an unfunded actuarial accrued liability (UAAL) of \$2,134,106,707. The covered payroll (annual payroll of active employees covered by the Plan) was \$1,597,597,077 and the ratio of the UAAL to the covered payroll was 133.58%.

The Schedule of Funding Progress, presented as Required Supplementary Information (RSI) following the notes to the financial statements, presents multi-year trend information about whether the actuarial values of the Plan assets are increasing or decreasing over time relative to the actuarial accrued liability for benefits.

### Note 11: Related Party Transactions

The Plan has common Trustees and shares office space with the Forest Preserve District Employees' Annuity and Benefit Fund of Cook County (the Forest Fund) who reimburses the Plan for shared administrative services provided by the Plan. During the years ended December 31, 2015 and 2014, the Plan allocated administrative expenditures of \$92,675 and \$90,660 respectively to the Forest Fund.

As of December 31, 2015 and 2014, the Forest Fund owes the Plan \$443,584 and \$542,267 respectively. These amounts include plan transfers of Plan members transferring from one plan to another.

### Note 12: Pronouncements Issued Not Yet Effective

In March 2015, GASB issued Statement No. 72, *Fair Value Measurement and Application*, which provides guidance for fair value measurement and application. The Statement defines fair value, provides guidance for determining fair value measurement for financial reporting purposes and specifies required disclosures related to fair value measurements. Statement No. 72 is effective for the Plan's fiscal year ending December 31, 2016.

In June 2015, GASB issued Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets that are not within the Scope of GASB Statement No. 68*, and Amendments to Certain Provisions of GASB Statements 67 and 68. Statement No. 73 establishes requirements for pension plans that are not administered through a trust (not covered by Statements 67 and 68). The requirements in Statement No. 73 for reporting pensions generally are the same as Statement 68, however, the lack of a trust that meets specified criteria is reflected in the measurements. Statement No. 73 is effective for the Plan's fiscal year ending December 31, 2016, except for provisions that address employers and governmental nonemployer contributing entities for pensions that are not within the scope of GASB Statement No. 68, which are effective for the Plan's fiscal year ending December 31, 2017.

In June 2015, GASB issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. Statement No. 74 replaces the requirements of Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. This Statement addresses the financial reports of defined benefit Other Postemployment Benefit Plans that are administered through trusts that meet specified criteria. The Statement requires more extensive note disclosures and required supplementary information related to the measurement of the Other Postemployment Benefit liabilities for which assets have been accumulated, including information about the annual money-weighted rates of return on plan investments. Statement No. 74 is effective for the Plan's fiscal year ending December 31, 2017.

**Note 12: Pronouncements Issued Not Yet Effective (continued)**

In June 2015, GASB issued Statement No. 75, *Financial Reporting for Postemployment Benefits Other Than Pensions*. Statement No. 75 replaces the requirements of Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. Statement No. 75 requires governments to report a liability on the financial statements for the other postemployment benefits that they provide. Statement No. 75 also requires more extensive note disclosures and required supplementary information about the other postemployment benefit liabilities. Statement No. 75 is effective for the Plan's fiscal year ending December 31, 2018.

In June 2015, GASB issued Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. Statement No. 76 identifies the hierarchy of generally accepted accounting principles (GAAP) which consists of the sources of accounting principles used to prepare financial statements of state and local government entities in conformity with GAAP and the framework for selecting those principles. Statement No. 76 reduces the 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 a source of authoritative GAAP. Statement No. 76 is effective for the Plan's fiscal year ending December 31, 2016.

In August 2015, GASB issued Statement No. 77, *Tax Abatement Disclosures*. Statement No. 77 requires governments that enter into tax abatement agreements to disclose certain information about the agreements including descriptive information, the gross dollar amount of the taxes abated during the period and commitments made by a government as part of the agreement. Statement No. 77 is effective for the Plan's fiscal year ending December 31, 2016.

In December 2015, GASB issued Statement No. 78, *Pensions Provided Through Certain Multiple-Employer Defined Benefit Pension Plans*. Statement No. 78 amends the scope and applicability of Statement No. 68, *Accounting and Financial Reporting for Pensions - an amendment of GASB Statement No. 27*, to exclude pensions provided to employees of state and local governmental employers through cost-sharing multiple-employer defined benefit pension plan that are not a state or local governmental pension plan, are used to provide defined benefit pensions both to employees of state or local governmental employers and to employees of employers that are not state or local governmental employers, and have no predominant state or local governmental employer. Statement No. 78 is effective for the Plan's fiscal year ending December 31, 2016.

In December 2015, GASB issued Statement No. 79, *Certain External Investment Pools and Pool Participants*. Statement No. 79 addresses accounting and financial reporting for certain external investment pools and pool participants. Statement No. 79 establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes. Statement No. 79 is effective for the Plan's fiscal year ending December 31, 2016.

**Note 12: Pronouncements Issued Not Yet Effective (continued)**

In January 2016, GASB issued Statement No. 80, *Blending Requirement for Certain Component Units - an amendment of GASB Statement No. 14*. Statement No. 80 amends the blending requirements for the financial statement presentation of component units of all state and local governments established in Statement No. 14, *The Financial Reporting Entity*, as amended. Statement No. 80 is effective for the Plan's fiscal year ending December 31, 2017.

In March 2016, GASB issued Statement No. 81, *Irrevocable Split-Interest Agreements*. Statement No. 81 improves accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement. Statement No. 81 is effective for the Plan's fiscal year ending December 31, 2017.

In March 2016, GASB issued Statement No. 82, *Pension Issues - an amendment of GASB Statements No. 67, No. 68, and No. 73*. Statement No. 82 addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. Statement No. 82 is effective for the Plan's fiscal year ending December 31, 2017.

The Plan is currently evaluating the impact of adopting the above GASB Statements.

**Note 13: Subsequent Event**

As of the date of these financial statements, the County has made an additional contribution to the Plan of \$51,223,000 pursuant to a one year Intergovernmental Agreement (IGA) entered into as of December 8, 2015 between the County of Cook and the County Officers' and Employees' Annuity and Benefit Fund of Cook County. Pursuant to said IGA, the County is expected to make additional payments in the amounts of: \$30,542,000 on June 30, 2016; \$30,157,000 on July 28, 2016; \$32,297,000 on August 31, 2016; \$34,320,000 on September 30, 2016; \$32,469,000 on October 31, 2016; and \$59,518,000 on or before November 30, 2016. This is no assurance that said payments will be made.

## Required Supplementary Information - Pension

### Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

	<u>December 31, 2015</u>
Total pension liability	
Service cost	\$ 496,161,454
Interest	994,674,970
Difference between expected and actual experience	(126,330,351)
Changes of assumptions	1,329,087,966
Expected benefit payments, including refunds of employee contributions	<u>(676,470,215)</u>
Net change in total pension liability	2,017,123,824
Total pension liability	
Beginning of year	<u>21,945,961,866</u>
End of year	<u><u>\$23,963,085,690</u></u>
Plan fiduciary net position	
Contributions - employer	\$ 136,075,504
Contributions - employee	137,707,719
Net investment income	(21,896,696)
Expected benefit payments, including refunds of employee contributions	(676,470,215)
Administrative expenses	(5,151,110)
Other	<u>4,380,293</u>
Net change in plan fiduciary net position	<u>(425,354,505)</u>
Plan fiduciary net position	
Beginning of year	<u>9,068,398,780</u>
End of year	<u><u>\$ 8,643,044,275</u></u>
Employer's net pension liability	<u><u>\$15,320,041,415</u></u>
Plan fiduciary net position as a percentage of the total pension liability	<u>36.07%</u>
Covered-employee payroll	<u><u>\$ 1,572,417,298</u></u>
Employer's net pension liability as a percentage of covered-employee payroll	<u>974.30%</u>

*See Report of Independent Auditors.*

## Schedule of Changes in the Employer's Net Pension Liability and Related Ratios (continued)

	<u>December 31, 2014</u>
Total pension liability	
Service cost	\$ 491,887,347
Interest	958,433,835
Difference between expected and actual experience	-
Changes of assumptions	-
Expected benefit payments, including refunds of employee contributions	<u>(622,003,259)</u>
Net change in total pension liability	828,317,923
Total pension liability	
Beginning of year	<u>21,117,643,943</u>
End of year	<u><u>\$21,945,861,866</u></u>
Plan fiduciary net position	
Contributions - employer	\$ 146,075,414
Contributions - employee	129,325,318
Net investment income	488,890,897
Expected benefit payments, including refunds of employee contributions	(622,003,259)
Administrative expenses	(5,010,206)
Other	<u>3,753,960</u>
Net change in plan fiduciary net position	141,032,124
Plan fiduciary net position	
Beginning of year	<u>8,927,366,656</u>
End of year	<u><u>\$ 9,068,398,780</u></u>
Employer's net pension liability	<u><u>\$12,877,563,086</u></u>
Plan fiduciary net position as a percentage of the total pension liability	<u>41.32%</u>
Covered-employee payroll	<u><u>\$ 1,514,550,023</u></u>
Employer's net pension liability as a percentage of covered-employee payroll	<u>850.26%</u>

*See Report of Independent Auditors.*

**FINANCIAL SECTION**

**Required Supplementary Information - Pension (continued)**

**Schedule of Employer Contributions - Last Ten Fiscal Years**

	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Actuarially determined contribution	\$ 514,888,487	\$ 519,642,931	\$ 595,370,046	\$ 540,218,287	\$ 493,724,370
Contributions in relation to the actuarially determined contribution	(136,075,504)	(146,075,414)	(147,720,014)	(152,734,539)	(160,652,118)
Contribution deficiency	<u>\$ 378,812,983</u>	<u>\$ 373,567,517</u>	<u>\$ 447,650,032</u>	<u>\$ 387,483,748</u>	<u>\$ 333,072,252</u>
Covered employee payroll	<u>\$1,572,417,298</u>	<u>\$1,514,550,023</u>	<u>\$1,484,269,715</u>	<u>\$1,478,253,368</u>	<u>\$1,456,444,123</u>
Contributions as a percentage of covered employee payroll	<u>8.65%</u>	<u>9.64%</u>	<u>9.95%</u>	<u>10.33%</u>	<u>11.03%</u>

*See Report of Independent Auditors.*

**Notes to Schedule of Employer Contributions**

Actuarially determined contribution rates are calculated as of December 31, one year prior to the fiscal year in which contributions are reported.

Valuation Date: December 31, 2015

Methods and assumptions used to determine contribution rates

Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar - Open
Remaining amortization period	30 years
Asset valuation method	Five Year Smoothed Average Market
Inflation	3.25% per year, compounded annually
Salary increases	3.75% to 8%, based on age
Investment rate of return	7.5% per year, compounded annually
Retirement age	Based on actual past experience, assume all employees retire by age 75
Mortality	RP-2000 Blue Collar Mortality Table, base year 2000, fully generational based on Scale BB.
Postretirement annuity increases	Tier 1 participants - 3.0% compounded annually. Tier 2 participants - the lesser of 3.0% or one half of the increase in the Consumer Price Index.



**Schedule of Employer Contributions - Last Ten Fiscal Years (continued)**

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Actuarially determined contribution	\$ 454,327,461	\$ 352,850,988	\$ 283,892,734	\$ 287,061,532	\$ 282,223,686
Contributions in relation to the actuarially determined contribution	<u>(144,539,577)</u>	<u>(152,506,089)</u>	<u>(150,227,360)</u>	<u>(230,114,335)</u>	<u>(198,619,984)</u>
Contribution deficiency	<u>\$ 309,787,884</u>	<u>\$ 200,344,899</u>	<u>\$ 133,665,374</u>	<u>\$ 56,947,197</u>	<u>\$ 83,603,702</u>
Covered employee payroll	<u>\$1,494,093,569</u>	<u>\$1,498,161,713</u>	<u>\$1,463,372,408</u>	<u>\$1,370,844,734</u>	<u>\$1,412,878,627</u>
Contributions as a percentage of covered employee payroll	<u>9.67%</u>	<u>10.18%</u>	<u>10.27%</u>	<u>16.79%</u>	<u>14.06%</u>

*See Report of Independent Auditors.*

**Schedule of Investment Returns**

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Annual money-weighted rate of return, net of investment expense	(0.1)%	5.9%

*See Report of Independent Auditors.*

## Required Supplementary Information - Postemployment Healthcare

### Schedule of Funding Progress

Year Ended <u>December 31,</u>	Actuarial Value of Assets <u>(a)</u>	Actuarial Accrued Liability (AAL) <u>(b)</u>	Unfunded AAL (UAAL) <u>(b-a)</u>	Funded Ratio <u>(a/b)</u>	Covered Payroll <u>(c)</u>	UAAL as a Percentage of Covered Payroll <u>(b-a)/(c)</u>
2010	\$ -	\$1,724,622,462	\$1,724,622,462	0.00%	\$1,494,093,569	115.43%
2011	\$ -	\$1,678,571,388	\$1,678,571,388	0.00%	\$1,456,444,123	115.25%
2012	\$ -	\$1,845,609,132	\$1,845,609,132	0.00%	\$1,478,253,368	124.85%
2013 (1)	\$ -	\$1,978,767,490	\$1,978,767,490	0.00%	\$1,484,269,715	133.32%
2014	\$ -	\$1,980,088,617	\$1,980,088,617	0.00%	\$1,514,550,023	130.74%
2015	\$ -	\$2,134,106,707	\$2,134,106,707	0.00%	\$1,597,597,077	133.58%

(1) = Change in actuarial assumptions.

See Notes to Schedule of Funding Progress and Schedule of Employer Contributions.

### Schedule of Employer Contributions

Year Ended <u>December 31,</u>	Annual Required Contribution (ARC) <u>(a)</u>	Required Statutory Basis <u>(b)</u>	Employer Contributions <u>(c)</u>	Percent of ARC Contributed <u>(c/a)</u>
2010	\$163,823,488	\$ -	\$40,183,057	24.53%
2011	\$165,176,771	\$ -	\$38,185,306	23.12%
2012	\$156,700,388	\$ -	\$37,986,237	24.24%
2013	\$178,698,965	\$ -	\$40,097,630	22.44%
2014	\$189,907,202	\$ -	\$43,957,458	23.15%
2015	\$190,871,452	\$ -	\$50,756,817	26.59%

See Notes to Schedule of Funding Progress and Schedule of Employer Contributions.

### Notes to Schedule of Funding Progress and Schedule of Employer Contributions

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

Valuation date	December 31, 2015 and 2014
Actuarial cost method	Entry age actuarial cost as a percentage of earnings
Amortization method	Level Dollar - Open
Amortization period	30 years
Actuarial assumptions	
Discount rate	4.5% per year
Inflation	3.25% per year
Health care cost trend rate	2015 - 7.75% in the first year, decreasing by .25% per year until an ultimate rate of 4.75% is reached for pre-medicare and 6.25% in the first year decreasing by .25% per year until an ultimate rate of 4.75% is reached for post-medicare.
	2014 - 8.0% in the first year, decreasing by .25% per year until an ultimate rate of 4.75% is reached for pre-medicare and 6.50% in the first year decreasing by .25% per year until an ultimate rate of 4.75% is reached for post-medicare
Mortality rates	RP-2000 Blue Collar Mortality Table, base year 2000, fully generational based on Scale BB
Retirement age assumptions	Based on actual past experience assume all employees retire by age 75

# Supplementary Information

## Schedules of Net Administrative Expenses and Professional and Consulting Fees

Years Ended December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Administrative expenses</b>		
Bank charges	\$ 31,032	\$ 31,028
Document imaging	193,762	264,855
Election expense	91,704	103,151
Employee benefits	561,288	466,979
Insurance - fidelity, fiduciary and liability	117,385	102,517
Maintenance of equipment, systems, software and support	460,365	442,963
Membership, conference and training	43,970	45,578
Office buildout expense	-	90,144
Office expense	120,426	71,948
Postage	92,461	92,933
Printing and stationery	107,463	63,003
Professional and consulting fees	434,610	706,976
Recovery site expense	41,716	40,591
Regulatory filing fees	8,000	8,000
Rent	416,800	371,173
Salaries	2,509,732	2,183,661
Utilities	13,071	15,366
Total	<u>5,243,785</u>	<u>5,100,866</u>
Less administrative expenses allocated to Forest Preserve		
District Employees' Annuity and Benefit Fund of Cook County	<u>(92,675)</u>	<u>(90,660)</u>
Net administrative expenses	<u>\$5,151,110</u>	<u>\$5,010,206</u>
<b>Professional and consulting fees</b>		
Actuarial service	\$ 91,668	\$ 107,345
Audit	110,550	68,446
Consulting	66,324	130,400
Legal	139,293	97,185
Lobbyist	26,775	26,771
Pension information systems advisory services	-	276,829
Total	<u>\$ 434,610</u>	<u>\$ 706,976</u>

## Schedules of Investment Expenses

### Years Ended December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Investment manager expense</b>		
Adelante Capital Management	\$ 403,063	\$ -
American Realty Advisors	-	723,666
Angelo Gordon & Co.	192,351	-
Ariel Investments	350,327	286,491
Blackstone Alternative Asset Management	4,535,325	4,157,108
Capri Capital Partners	18,335	244,939
CastleArk Management	1,035,459	468,586
CBRE Global Investors	436,183	355,630
Channing Capital Management	1,324,826	1,262,093
Chicago Equity Partners	195,889	329,173
Cozad Asset Management, Inc.	338,984	348,224
Credit Suisse Securities	(14,000)	57,642
Diversified Global Asset Management	2,052,701	2,032,829
Evergreen Venture Partners	-	3,921
Fiduciary Management Associates	686,138	645,070
Fortaleza Asset Management, Inc.	122,445	117,893
Franklin Templeton Investments	2,489,887	2,326,377
Frontier Capital Management	977,048	922,650
Great Lakes Advisors, Inc.	383,887	370,534
Herndon Capital Management	373,210	375,111
J.P. Morgan Asset Management	2,508,202	2,062,141
John Buck Company	66,426	90,260
Killian Capital Management	284,325	232,647
LaSalle Investment Management	344,797	300,000
Lazard Asset Management, LLC	632,154	583,706
Lightspeed Venture Partners	(550)	9,429
LM Capital Group, LLC	588,536	497,803
Lombardia Capital	142,462	125,396
Loomis Sayles & Company, LP	795,240	789,040
MacKay Shields	836,956	822,394
Mellon Capital	133,376	121,818
Mesirow Financial	1,965,818	913,031
Mondrian Investment Partners, Ltd.	911,719	919,035

(continued)

**FINANCIAL SECTION****Supplementary Information (continued)****Schedules of Investment Expenses (continued)****Years Ended December 31, 2015 and 2014**

	<u>2015</u>	<u>2014</u>
<b>Investment manager expense (continued)</b>		
Muller and Monroe Asset Management	\$ 647,201	\$ 11,742
NCM Capital	289,012	294,627
New Century Investment Management	420,481	411,532
Opus Capital Group	-	1,631
Pacific Venture Group	10,750	28,306
Progress Investment Management	1,684,637	1,627,372
Prudential Real Estate Investors	739,110	677,304
RhumbLine Advisers	80,517	114,546
Russell Implementation Services, Inc.	645,830	765,530
SPC Capital Management	84,167	94,167
State Street Global Advisors	341,069	314,418
The Rock Creek Group	1,304,102	1,267,862
Thornburg Investment Management	-	706,025
TIAA-CREF	-	714,956
Wells Capital Management	801,460	870,372
William Blair & Company	951,037	847,206
	<u>33,110,892</u>	<u>31,242,233</u>
<b>Investment consulting fees</b>		
Callan Associates Inc.	371,459	375,568
<b>Investment custodian fees</b>		
BNY Mellon	216,584	173,544
<b>Total investment expenses</b>	<u><u>\$33,698,935</u></u>	<u><u>\$31,791,345</u></u>

### Additions By Source

<u>Year Ended December 31,</u>	<u>Employer Contributions</u>	<u>Employee Contributions</u>	<u>Annuitant Healthcare Benefits Contributions</u>	<u>Net Investment and Net Securities Lending Income (1)</u>	<u>Other (2)</u>	<u>Total Additions</u>
2010	\$181,509,323	\$129,449,866	\$30,108,884	\$ 832,882,639	\$12,966,051	\$1,186,916,763
2011	\$195,337,621	\$127,577,473	\$33,236,282	\$ 82,701,033	\$17,614,316	\$ 456,466,725
2012	\$190,720,776	\$128,869,508	\$33,948,728	\$ 887,687,519	\$10,190,689	\$1,251,417,220
2013	\$187,817,644	\$127,593,220	\$35,927,206	\$1,179,440,119	\$ 8,547,729	\$1,539,325,918
2014	\$190,032,872	\$129,325,318	\$37,358,502	\$ 488,890,897	\$ 9,742,062	\$ 855,349,651
2015	\$186,832,321	\$137,707,719	\$37,635,349	\$ (21,896,696)	\$11,457,843	\$ 351,736,536

(1) - Includes realized and unrealized net gain or loss on investments and net securities lending income.

(2) - Includes employer federal subsidized programs, Medicare Part D, prescription/repayment plan rebates and miscellaneous income. Early Retirement Reinsurance Program is included in 2011 and 2012.

### Deductions By Type

<u>Year Ended December 31,</u>	<u>Benefits</u>	<u>Refunds</u>	<u>Net Administrative Expenses</u>	<u>Total Deductions</u>
2010	\$512,632,292	\$25,041,818	\$4,074,955	\$541,749,065
2011	\$556,632,909	\$29,165,335	\$4,078,843	\$589,877,087
2012	\$595,339,763	\$33,081,726	\$4,303,353	\$632,724,842
2013	\$637,697,226	\$29,873,030	\$4,324,634	\$671,894,890
2014	\$682,959,960	\$26,347,361	\$5,010,206	\$714,317,527
2015	\$738,666,760	\$33,273,171	\$5,151,110	\$777,091,041

### Schedule of Employer Contributions Receivable

<u>Levy Year</u>	<u>December 31, 2015</u>			
	<u>Contributions Receivable</u>	<u>Uncollected Balance</u>	<u>Reserved</u>	<u>Net Contributions Receivable</u>
2014	\$194,668,229	\$ 14,298,714	\$ 5,498,680	\$ 8,800,034
2015	\$192,786,468	192,786,468	5,591,700	187,194,768
		<u>\$207,085,182</u>	<u>\$11,090,380</u>	<u>\$195,994,802</u>

Notes: Employer contributions are funded primarily through a County tax levy.  
Uncollected employer contributions for the 2013 and prior levy years are fully reserved.

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# Investment Section

*This section includes an investment report,  
Investment Consultant's Commentary, the Master  
Custodian's Certification, a summary of investment policy,  
and summary tables of investment data.*

# Investment Report



June 2, 2016

To the Retirement Board and Members of the fund:

The County Employees' and Officers' Annuity and Benefit Fund of Cook County ("the fund") employs a prudent investment strategy to meet its long-term actuarial objective of growing the assets to support member benefits. Together with fund staff and the investment consultant, Callan Associates, the Retirement Board oversees the investment strategy through ongoing study of the portfolio structure, return assumptions, and projected funding needs to support member benefits.

As of December 31, 2015, the fund's investment portfolio was valued at \$8.5 billion, a decrease of approximately \$0.3 billion. During this period, the fund liquidated \$350 million to meet benefit obligations, as contributions were insufficient to meet fund needs. Notably, outflows from investments exceeded employer and employee contributions to meet benefit payments.

The Cook County Fund generally held steady in a volatile market by returning -0.1% net of investment management fees over the previous 12-month period. Performance (net of fees) over the last five years reflects outperformance of 15 basis points annually (6.74% vs. 6.59% custom benchmark).

Strong absolute returns from the fund's real estate and hedge fund of funds programs offset public market returns as risk assets were challenged amid concerns of a slowdown in global growth. The fund continues to implement towards policy allocation targets with additional funding.

The Consultant's Commentary; Master Custodian's certification letter; a summary of the fund's goals, objectives, and guidelines; and selected investment schedules follow for your review.

Sincerely,

Nickol R. Hackett  
Executive Director and Chief Investment Officer

# Investment Consultant's Commentary

## Callan

Callan Associates Inc.  
120 North LaSalle Street  
Suite 2400  
Chicago, IL 60602

Main 312.346.3536  
Fax 312.346.1356

[www.callan.com](http://www.callan.com)

May 9, 2016

Board of Trustees

County Employees' and Officers' Annuity and Benefit Fund of Cook County  
33 North Dearborn Street, Suite 1000  
Chicago, IL 60602

Dear Trustees,

Callan Associates, Inc. is pleased to present the County Employees' and Officers' Annuity and Benefit Fund of Cook County ("Fund") results for fiscal year ended December 31, 2015. As of December 31, 2015, the Fund's fair value totaled \$8.46 billion, an approximate \$370 million decrease since December 31, 2014.

The global economy seemed to improve as 2015 unfolded, but market sentiment turned sharply negative as the year drew to a close. Growing unease with economic change is evident in the capital markets. Commodity prices slid further, led by oil, as China struggled with its centrally planned shift to a consumer-driven economy. The S&P 500 was able to finish 2015 in the black with a return of 1.38% despite a middling November and disappointing December stemming from a slowing Chinese economy, other weak emerging markets, commodity price declines, and the strength of the U.S. dollar. Non-U.S. developed markets, as measured by the MSCI EAFE Index, returned -0.81% for the year. Bond markets stuttered in the U.S. after the Federal Reserve announced a rate increase. The Barclays Aggregate Index returned 0.55% in 2015. Real Estate returns were strong in 2015, as the NCREIF Property Index returned 13.33%.

As noted in the Schedule of Investment Results, the Fund generated a total return of -0.07% net-of-fees for the year ended December 31, 2015, which trailed the 0.90% return of the Fund's target benchmark (the Policy Benchmark). In aggregate, the Fund's domestic equity and fixed income managers fell behind their benchmarks, while the Fund's international equity managers generated returns that exceeded their respective benchmarks.

Sincerely,



Michael J. Joecken  
Senior Vice President

# Master Custodian's Certification



Asset Servicing

*Michael J. Beggy*  
Vice President

May 9, 2016

To the Board of Trustees and the Executive Director of the County Employees' and Officers' Annuity & Benefit Fund of Cook County:

BNY Mellon as custodian of the County Employees' and Officers' Annuity & Benefit Fund of Cook County (the "client") has established an "Account" that holds the clients property in safekeeping facilities of the Custodian (or other custodian banks or clearing operations), provided the recordkeeping of certain property of the client and completed the annual accounting certification for the year January 1, 2015 through December 31, 2015.

In addition, in accordance with the terms of the Custody Agreement dated, November 1, 2007, BNY Mellon also provides the following services as Custodian:

- Market settlement of purchases and sales and engage in other transactions, including free receipts and deliveries, exchanges and other voluntary corporate actions, with respect to securities or property received by the Custodian
- Take actions necessary to settle transactions in futures and/or options contracts, short selling programs, foreign exchange or foreign exchange contracts, swaps and other derivative investments with third parties
- Lend the assets of the Account in accordance with a separate Securities Lending Agreement.
- Invest available cash in any collective fund, including a collective investment fund maintained by the Custodian or and affiliate of the Custodian for collective investment of employee benefit trusts or deposit in an interest bearing account of banking department of Custodian.
- Appoint subcustodians, including affiliates of the custodian, as to part or all of the Account.
- Hold property in nominee name, in bearer form or in book entry form, in a clearinghouse corporation or in a depository.
- Take all action necessary to pay for, and settle authorized transactions.
- Collect income payable to and distributions due to the Account.
- Collect all proceeds from securities, certificates of deposit or other investments which may mature or be called.
- Forward to the authorized party as designated by the client, proxies or ballots that are to be a voted by the authorized party.
- Attend to corporate actions that have no discretionary decision requirement
- Report the value of the Account as agreed upon by the client and custodian.
- Credit the account with income and maturity proceeds on securities contractual payment date.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael J. Beggy".

Michael J. Beggy  
Service Director

*Asset Servicing*  
Room 410 ~ One Mellon Center ~ Pittsburgh, PA 15258-0001  
(412) 234-6933 ~ (412) 236-1928 Fax

*The Bank of New York Mellon*

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# Summary of Investment Policy

## Overview

Under the guidance and direction of the Board and governed by the “prudent man rule,” it is the mission of the County Employees’ and Officers’ Annuity Fund of Cook County (“the Fund”) and the Investment Staff to optimize the total return of the Fund’s investment portfolio through a policy of diversified investments using parameters of prudent risk management as measured on the total portfolio, acting at all times in the exclusive interest of the participants and beneficiaries of the Fund.

To accomplish this mission, the Board and Investment Staff understand and accept their fiduciary obligations to the members of the Fund. These obligations are legal in nature and are outlined in the Illinois Pension Code [40 ILCS 5]. Investments made by the Fund shall satisfy the conditions of the Illinois Pension Code and applicable Illinois law and, in particular, the prudent man rule set forth in the Illinois Pension Code [40 ILCS 5/1-109].

Subject to these fiduciary standards, the Board and Investment Staff shall endeavor at all times to implement the Statement of Investment Policy in a manner consistent with the stated mission of the Fund, while ensuring transparency and compliance with all applicable laws and regulations.

The Policy is set forth by the Board in order to:

- Establish a clear understanding of all involved parties of the investment goals and objectives of the Fund.
- Define and assign the responsibilities of all involved parties.
- Establish the relevant investment horizon for which the Fund assets will be managed.
- Establish risk parameters governing assets of the Fund.
- Establish target asset allocation and re-balancing procedures.
- Establish a methodology and criteria for selecting, retaining and terminating Investment Professionals.
- Offer specific guidance to and define limitations for all Investment Managers regarding the investment of Fund assets.

In summary, the purpose of the Statement of Investment Policy is to formalize the Board’s investment objectives, policies and procedures and to define the duties and responsibilities of the various entities involved in the investment process. The Statement of Investment Policy is intended to serve as a guide, reference tool and communication link between the Board, Investment Staff and Investment Professionals.

## INVESTMENT SECTION

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### Summary of Investment Policy (continued)

#### Investment Objectives

The primary return objectives of the Fund are to:

- Preserve the safety of principal.
- Exceed, after investment management fees, a customized blended benchmark consistent with prudent levels of risk.
- Create a stream of investment returns to ensure the systematic and adequate funding of actuarially determined benefits through contributions and professional management of Fund assets.

To achieve these objectives, the assets of the Fund have been allocated to meet its actuarial assumed rate of return of 7.5%. To evaluate success, the Board compares the performance of the Fund to the actuarial assumed rate of return and its custom benchmark. This benchmark represents a passive implementation of the historical investment policy targets and it is re-balanced regularly.

While achieving the return objectives, the Fund is able to tolerate certain levels of risk, which are:

- To accept prudent levels of short-term and long-term volatility consistent with the near-term cash flow needs, funding level, and long-term liability structure of the Fund.
- To tolerate appropriate levels of downside risk relative to the Fund's actuarial assumed rate of return of 7.5%. In doing so, the Board will attempt to minimize the probability of underperforming the Fund's actuarial assumed rate of return over the long-term and to minimize the shortfall in the event such underperformance occurs.
- To accept certain variances in the asset allocation structure of the Fund relative to the broad financial markets and peer groups.
- To tolerate certain levels of short-term underperformance by the Fund's Investment Managers.

The investment objectives of the Fund are constrained by applicable law, time, taxes and liquidity. The Fund will operate in accordance with applicable law, as amended. The Fund has a long-term time horizon as the assets are used to pay qualified participant pension benefits. The Fund is a tax-exempt entity, but can be subject to taxes involving unrelated business taxable income ("UBTI"). UBTI is income earned by a tax-exempt entity that does not result from tax-exempt activities. The Fund will attempt to minimize or to avoid incurring UBTI. The liquidity needs of the Fund are to meet the regular cash flow requirements of the Fund.

## Asset Allocation and Rebalancing Procedures

The Board reviews the target asset allocation of the Fund at least once every three years. It will take into consideration applicable statutes, the actuarial rate of return of the Fund, the long term nature of the asset pool, the cash flow needs of the Fund and the general asset allocation structure of the Fund's peers. It will make assumptions on the capital markets over the long term and optimize the asset allocation to best meet the actuarial and cash flow needs of the Fund at prudent levels of risk.

The Board establishes the asset allocation targets and ranges and reviews them periodically. To ensure that the allocations meet the risk/return objectives of the Fund, the target allocations will be reviewed annually for reasonableness relative to significant economic market changes or changes to the long-term goals and objectives. Proper implementation of this guideline may require that a periodic adjustment or rebalancing be made to ensure conformance with asset allocation targets. Rebalancing requirements shall be reviewed on a continual basis. Rebalancing may also occur in the event of a change in the allocation percentages by asset class by the Board or as a result of extraordinary market events. Rebalancing shall take place as soon as practical after said change or amendment has been approved.

# Schedule of Investment Results

For Year Ended December 31, 2015

	Annualized Returns		
	<u>2015</u>	<u>3 Years</u>	<u>5 Years</u>
Total Fund	-0.1%	6.8%	6.7%
Policy Benchmark *	0.9%	6.8%	6.6%
Domestic Equity	-1.3%	13.7%	10.9%
Russell 3000	0.5%	14.7%	11.9%
International Equity	-1.4%	3.6%	3.2%
MSCI ACWI ex. U.S.	-0.8%	5.0%	3.6%
Fixed Income	-0.5%	1.0%	3.3%
Barclays Aggregate	0.6%	1.4%	3.3%
Real Estate	5.6%	9.5%	11.9%
NCREIF	13.3%	12.0%	12.2%
Private Equity	-4.0%	9.0%	11.6%
Wilshire 5000	0.7%	14.7%	12.1%
Hedge Funds	1.8%	5.5%	N/A
Libor-3 Month+4%	4.3%	4.3%	4.3%

\*The Policy Benchmark is as follows:

- As of December 31, 2013: 32% Barclays Aggregate Index, 31% Russell 3000 Index, 20% MSCI ACWI ex. U.S. Index, 9% Libor-3 Month+ 4.0% Index and 8% NCREIF Total Index.
- As of December 31, 2011: 25% Barclays Aggregate Index, 38% Russell 3000 Index, 17% MSCI ACWI ex. U.S. Index, 10% BarCap Int. Gov./Credit Inter, 5% Barclays US TIPS Index, 3% S&P Global ex. U.S. <\$2B. and 2% NCREIF Total Index.

N/A - Not Available. Investments not held during that time period.

Note: Returns are calculated using geometrically-linked, time and asset-weighted returns. Returns are calculated net of investment manager fees.



## Schedule of Investment Summary and Asset Allocation

<b>Asset Class</b>	<b>For Year Ended December 31, 2015</b>			<b>For Year Ended December 31, 2014</b>		
	<b>Fair Value</b>	<b>Percent of Total</b>	<b>Target</b>	<b>Fair Value</b>	<b>Percent of Total</b>	<b>Target</b>
Domestic Equity	\$2,614,801,036	31%	25%	\$2,699,034,603	31%	25%
International Equity	1,653,138,558	20%	20%	1,739,412,415	20%	20%
Fixed Income	2,013,558,415	24%	32%	2,192,046,956	25%	32%
Real Estate	760,871,748	9%	8%	725,428,369	8%	8%
Hedge Funds-of-Funds	803,013,247	9%	9%	800,093,500	9%	9%
Private Equity	160,785,243	2%	6%	86,623,407	1%	6%
Short Term Investments	453,717,122	5%	0%	587,544,324	7%	0%
<b>Total Investments</b>	<b><u>\$8,459,885,369</u></b>	<b><u>100%</u></b>	<b><u>100%</u></b>	<b><u>\$8,830,183,574</u></b>	<b><u>100%</u></b>	<b><u>100%</u></b>

INVESTMENT SECTION

# Schedule of Top Ten Largest Holdings - Excludes Commingled Funds

For year ended December 31, 2015

<u>Top 10 Domestic Equity Holdings</u>	<u>Sector</u>	<u>Shares</u>	<u>Fair Value</u>	<u>% of Total</u>
Apple Inc.	Technology	248,244	\$ 26,130,163	1.0%
Microsoft Corp.	Technology	416,753	23,121,456	0.9%
General Electric Co.	Capital Goods	452,515	14,095,842	0.5%
Intel Corp.	Technology	384,935	13,261,011	0.5%
Exxon Mobil Corp.	Energy	152,402	11,879,736	0.5%
Alphabet Inc.	Technology	14,432	11,228,240	0.4%
Berkshire Hathaway Inc.	Financial Services	83,590	11,037,224	0.4%
Amazon.com Inc.	Services	16,083	10,870,339	0.4%
Pfizer Inc.	Healthcare	328,532	10,605,013	0.4%
Johnson & Johnson	Healthcare	102,279	10,506,099	0.4%
<b>Total Top 10 Domestic Equity Holdings</b>		<u>2,199,765</u>	<u>\$ 142,735,123</u>	<u>5.5%</u>
<b>Total Domestic Equity</b>			<u>\$2,614,801,036</u>	<u>100.0%</u>

<u>Top 10 International Equity Holdings</u>	<u>Sector</u>	<u>Shares</u>	<u>Fair Value</u>	<u>% of Total</u>
Nestle (Switzerland)	Consumer Goods	239,247	\$ 17,818,046	1.1%
Novartis (Switzerland)	Healthcare	195,993	16,995,197	1.0%
Roche Holding AG (Switzerland)	Healthcare	60,305	16,651,650	1.0%
British American Tobacco (United Kingdom)	Tobacco	295,339	16,415,169	1.0%
Prudential (United Kingdom)	Financial Services	613,797	13,850,580	0.8%
Daiwa House Industry Co. Ltd. (Japan)	Home Builders	454,400	13,232,164	0.8%
Lloyds Banking Group (United Kingdom)	Financial Services	11,158,044	12,016,976	0.7%
HSBC Holdings (United Kingdom)	Financial Services	1,482,052	11,712,734	0.7%
Anheuser-Busch InBev (Belgium)	Consumer Goods	91,981	11,430,729	0.7%
Sampo OYJ (Finland)	Insurance	201,963	10,311,443	0.6%
<b>Total Top 10 International Equity Holdings</b>		<u>14,793,121</u>	<u>\$ 140,434,688</u>	<u>7.4%</u>
<b>Total International Equity</b>			<u>\$ 1,653,138,558</u>	<u>100.0%</u>

## Schedule of Top Ten Largest Holdings (continued)

For year ended December 31, 2015

<u>Top 10 Fixed Income Holdings</u>	<u>Sector</u>	<u>Par</u>	<u>Fair Value</u>	<u>% of Total</u>
U.S. Treasury Note .875% 02/28/2017	U.S. Governments	26,132,000	\$ 26,142,191	1.3%
U.S. Treasury Note 2.500% 05/15/2024	U.S. Governments	23,275,000	23,783,326	1.2%
Commitment to Purchase FNMA Pools 3.500% 01/01/2046	U.S. Agencies	16,390,000	16,909,891	0.8%
U.S. Treasury Bond 2.750% 08/15/2042	U.S. Governments	13,709,000	13,103,336	0.7%
U.S. Treasury Bond 2.875% 08/15/2045	U.S. Governments	12,665,000	12,300,375	0.6%
U.S. Treasury Note 1.250% 10/31/2018	U.S. Governments	10,714,000	10,698,893	0.5%
U.S. Treasury Note .500% 03/31/2017	U.S. Governments	10,167,000	10,120,537	0.5%
Commitment to Purchase GNMA Pools 3.500% 01/20/2046	U.S. Agencies	9,500,000	9,903,370	0.5%
U.S. Treasury Note 2.125% 08/15/2021	U.S. Governments	9,464,000	9,576,054	0.5%
U.S. Treasury Note .625% 05/31/2017	U.S. Governments	9,600,000	9,557,664	0.5%
<b>Total Top 10 Fixed Income Holdings</b>		<u>141,616,000</u>	<u>\$ 142,095,637</u>	<u>5.8%</u>
<b>Total Fixed Income</b>			<u>\$2,013,558,415</u>	<u>100.0%</u>

*A complete list of the portfolio holdings is available for review upon request.*

# Schedule of Investment Manager Fees and Assets Under Management

For year ended December 31, 2015

<u>Asset Category</u>	<u>Investment Manager Fees</u>	<u>Assets Under Management</u>
<b>Global Equity</b>		
Adelante Capital Management	\$ 403,063	\$ 69,933,300
Ariel Investments	350,327	47,465,396
CastleArk Management	1,035,459	146,205,235
Channing Capital Management	1,324,826	196,337,056
Fiduciary Management Associates	686,138	110,009,560
Fortaleza Asset Management, Inc.	122,445	32,403,464
Franklin Templeton Investments	1,896,882	251,861,774
Frontier Capital Management	977,048	116,759,779
Great Lakes Advisors, Inc.	383,887	254,242,270
Herndon Capital Management	373,210	67,050,571
J.P. Morgan Asset Management	1,217,318	258,032,226
Killian Capital Management	284,325	143,985,216
Lazard Asset Management, LLC	632,154	254,406,082
Lombardia Capital Partners	142,462	19,343,327
Mondrian Investment Partners, Ltd.	911,719	116,729,278
Progress Investment Management	1,684,637	250,241,598
RhumbLine Advisers	80,517	607,874,124
Russell Implementation Services, Inc.	645,830	501,861,418
State Street Global Advisors	341,069	614,662,218
Wells Capital Management	801,460	79,352,071
William Blair & Company	951,037	129,183,631
Total International Equity	<u>15,245,813</u>	<u>4,267,939,594</u>
<b>Fixed Income</b>		
Chicago Equity Partners	195,889	102,529,882
Franklin Templeton Investments	593,005	191,345,512
LM Capital Group, LLC	588,536	383,199,482
Loomis Sayles & Company, LP	795,240	315,112,389
MacKay Shields	836,956	304,143,980
Mellon Capital	133,376	381,963,009
NCM Capital	289,012	115,965,646
New Century Investment Management	420,481	218,705,046
Russell Implementation Services, Inc.	-	593,469
Total Fixed Income	<u>3,852,495</u>	<u>2,013,558,415</u>

## Schedule of Investment Manager Fees and Assets Under Management (continued)

For year ended December 31, 2015

<u>Asset Category</u>	<u>Investment Manager Fees</u>	<u>Assets Under Management</u>
<b>Real Estate</b>		
Angelo Gordon & Co.	192,351	3,168,667
Blackstone Alternative Asset Management	175,000	5,975,610
Capri Capital Partners	18,335	85,761
CBRE Global Investors	436,183	58,855,394
Cozad Asset Management, Inc.	338,984	21,459,903
J.P. Morgan Asset Management	1,290,884	229,752,871
John Buck Company	66,426	3,330,762
LaSalle Investment Management	344,797	32,058,382
Mesirow Financial	557,742	14,782,298
Prudential Real Estate Investors	739,110	222,523,995
Russell Implementation Services, Inc.	-	168,878,105
Total Real Estate	<u>4,159,812</u>	<u>760,871,748</u>
<b>Hedge Funds of Funds</b>		
Blackstone Alternative Asset Management	4,360,325	432,883,249
Diversified Global Asset Management	2,052,701	202,002,528
The Rock Creek Group	1,304,102	168,127,470
Total Hedge Funds	<u>7,717,128</u>	<u>803,013,247</u>
<b>Private Equity</b>		
Arch Venture Partners	-	1,362,262
Credit Suisse Securities	(14,000)	1,538,543
Evergreen Venture Partners	-	3,445,253
Lightspeed Venture Partners	(550)	837,707
Mesirow Financial	1,408,076	130,326,021
Muller and Monroe Asset Management	647,201	9,269,825
Pacific Venture Group	10,750	183,156
SPC Capital Management	84,167	7,376,261
Trident Capital	-	2,669,182
William Blair & Company	-	559,911
Wind Point Partners	-	3,217,122
Total Private Equity	<u>2,135,644</u>	<u>160,785,243</u>
<b>Short-Term Investments</b>		
BNY Mellon	-	453,717,122
<b>Total</b>	<u>\$33,110,892</u>	<u>\$8,459,885,369</u>

# Schedule of Brokerage Commissions

For year ended December 31, 2015

<u>Broker Name</u>	<u>Number of Shares</u>	<u>Commissions</u>	<u>Cost per Share</u>
<b>Domestic Equity Commissions</b>			
Loop Capital Markets, LLC*	10,170,369	\$ 288,216	\$0.028
Credit Suisse	3,200,564	92,337	0.029
Cabrera Capital Markets*	3,089,157	78,341	0.025
Merrill Lynch Securities	2,643,644	65,165	0.025
Jefferies & Co., Inc.	2,711,790	61,522	0.023
Penserra Securities*	1,914,464	52,877	0.028
Robert W. Baird & Co., Inc.	1,546,803	52,280	0.034
Cheevers & Co., Inc.*	2,037,642	50,962	0.025
Pershing LLC	4,375,169	42,633	0.010
William Blair & Co.	1,357,765	41,523	0.031
Williams Capital Group, LP*	1,950,914	37,097	0.019
Weeden & Co.	1,068,529	36,257	0.034
Stifel, Nicolaus & Co.	1,231,022	34,502	0.028
Goldman Sachs	1,225,403	33,357	0.027
Topeka Capital Markets Inc.*	1,406,300	32,534	0.023
Brokers with < \$32,000 of Commissions	25,640,907	631,363	0.025
<b>Total Domestic Equity Commissions</b>	<u>65,570,442</u>	<u>\$1,630,966</u>	<u>\$0.025</u>

*\*Women/minority-owned brokerage firm. The Retirement Board's brokerage policy encourages investment manager, as they search for best possible trade execution, to utilize women/minority-owned enterprises, specifically firms headquartered in the State of Illinois.*

For year ended December 31, 2015

<u>Broker Name</u>	<u>Number of Shares</u>	<u>Commissions</u>	<u>Cost per Share</u>
<b>International Equity Commissions</b>			
BNY Convergenx	7,722,637	\$ 88,821	\$0.012
UBS Securities	12,394,977	72,126	0.006
Merrill Lynch Securities	9,692,268	54,855	0.006
Credit Suisse	7,616,321	41,894	0.006
Morgan Stanley & Co.	5,138,954	33,149	0.006
J.P. Morgan Securities	3,860,724	32,863	0.009
Goldman Sachs	4,946,161	26,922	0.005
Investment Technology Group	2,890,244	25,683	0.009
Citigroup Global Markets, Inc.	3,193,528	24,839	0.008
Deutsche Bank Securities, Inc.	3,431,734	23,728	0.007
Brokers with < \$23,000 of Commissions	51,945,262	215,538	0.004
<b>Total International Equity Commissions</b>	<u>112,832,810</u>	<u>\$ 640,418</u>	<u>\$0.006</u>

*\*Women/minority-owned brokerage firm. The Retirement Board's brokerage policy encourages investment manager, as they search for best possible trade execution, to utilize women/minority-owned enterprises, specifically firms headquartered in the State of Illinois.*

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# Actuarial Section

*This section includes the actuarial reports and summarizes actuarial liability and unfunded actuarial liability. Schedules of data summarizing information about members and beneficiaries, actuarial assumptions, principal provisions, and a glossary of terms are also included.*

# Actuarial Certification - Pension Benefits

buckconsultants



May 2016

Board of Trustees  
County Employees' and Officers' Annuity and Benefit Fund of Cook County  
Chicago, Illinois

## Certification of Actuarial Valuation

Ladies and Gentlemen:

This report summarizes the actuarial valuation results of the County Employees' and Officers' Annuity and Benefit Fund of Cook County ("CEABF" or "the Fund") as of December 31, 2015 performed by Buck Consultants, LLC.

The actuarial valuation is based on audited financial and member data provided by the CEABF staff and summarized in this report. The benefits considered are those delineated in the Plan, the CEABF was established on January 1, 1926 and is governed by legislation contained in the Illinois Compiled statutes, particularly Chapter 40, as amended and restated effective December 31, 2014. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under the Plan were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Certain historical information with respect to costs, liabilities, assets, accounting disclosure information, etc. has been derived from the prior actuary's reports and information provided by the Plan sponsor. That information is presented for comparison purposes and Buck Consultants has not verified the validity of any of those calculations or data. Buck Consultants, LLC is solely responsible for the actuarial data and actuarial results presented in this report, excluding the historical information and data just described. This report fully and fairly discloses the actuarial position of the Plan.

The CEABF is funded by Employer and Member Contributions. During 2015 an Intergovernmental Agreement (IGA) was entered into between the Employer and CEABF which established an additional employer contribution for 2016 in excess of the statutory contribution, but less than the Actuarially Required Contribution.

In addition, the IGA stipulates that as CEABF's actuary, Buck Consultants will calculate the required contribution based on an alternative funding policy that would be sufficient to pay the Normal Costs of active Plan members, Plan expenses, and amortizes the Unfunded Actuarial Accrued Liability over a period of 30 years, with an annual 2% escalation factor applied to the amortization payments. This alternative funding policy was used to determine the Actuarial Required Contribution on page 92. The alternative funding policy would provide for a higher Employer contribution than the current statutory contribution mechanism which is not sufficient in its current construct to fund the plan in an actuarially sound manner. Under the statutory funding provision, the Employer levies a tax annually equal to the total amount of contributions made by the members in the calendar year 2 years prior to the year of the levy, multiplied by 1.54. This methodology currently represents less than 30% of the required contribution and results in projected insolvency of CEABF by 2037. In comparison, the alternative funding policy is projected to achieve full funding by 2046.

The economic and demographic assumptions used in the valuation were adopted by the Board in consultation with Buck Consultants. The Board's established practice is to review the experience of the CEABF at least once

every five years to determine if any changes to the valuation assumptions are warranted. The assumptions used in the valuation are based on recommendations made and approved by the Board as part of an Experience Study covering plan years from January 1, 2009 through December 31, 2012. This experience study was performed by Buck in January, 2014 and resulted in changes in the following assumptions:

- Permanent Withdrawal from Active Status
- Retirement
- Salary Increase
- Inflation
- Mortality and future mortality improvement

In selecting economic assumptions, the interest rate of 7.50% is based upon a review of the existing portfolio structure, a review of recent experience, and information from the Board. The salary increase assumption is based on actual experience and future expectations of inflation, merit, and productivity components. In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the CEABF and to reasonable long-term expectations. The mortality improvement assumption was selected in accordance with Actuarial Standard of Practice No. 35. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown on pages 109-113.

The assumptions and methods used to determine the Annual Determined Contributions (ADC) of the CEABF as outlined in this report and all supporting schedules meet the parameters and requirements for disclosure of Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans. Based on member data and asset information provided by the CEABF staff, we have prepared the Schedule of Funding Progress and Schedule of Employer Contributions that are included in the Financial Section of the Comprehensive Annual Financial Report. Because of the risk of misinterpretation of actuarial results, you should ask us to review any statement you wish to make on the results contained in this report. Buck will accept no liability for any such statement made without our prior review.

Future actuarial measurements may differ significantly from the current measurement presented in this report due to such factors as: plan experience different from that anticipated by the economic and 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. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

Please note that GASB Statement No. 25 (Financial Reporting for Defined Benefit Pension Plans) is applicable for fiscal years ending prior to 2014 and has been replaced by GASB Statement No. 67 (Financial Reporting for Pension Plans) for fiscal years ending 2014 and later. Similarly, GASB Statement No. 27 (Accounting for Pensions by State and Local Governmental Employers) is applicable for fiscal years ending prior to 2015 and has been replaced by GASB Statement No. 68 (Accounting and Financial Reporting for Pensions) for fiscal years ending 2015 and later. We have prepared required accounting information for GASB Statement Nos. 67 and 68 for the measurement year ending December 31, 2015, based on valuation dates of December 31, 2014 and December 31, 2015.

## ACTUARIAL SECTION

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### Actuarial Certification - Pension Benefits (continued)

The undersigned is an Enrolled Actuary, an Associate of the Society of Actuaries and Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all Applicable Actuarial Standards of Practice. He is available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

Respectfully submitted,

BUCK CONSULTANTS, LLC



Larry Langer, EA, ASA, MAAA, FCA  
Principal, Retirement

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cc: Wendy Ludbrook

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# Actuarial Valuation - Pension Benefits

## Overview

The County Employees' and Officers' Annuity and Benefit Fund of Cook County ("CEABF" or "the Fund") provides pension and ancillary benefit payments to the active, retired and separated employees of Cook County. A Retirement Board comprised of retiree, employee, and appointed representatives is responsible for administering the Plan and providing oversight of the investment policy. This report presents the results of the actuarial valuation of the Plan benefits as of the valuation date of December 31, 2015.

## Purpose

An actuarial valuation is performed on the Plan annually as of the end of the fiscal year. The main purposes of the actuarial valuation detailed in this report are:

1. To determine the employer contribution necessary to fund the CEABF in an actuarially sound manner;
2. To disclose the funding assets and liability measures as of the valuation date;
3. To disclose the accounting measures for the Plan required by GASB No. 67 as of the end of the last fiscal year;
4. To review the current funded status of the Plan;
5. To compare actual and expected experience under the Plan during the last fiscal year;
6. And to report trends in contributions, assets, liabilities, and funded status over the last several years.

Because of the risk of misinterpretation of actuarial results, you should ask us to review any statement you wish to make on the results contained in this report. Buck will accept no liability for any such statement made without our prior review. This actuarial valuation provides a "snapshot" of the funded position of the Plan based on the Plan provisions, membership, assets, and actuarial assumptions as of the valuation date.

## Membership

**Actives:** As of December 31, 2015, there were 21,596 employees in active service (including 171 on disability) covered under the provisions of the Plan. The significant age, service, salary and accumulated contribution information for these employees is summarized below, along with comparative figures from the last actuarial valuation one year earlier.

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Number of active employees	21,596	21,656
Average age	47.1	47.2
Average years of service	13.5	13.7
Total annual valuation salary	\$1,572,417,298	\$1,514,550,023
Average annual salary	\$ 72,811	\$ 69,937
Total accumulated contributions	\$1,755,975,205	\$1,738,182,146
Average accumulated contributions	\$ 81,310	\$ 80,263

The number of active members decreased by 0.3% from the previous valuation date. The average age and service of the active members decreased slightly. The total annual valuation salary increased by 3.8%. The average salary increased by 4.1% from the previous valuation.

**Disabilities:** There were 171 disabled members (included in the active data). There were 189 disabilities in the prior year.

**Retirees and Beneficiaries:** In addition to the active members, there were 14,922 retired members and 2,675 beneficiaries who are receiving monthly benefit payments on the valuation date. The significant age and annual benefit information for these members are summarized below with comparative figures from the last actuarial valuation performed one year earlier.

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Number of members receiving payments		
Retirees	14,922	14,437
Beneficiaries	2,675	2,639
Total	17,597	17,076
Average age	71.6	71.6
Annual benefit amounts		
Retirees	\$ 608,178,046	\$ 564,016,560
Beneficiaries	\$ 46,814,690	\$ 43,348,872
Total	\$ 654,992,736	\$ 607,365,432
Average annual benefit payments	\$ 37,222	\$ 35,568

The number of retired members and beneficiaries increased by 3.4% from the previous valuation date. The average age of the retired members remained the same. The total annual benefit payments for these members increased by 7.8% from the previous valuation date.

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Membership (continued)

*Inactives:* In addition to the active and retired members, there were 13,190 inactive members who did not elect to receive their accumulated contributions when they left covered employment. The age information for these inactive members is summarized below with comparative figures from the last actuarial valuation one year earlier.

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Number of inactive members	13,190	13,194
Average age	47.4	46.6

The number of inactive members remained close to the same from the previous valuation. The average age of the inactive members increased by 0.8 years.

In our opinion, the membership data collected and prepared for use in this actuarial valuation meets the data quality standards required under Actuarial Standards of Practice No. 23.

#### Plan Assets

The Plan's assets are held in trust and invested for the exclusive benefit of Plan members. The trust is funded by member and employer contributions, and pays benefits directly to eligible members in accordance with Plan provisions. The assets are audited annually and are reported at fair value. On a fair value basis, the Plan has a Net Position of \$8.64 billion as of December 31, 2015. This includes a decrease of \$425.4 million over the Net Position of \$9.07 billion as of December 31, 2014. During 2015, the fair value of assets experienced an investment rate of return of -0.1% (net of investment expenses), as reported by the investment consultant.

In order to reduce the volatility investment gains and losses can have on the Plan's actuarially required contribution and funded status, the Board has adopted a five-year smoothing method to determine the actuarial value of assets used for funding purposes. This method recognizes gains and losses, i.e. the difference between actual investment return during the year and the expected return based on the valuation interest rate, on a level basis over a five year period. In our opinion, this method complies with Actuarial Standards of Practice No. 44. As of December 31, 2015, the assets available for benefits on an actuarial value basis were \$9.00 billion. This includes an increase of \$180.5 million over the actuarial value of assets of \$8.81 billion as of December 31, 2014. During 2015, the actuarial value of assets experienced an actuarial rate of return of 6.55%.

A summary of the assets held for investment, a summary of changes in assets, and the development of the actuarial value of assets is shown on pages 96-98.



## Actuarial Experience

Differences between the expected experience based on the actuarial assumptions and the actual experience create changes in the actuarial accrued liability, actuarial value of assets, and the unfunded actuarial accrued liability from one year to the next. These changes create an actuarial gain if the experience is favorable and an actuarial loss if the experience is unfavorable. The Plan experienced a total net actuarial loss of \$255.3 million during the prior year. This net loss is about 1.8% of the Plan's prior year actuarial accrued liability. The net loss is a combination of two principal factors, demographic experience and investment performance under actuarial smoothing. Below is a more detailed discussion.

The demographic experience tracks actual changes in the Plan's population compared to the assumptions for decrements such as mortality, turnover, and retirement, as well as pay increases. The Plan experienced a demographic loss of \$193.4 million during the year ending December 31, 2015. This loss increased the unfunded actuarial accrued liability by \$193.4 million and decreased the funded ratio by 0.8%.

There were 19,621 active members who were also reported active in the December 31, 2014 actuarial valuation. The total salary for this group increased by 7.5%, which was higher than the 4.2% increase we expected for the group.

Continued tracking of the demographic experience is warranted in order to confirm the appropriateness of the actuarial assumptions. Details of the demographic, economic, and other assumptions used to value the Plan liabilities and normal cost can be found on pages 111-113. In our opinion, the economic assumptions comply with Actuarial Standards of Practice No. 27 and the demographic assumptions comply with Actuarial Standards of Practice No. 35.

On the asset side, the Plan experienced a loss on an actuarial value of assets basis. The actual rate of return on the actuarial value of Plan assets for the year ending December 31, 2015 was approximately 6.6% compared to the assumption of 7.5%, resulting in an asset loss of \$62.0 million. This loss increased the unfunded actuarial accrued liability by \$62.0 million and decreased the funded ratio by 0.4%.

The rate of return on the fair value of assets for the year ending December 31, 2015 was lower than the assumed rate of 7.5%. The actuarial value of the assets recognizes only 20% of the 2015 loss on fair value, delaying the recognition of the remaining 80% over the next four years. Moreover, the actuarial value of assets also recognizes deferred portions of prior years' gains and losses on fair value. The investment loss recognized this year is primarily due to the investment loss in 2015. It should be noted that the Plan's assumed asset return of 7.5% is a long-term rate and short-term performance is not necessarily indicative of expected long-term future returns.

A summary of the actuarial gains and losses experienced during the year is shown on page 93.

## ACTUARIAL SECTION

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### Actuarial Valuation - Pension Benefits (continued)

#### Actuarial Contributions

During 2015 an Intergovernmental Agreement (IGA) was entered into between the Employer and CEABF which established an additional employer contribution for 2016 in excess of the statutory contribution, but less than the Actuarially Required Contribution.

In addition, the IGA stipulates that as CEABF's actuary, Buck Consultants will calculate the required contribution based on an alternative funding policy that would be sufficient to pay the Normal Costs of active Plan members, Plan expenses, and amortizes the Unfunded Actuarial Accrued Liability over a period of 30 years, with an annual 2% escalation factor applied to the amortization payments. This alternative funding policy was used to determine the Actuarial Required Contribution in Section 1.2. The alternative funding policy would provide for a higher Employer contribution than the current statutory contribution mechanism which is not sufficient in its current construct to fund the plan in an actuarially sound manner. Under the statutory funding provision, the Employer levies a tax annually equal to the total amount of contributions made by the members in the calendar year 2 years prior to the year of the levy, multiplied by 1.54. This methodology currently represents less than 30% of the required contribution and results in projected insolvency of CEABF by 2037. In comparison, the alternative funding policy is projected to achieve full funding by 2046. We summarize those costs in the next paragraph.

The normal cost represents the cost of the benefits that accrue during the year for active members under the Entry Age Actuarial Cost Method. It is determined as a level percentage of pay which, if paid from entry age to the assumed retirement age, assuming all the actuarial assumptions are exactly met by experience, would accumulate to a fund sufficient to pay all benefits provided by the Plan. The expected member contributions are subtracted from this amount to determine the employer normal cost.

The cost method also determines the actuarial accrued liability which represents the value of all accumulated past normal cost payments. This amount is compared to the actuarial value of assets to determine if the Plan is ahead or behind in funding as of the valuation date. The difference between the total actuarial accrued liability and the actuarial value of assets equals the amount of unfunded actuarial accrued liability or surplus (if negative) on the valuation date. This amount is amortized and added to the employer normal cost to determine the annual actuarially required employer contribution for the year.

In determining the actuarially required employer contribution amount for the December 31, 2016 plan year, based on the terms of the IGA, the employer normal cost for 2017 has been determined to be \$107.4 million, or 6.8% of pay and the December 31, 2016 unfunded actuarial accrued liability is projected to be \$6.10 billion. The annual payment required to amortize the unfunded actuarial accrued liability of \$6.10 billion as of December 31, 2016 is \$407.5 million, or 25.9% of pay. The annual actuarially required employer contribution for 2017 is \$514.9 million, or 32.7% of pay.

The actuarial liabilities and development of the annual actuarial employer contribution is shown on pages 91-92.

## Funded Status

The funded status is a measure of the progress that has been made in funding the Plan as of the valuation date. It is determined as a ratio of the actuarial value of assets divided by the total actuarial accrued liability on the valuation date. A ratio of over 100% represents a Plan that is ahead in funding, and a ratio of less than 100% represents a Plan that is behind in funding on the valuation date.

As of December 31, 2015 the funded ratio of the Plan is 60.2%. This represents a decrease of 2.1% from last year's funded ratio of 62.3% as of December 31, 2014.

Where presented, references to "funded ratio" and "unfunded accrued liability" are typically measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

A history of the unfunded actuarial accrued liability and the funded ratio is shown on page 95.

## Accounting Information

The Governmental Accounting Standards Board (GASB) issues statements which establish financial reporting standards for defined benefit pension Plans and accounting for the pension expenditures and expenses for governmental employers. The required financial reporting information for the Plan and the Employer under GASB No. 67 can be found on pages 100-103.

## Changes in Plan Provisions

There were no changes in benefits or other Plan provisions considered in this actuarial valuation since the last valuation performed as of December 31, 2014.

## Changes in Actuarial Assumptions, Methods, or Procedures

There have been no changes in asset valuation method or actuarial assumptions since the last actuarial valuation performed as of December 31, 2014.

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Comparative Summary of Key Actuarial Valuation Results

	Actuarial Valuation as of	
	<u>December 31, 2015</u>	<u>December 31, 2014</u>
<b>Summary of Member Data</b>		
Number of Members Included in the Valuation		
Active Members	21,596	21,656
Retirees and Beneficiaries	17,597	17,076
Inactive Members	<u>13,190</u>	<u>13,194</u>
Total	52,383	51,926
Annual Payroll		
Average (actual)	\$72,811	\$69,937
Annual Benefit Payments		
Retirees and Beneficiaries (Average) <sup>1</sup>	\$37,222	\$35,568
<b>Investment Returns</b>		
Fair Value - Rate of Return (net of investment expenses) <sup>2</sup>	-0.1%	5.9%
Actuarial Value - Rate of Return	6.6%	8.9%
<b>Summary of Assets and Liabilities</b>		
Total Actuarial Accrued Liability	\$14,936,591,336	\$14,140,547,353
Actuarial Value of Assets	<u>\$ 8,991,018,918</u>	<u>\$ 8,810,509,070</u>
Unfunded Actuarial Accrued Liability	\$ 5,945,572,418	\$ 5,330,038,283
Funded Ratio	60.19%	62.31%
<b>Employer Actuarial Required Contribution</b>		
Employer Normal Cost	\$ 107,422,955	\$ 99,828,114
Amortization of Unfunded Actuarial Accrued Liability (Surplus)	<u>\$ 407,465,533</u>	<u>\$ 419,814,817</u>
Employer Actuarial Required Contribution	\$ 514,888,487	\$ 519,642,931

<sup>1</sup> The average annual benefit payments for retirees only is \$40,757 as of December 31, 2015 and \$39,067 as of December 31, 2014.

<sup>2</sup> Rate of return determined by the investment consultant.

**Actuarial Liabilities and Normal Cost**

For the Fiscal Year ending December 31, 2015

<b>Actuarial Liabilities</b>	<b><u>Totals</u></b>
1. Present Value of Projected Benefits for Active Members	
Retirement Benefits	\$ 7,523,557,710
Withdrawal Benefits	327,860,331
Death Benefits	<u>156,091,467</u>
Total	8,007,509,508
2. Retired Members and Beneficiaries Receiving Benefits	7,864,534,443
3. Inactive Members with Deferred Benefits	<u>659,001,722</u>
4. Total Present Value of Projected Benefits (1. + 2. + 3.)	16,531,045,673
5. Present Value of Future Normal Costs	<u>1,594,454,338</u>
6. Total Actuarial Accrued Liability (4. – 5.)	\$14,936,591,335

<b>Normal Cost</b>	<b><u>Totals</u></b>	<b><u>% of Pay</u></b>
1. Active Members		
a. Retirement Benefits	\$ 185,570,353	11.79%
b. Withdrawal Benefits	31,911,981	2.03%
c. Duty Disability Benefits	0	0.00%
d. Ordinary Disability Benefits	377,604	0.02%
e. Death Benefits	5,514,489	0.35%
f. Administrative Expenses	<u>5,408,666</u>	<u>0.34%</u>
2. Total Normal Cost	228,783,093	14.52%
3. Expected Member Contribution	<u>133,835,038</u>	<u>8.49%</u>
4. Employer Normal Cost (2. – 3.)	\$ 94,948,055	6.03%

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Actuarial Contributions\*

Development of Employer Contribution	Fiscal Year Ending December 31,	
	<u>2016</u>	<u>2015</u>
1. Valuation Payroll	\$ 1,572,417,298	\$ 1,488,404,826
2. Total Actuarial Accrued Liability		
a. Active Members		
i. Retirement Benefits	6,134,621,054	5,889,309,065
ii. Withdrawal Benefits	162,369,404	158,524,080
iii. Death Benefits	116,064,713	112,447,660
iv. Total	<u>6,413,055,171</u>	<u>6,160,280,805</u>
b. Retired Members and Beneficiaries Receiving Benefits	7,864,534,443	7,295,515,219
c. Inactive Members with Deferred Benefits	<u>659,001,722</u>	<u>684,751,329</u>
d. Total (2.a.iv. + 2.b. + 2.c.)	<u>14,936,591,336</u>	<u>14,140,547,353</u>
3. Actuarial Value of Assets	8,991,018,918	8,810,509,070
4. Unfunded Actuarial Accrued Liability (UAAL) (2.d. - 3.)	5,945,572,418	5,330,038,283
5. Funded Ratio (3. / 2.d.)	60.19%	62.31%
6. UAAL as a Percent of Annual Payroll (4. / 1.)	378.12%	358.10%
1. Amortization Payment for UAAL		
a. Amount	407,465,533	419,814,817
b. As a % of pay	25.91%	28.21%
2. Employer Normal Cost		
a. Amount	107,422,955	99,828,114
b. As a % of pay	6.83%	6.71%
3. Employer Actuarial Required Contribution		
a. Amount	514,888,487	519,642,931
b. As a % of pay	32.74%	34.92%
4. Funding Period (years)	30	30

\* The contribution rates above are amounts needed to fund the CEABF in an actuarially responsible manner. The Fiscal Year Ending December 31, 2016 contribution amount is determined by the methodology outlined in the Intergovernmental Agreement entered into during 2015.

## Actuarial (Gain)/Loss

Development of Actuarial (Gain) / Loss	<u>Amount</u>
1. Expected Actuarial Accrued Liability	
a. Actuarial Accrued Liability at December 31, 2014	\$14,140,547,353
b. Normal Cost at December 31, 2014	226,529,966
c. Interest on a. + b. to End of Year	1,077,530,799
d. Benefit Payments and Refunds, with Interest to End of Year	<u>701,379,247</u>
e. Expected Actuarial Accrued Liability Before Changes (a. + b. + c. - d.)	14,743,228,871
f. Change in Actuarial Accrued Liability at December 31, 2015, Due to Change in Actuarial Assumptions	0
g. Change in Actuarial Accrued Liability at December 31, 2015, Due to Change in Actuarial Methods	<u>0</u>
h. Expected Actuarial Value of Assets at December 31, 2015 (e. + f. + g.)	14,743,228,871
2. Actuarial Accrued Liability at December 31, 2015	<u>14,936,591,336</u>
3. Liability (Gain) / Loss (2. - 1.h.)	193,362,465
4. Expected Actuarial Value of Assets	
a. Actuarial Value of Assets at December 31, 2014	8,810,509,070
b. Interest on a. to End of Year	660,788,180
c. Contributions Made for December 31, 2015	278,163,516
d. Interest on c. to End of Year	10,242,556
e. Benefit Payments and Administrative Expenses with Interest to End of Year	706,720,032
f. Change in Actuarial Value of Assets at December 31, 2015 due to Change in Method	<u>0</u>
g. Expected Actuarial Value of Assets at December 31, 2015 (a. + b. + c. + d. - e. - f.)	9,052,983,290
5. Actuarial Value of Assets as of December 31, 2015	<u>8,991,018,918</u>
6. Actuarial Asset (Gain) / Loss (4.g. - 5.)	<u>61,964,372</u>
7. Actuarial (Gain) / Loss (3. + 6.)	\$ 255,326,837

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

## Analysis of Experience

### Analysis of Actuarial (Gains) and Losses Resulting From Differences Between Assumed Experience and Actual Experience

Type of (Gain) or Loss	Year End <u>December 31, 2015</u>	As % of <u>Last Year's AAL</u>
1. COLA Experience	\$ 0	0.00%
2. Salary Experience	164,977,011	1.17%
3. Investment Experience	61,964,372	0.44%
4. Retiree Mortality Experience	(28,289,277)	-0.20%
5. Contribution Shortfall	<u>365,982,009</u>	<u>2.59%</u>
6. (Gain) or Loss During Year From Experience, (1. + 2. + 3. + 4. + 5.)	564,634,115	3.99%
7. Asset Valuation Method	0	0.00%
8. Past Service Amortization Change	0	0.00%
9. Assumption and Method Changes	0	0.00%
10. Coding Changes	0	0.00%
11. Other (turnover, retirement ages, service purchase, etc.)	<u>(309,307,278)</u>	<u>-2.19%</u>
12. Total (Gain) or Loss During Year, (6. + 7. + 8. + 9. + 10.+ 11.)	\$ <u>255,326,837</u>	<u>1.81%</u>

## Actuarial Balance Sheet

Financial Resources	<u>December 31, 2015</u>
1. Actuarial Value of Assets	\$ 8,991,018,918
2. Present Value of Future Contributions	
a. Expected Member Contributions	932,734,382
b. Employer Normal Cost	<u>661,719,956</u>
c. Total	1,594,454,338
3. Unfunded Actuarial Accrued Liability/(Reserve)	<u>5,945,572,418</u>
4. Total Assets (1. + 2.c. + 3.)	16,531,045,674
<b>Benefit Obligations</b>	
1. Present Value of Future Benefits	
a. Active Members	8,007,509,508
b. Retirees and Beneficiaries	7,864,534,443
c. Inactive Members	<u>659,001,722</u>
d. Total	\$16,531,045,673



## History of UAAL and Funded Ratio

<u>Valuation Date</u>	<u>Actuarial Accrued Liability (AAL)</u>	<u>Actuarial Value of Assets (AVA)</u>	<u>Funded Ratio (AVA as a % of AAL)</u>	<u>Unfunded Actuarial Accrued Liability (UAAL)</u>
2006	\$ 8,826,581,465	\$ 7,462,683,122	84.55%	\$ 1,363,898,343
2007 <sup>1</sup>	9,386,287,797	8,059,879,804	85.87%	1,326,407,993
2008 <sup>1</sup>	10,097,027,865	8,036,074,797	79.59%	2,060,953,068
2009 <sup>1</sup>	11,489,081,298	7,945,567,096	69.16%	3,543,514,202
2010 <sup>1</sup>	12,023,222,885	7,982,368,659	66.39%	4,040,854,226
2011 <sup>1</sup>	12,628,274,561	7,897,102,116	62.54%	4,731,172,445
2012 <sup>1</sup>	13,418,486,943	7,833,882,926	58.38%	5,584,604,017
2013 <sup>1</sup>	13,636,576,177	8,381,444,287	61.46%	5,255,131,890
2014 <sup>1</sup>	14,140,547,353	8,810,509,070	62.31%	5,330,038,283
2015 <sup>1</sup>	14,936,591,336	8,991,018,918	60.19%	5,945,572,418

<sup>1</sup> Pension benefits only

## Reconciliation of Change in Unfunded Actuarial Liability

<u>Development of Unfunded Actuarial Liability</u>	<u>Amount</u>
1. Unfunded Actuarial Accrued Liability as of December 31, 2014	\$5,330,038,283
2. Employer Contribution Requirement of Normal Cost Plus Interest on Unfunded Liability for Period January 1, 2015 to December 31, 2015	507,068,094
3. Actual Employer Contribution for the Year, Plus Interest	141,086,085
4. Increase in Unfunded Liability Due to Employer Contribution Plus Interest Being Less Than Normal Cost Plus Interest on Unfunded Liability (2. - 3.)	365,982,009
5. Decrease in Unfunded Liability Due to Investment Return Higher Than Assumed	61,964,372
6. Decrease in Unfunded Liability Due to Salary Increases Lower Than Assumed	164,977,011
7. Increase in Unfunded Liability Due to Other Sources	22,610,743
8. Net Increase in Unfunded Liability for the Year (4. + 5. + 6. + 7.)	615,534,135
9. Unfunded Actuarial Liability as of December 31, 2015 (1.+ 8.)	\$5,945,572,418

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Summary of Fair Value of Assets

Asset Category	Fair Value as of December 31,			
	2015		2014	
	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>
<b>1. Short-Term Investments</b>	\$ 453,717,122	4.74%	\$ 587,544,323	5.79%
<b>2. Investments at Fair Value</b>				
a. U.S. and International Equities	3,925,905,225	41.00%	4,110,040,451	40.54%
b. U.S. Government and Government Agency Obligations	1,031,502,731	10.77%	1,109,668,190	10.94%
c. Corporate Bonds	765,044,107	7.99%	857,209,577	8.45%
d. Collective International Equity Fund	51,962,976	0.54%	57,477,592	0.57%
e. Commingled Fixed Income Fund	25,666,065	0.27%	25,893,428	0.26%
f. Exchange Traded Funds	458,949,498	4.79%	607,454,824	5.99%
g. Private Equities	352,130,755	3.68%	285,899,168	2.82%
h. Hedge Funds	803,013,247	8.39%	800,093,500	7.89%
i. Real Estate	591,993,643	6.18%	388,902,521	3.84%
j. Total	<u>8,006,168,247</u>	<u>83.62%</u>	<u>8,242,639,251</u>	<u>81.30%</u>
<b>3. Collateral Held for Securities Lending</b>	1,114,387,026	11.64%	1,308,676,647	12.91%
<b>4. Total Assets (1. + 2.j. + 3.)</b>	<u>9,574,272,395</u>	<u>100.00%</u>	<u>10,138,860,221</u>	<u>100.00%</u>
<b>5. Receivables</b>				
a. Interest and Dividends	20,729,923		22,205,338	
b. Investments Sold	101,749,176		162,275,218	
c. Other Receivables	194,512,456		194,103,288	
d. Total	<u>316,991,555</u>		<u>378,583,844</u>	
<b>6. Payables</b>				
a. Investments Purchased	128,697,672		135,337,446	
b. Securities Lending Collateral	1,114,387,026		1,308,676,647	
c. Other Payables	5,134,977		5,031,192	
d. Total	<u>1,248,219,675</u>		<u>1,449,045,285</u>	
<b>7. Net Assets for Pension Benefits (4. + 5.d. – 6.d.)</b>	<b>\$8,643,044,275</b>		<b>\$9,068,398,780</b>	

## Changes in Fair Value of Assets

### Transactions

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
<i>Additions</i>		
<b>1. Contributions</b>		
a. Contributions from Employers	\$ 136,075,504	\$ 146,075,414
b. Contributions from Plan Members	137,707,719	129,325,318
c. Total	<u>273,783,223</u>	<u>275,400,732</u>
<b>2. Net Investment Income</b>		
a. Interest and Dividends	180,001,278	190,780,701
b. Net Appreciation (Depreciation)	(173,161,584)	325,036,291
c. Net Securities Lending Income	4,962,545	4,865,250
d. Total	<u>11,802,239</u>	<u>520,682,242</u>
e. Less Investment Expense	<u>33,698,935</u>	<u>31,791,345</u>
f. Net Investment Income	(21,896,696)	488,890,897
g. Miscellaneous	4,361,923	3,578,590
h. Employee Transfers	18,370	175,370
<b>3. Total Additions</b>	<b><u>256,266,820</u></b>	<b><u>768,045,589</u></b>
<i>Deductions</i>		
<b>4. Benefits and Expenses</b>		
a. Retirement Benefits	643,197,044	595,655,898
b. Refund of Contributions	33,273,171	26,347,361
c. Administrative Expenses	5,151,110	5,010,206
d. Employee Transfers	0	0
<b>5. Total Deductions</b>	<b><u>681,621,325</u></b>	<b><u>627,013,465</u></b>
<b>6. Net Increase (Decrease)</b>	<b><u>(425,354,505)</u></b>	<b><u>141,032,124</u></b>
<b>7. Net Assets Held in Trust for Pension Benefits</b>		
a. Beginning of Year	<b><u>9,068,398,780</u></b>	<b><u>8,927,366,656</u></b>
b. End of Year	<b><u>\$8,643,044,275</u></b>	<b><u>\$9,068,398,780</u></b>

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Actuarial Value of Assets

<b>Development of Actuarial Value of Assets</b>	<b><u>Amount</u></b>		
1. Actuarial Value of Assets as of December 31, 2014	\$8,810,509,070		
2. Unrecognized Return as of December 31, 2014	<u>257,889,710</u>		
3. Fair Value of Assets as of December 31, 2014 (1. + 2.)	9,068,398,780		
4. Contributions			
a. Member (includes purchased service)	137,707,719		
b. Employer	136,075,504		
c. Miscellaneous contributions	<u>4,380,293</u>		
d. Total	278,163,516		
5. Distributions			
a. Benefit payments	643,197,044		
b. Refund of contributions	33,273,171		
c. Administrative expenses	<u>5,151,110</u>		
d. Total	681,621,325		
6. Expected Return at 7.50% on			
a. Item 1.	660,788,180		
b. Item 2.	19,341,728		
c. Item 4.d.	10,242,556		
d. Item 5.d.	<u>25,098,707</u>		
e. Total (a. + b. + c. - d.)	665,273,757		
7. Actual Return on Fair Value for Fiscal Year, Net of Investment Expenses	<u>(21,896,696)</u>		
8. Return to be Spread for Fiscal Year (7. - 6.e.)	(687,170,453)		
9. Total Fair Value of Assets as of December 31, 2015	8,643,044,275		
10. Return to be Spread			
<u>Fiscal Year</u>	<u>Return to</u>	<u>Unrecognized</u>	<u>Unrecognized</u>
2015	be Spread	Percent	Return
2014	(687,170,453)	80%	(549,736,362)
2013	(167,852,724)	60%	(100,711,634)
2012	586,433,767	40%	234,573,507
2011	339,499,232	20%	67,899,846
	(477,440,319)	0%	<u>0</u>
		Total	<u>(347,974,643)</u>
11. Actuarial Value of Assets (9. - 10.)			\$8,991,018,918
12. Recognized Rate of Return for the Year on Actuarial Value of Assets			6.55%
13. Rate of Return for the Year on Fair Value of Assets (reported by investment consultant - net of investment expenses)			-0.1%

## Schedule of Funding Progress

The liabilities and assets resulting from the last ten actuarial valuations are as follows:

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) Entry Age (b)</b>	<b>Unfunded AAL (UAAL) (b-a)</b>	<b>Funded Ratio (a/b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll (b-a)/(c)</b>
December 31, 2006	\$7,462,683,122	\$ 8,826,581,465	\$1,363,898,343	84.55%	\$1,412,878,627	96.53%
December 31, 2007 <sup>1</sup>	8,059,879,804	9,386,287,797	1,326,407,993	85.87%	1,370,844,734	96.76%
December 31, 2008 <sup>1</sup>	8,036,074,797	10,097,027,865	2,060,953,068	79.59%	1,463,372,408	140.84%
December 31, 2009 <sup>1</sup>	7,945,567,096	11,489,081,298	3,543,514,202	69.16%	1,498,161,713	236.52%
December 31, 2010 <sup>1</sup>	7,982,368,659	12,023,222,885	4,040,854,226	66.39%	1,494,093,569	270.46%
December 31, 2011 <sup>1</sup>	7,897,102,116	12,628,274,561	4,731,172,445	62.54%	1,456,444,123	324.84%
December 31, 2012 <sup>1</sup>	7,833,882,926	13,418,486,943	5,584,604,017	58.38%	1,478,253,368	377.78%
December 31, 2013 <sup>1</sup>	8,381,444,287	13,636,576,177	5,255,131,890	61.46%	1,484,269,715	354.06%
December 31, 2014 <sup>1</sup>	8,810,509,070	14,140,547,353	5,330,038,283	62.31%	1,514,550,023	351.92%
December 31, 2015 <sup>1</sup>	8,991,018,918	14,936,591,336	5,945,572,418	60.19%	1,572,417,298	378.12%

<sup>1</sup> Pension benefits only

## Schedule of Employer Contributions

The required contributions and actual percentages contributed over the last ten years are as follows:

<b>Fiscal Year Ended December 31,</b>	<b>Employer Annual Required Contribution (ARC)</b>	<b>Employer Contribution</b>	<b>Percentage Contributed</b>
2006	\$282,223,686	\$198,619,984	70.38%
2007	287,061,532 <sup>1</sup>	230,114,335 <sup>1</sup>	80.16%
2008	283,892,734 <sup>1</sup>	150,227,360 <sup>1</sup>	52.92%
2009	352,850,988 <sup>1</sup>	152,506,089 <sup>1</sup>	43.22%
2010	454,327,461 <sup>1</sup>	144,539,577 <sup>1</sup>	31.81%
2011	493,724,370 <sup>1</sup>	160,652,118 <sup>1</sup>	32.54%
2012	540,218,287 <sup>1</sup>	152,734,539 <sup>1</sup>	28.27%
2013	595,370,046 <sup>1</sup>	147,720,014 <sup>1</sup>	24.81%
2014	519,642,931 <sup>1</sup>	146,075,414 <sup>1</sup>	28.11%
2015	514,888,487 <sup>1</sup>	136,075,504 <sup>1</sup>	26.43%

<sup>1</sup> Pension benefits only

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Schedule of Expected Changes in Net Pension Liability

The GASB Statement No. 67 Change in Net Pension Liability

<b>Total Pension Liability</b>	<b><u>December 31, 2015</u></b>	<b><u>December 31, 2014</u></b>
Service Cost	\$ 496,161,454	\$ 491,887,347
Interest	994,674,970	958,433,835
Changes of Benefit Terms	-	-
Difference between Expected and Actual Experience	(126,330,351)	-
Change of Assumptions	1,329,087,966	-
Benefit Payments, including Refund of Member Contributions	<u>(676,470,215)</u>	<u>(622,003,259)</u>
Net Change in Total Pension Liability	2,017,123,824	828,317,923
Total Pension Liability - Beginning of Year	\$ 21,945,961,866	\$ 21,117,643,943
Total Expected Pension Liability - End of Year	\$ 23,963,085,690	\$ 21,945,961,866
<b>Plan Fiduciary Net Position</b>		
Employer Contributions	\$ 136,075,504	\$ 146,075,414
Member Contributions	137,707,719	129,325,318
Net Investment Income	(21,896,696)	488,890,897
Benefit Payments, including Refund of Member Contributions	(676,470,215)	(622,003,259)
Administrative Expenses	(5,151,110)	(5,010,206)
Other	<u>4,380,293</u>	<u>3,753,960</u>
Net Change in Plan Fiduciary Net Position	(425,354,505)	141,032,124
Plan Fiduciary Net Position - Beginning of Year	\$ 9,068,398,780	\$ 8,927,366,656
Expected Plan Fiduciary Net Position - End of Year	\$ 8,643,044,275	\$ 9,068,398,780

## Net Pension Liability (Asset)

The GASB Statement No. 67 Net Pension Liability

### Net Pension Liability (Asset)

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Total Pension Liability	\$ 23,963,085,690	\$ 21,945,961,866
Plan Fiduciary Net Position	<u>8,643,044,275</u>	<u>9,068,398,780</u>
Net Pension Liability (Asset)	\$ 15,320,041,415	\$ 12,877,563,086
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	36.07%	41.32%

## Sensitivity

The GASB Statement No. 67 Sensitivity of Net Pension Liability

### Sensitivity of the Expected Net Pension Liability to Changes in the Discount Rate

	<u>1% Decrease</u>	<u>Current</u>	<u>1% Increase</u>
Discount Rate	3.15%	4.15%	5.15%
Net Pension Liability (Asset)	\$19,821,767,092	\$15,320,041,415	\$11,800,111,612

The discount rate used to measure the total pension liability was 4.15%. The discount rate used to measure the total pension liability at December 31, 2014 was 4.50%. The projection of cash flows used to determine the discount rate assumed that CEABF's contributions will continue to follow the current funding policy, which levies a tax annually equal to the total amount of contributions made by the members in the calendar year 2 years prior to the year of the levy, multiplied by 1.54. Based on this assumption, the Plan's fiduciary net position was projected to be insufficient to make all projected future benefit payments of current plan members. A municipal bond rate of 3.20% was used in the development of the blended GASB discount rate after that point. The 3.20% rate is based on the S&P Municipal Bond 20 Year High Grade Rate Index as of December 31, 2015. Based on the long-term rate of return of 7.50% and the municipal bond rate of 3.20%, the blended GASB discount rate would be 4.15%. Please see the supporting exhibits for additional detail.

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Pension Expense

The GASB Statement No. 68 Pension Expense

Measurement Year Ending	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Service Cost	\$ 496,161,454	\$ 491,887,347
Interest	994,674,970	958,433,835
Difference between Expected and Actual Experience	(30,737,312)	-
Change of Assumptions	323,379,067	-
Member Contributions	(137,707,719)	(129,325,318)
Projected Earnings on Plan Investments	(665,273,757)	(656,743,621)
Difference between Expected and Actual Earnings	171,004,636	33,570,545
Administrative Expense	5,151,110	5,010,206
Other	(4,380,293)	(3,753,960)
Changes of Benefit Terms	-	-
Total Pension Expense	<u>\$1,152,272,156</u>	<u>\$ 699,079,034</u>

#### Actuarial Assumptions and Methods

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
Valuation date:	Entry Age	Entry Age
Actuarial cost method:	Market	Market
Asset valuation method:	Market	Market
Total Pension Liability Discount Rate	4.15%	4.50%
Actuarial assumptions:		
- Investment Rate of Return	7.50%	7.50%
- Municipal Bond Rate	3.20%	3.34%
- Projected Salary Increases	8.00% - 3.75%	8.00% - 3.75%
- Inflation Assumption	3.25%	3.25%

The projection of cash flows used to determine the discount rate assumed that County contributions will continue to follow the current funding policy based on the tax levy. Based on this assumption, the Plan's fiduciary net position was projected to be insufficient to make all projected future benefit payments of current plan members. A municipal bond rate of 3.20% was used in the development of the blended GASB discount rate after that point. The 3.20% rate is based on the S&P Municipal Bond 20 Year High Grade Rate Index as of December 31, 2015. Based on the long-term rate of return of 7.50% and the municipal bond rate of 3.20%, the blended GASB discount rate would be 4.15%. See the preceding exhibits for more detail.

Had the projection of cash used to determine the discount rate been based on the IGA funding policy the discount rate would have been 7.50% and the Plan's fiduciary net position would have been projected to be sufficient to make all future benefit payments of current plan members.



## Investment Rate of Return Detail

The long-term expected rate of return on the Fund's investments was determined based on the results of an experience review performed by Buck Consultants. The results of the experience review were presented to the Board by Buck Consultants at the Board's January 9, 2014 Meeting and adopted at the same meeting. The rate of return assumption was based on the target asset allocation of the fund. In the experience review, Buck Consultants developed best estimate ranges of expected future real rates of return (net of inflation) for the portfolio, based on the expected returns of each major asset class and their weights in the portfolio. Buck used an econometric model that forecasts a variety of economic environments and then calculates asset class returns based on functional relationships between the economic variables and the asset classes. Expected Investment expenses were subtracted and expected inflation was added to arrive at the long term expected nominal return. A value for the expected long term expected return was selected for the portfolio such that there was a better than 50% likelihood of the emerging returns exceeding the expected return.

Best estimates of arithmetic real rates of return (net of inflation) for each major asset class included in the Fund's target asset allocation as of December 31, 2013 are listed in the table below:

	<b>Target Allocation</b>	<b>Long-Term Expected Real Rate of Return</b>
Domestic Equity	25.00%	9.36%
International Equity	20.00%	7.61%
Fixed Income	32.00%	2.03%
Real Estate	8.00%	6.91%
Hedge Funds	9.00%	4.68%
Private Equity	6.00%	12.40%
	<u>100.00%</u>	

## ACTUARIAL SECTION

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### Actuarial Valuation - Pension Benefits (continued)

#### Brief Summary of Benefit Provisions

Participant. A person employed by the County whose salary or wages is paid in whole or in part by the County. An employee in service on or after January 1, 1984 shall be deemed as a participant regardless of when he or she became an employee.

Service. For all purposes except the minimum retirement annuity and ordinary disability benefit, service during four months in any calendar year constitutes one year of service. For the minimum retirement annuity, all service is computed in whole calendar months. Service for any 15 days in a calendar month shall constitute a month of service.

For purposes of the minimum retirement annuity, service shall include:

- a. Any time during which the employee performed the duties of his or her position and contributed to the County Employees' and Officers' Annuity and Benefit Fund of Cook County (CEABF).
- b. Vacations and leaves of absence with whole or part pay.
- c. Periods during which the employee receives a disability benefit from the CEABF, and
- d. Certain periods of accumulated sick leave.

Retirement Annuity - Eligibility. An employee who withdraws from service with 10 or more years of service is entitled to a retirement annuity upon attainment of age 50.

#### **Retirement Annuity - Amount**

Money Purchase Annuity. The amount of annuity based on the sum accumulated from the employee's salary deductions for age and service annuity plus 1/10 of the sum accumulated from the contributions by the County for age and service annuity for each completed year of service after the first 10.

Minimum Formula Annuity. The amount of annuity provided is equal to 2.4% of final average salary for each year of service. Final average salary is the highest average monthly salary for any 48 consecutive months within the last 10 years of service. Salary for pension purposes is actual salary earned exclusive of overtime or extra salary. The maximum amount of annuity is 80% of final average salary.

If an employee retires before age 60, the annuity is reduced by .5% for each full month or fraction thereof that the employee is under age 60 when the annuity begins, unless the employee has 30 or more years of service, in which case there is no reduction for retirement before age 60.

If the Minimum Formula Annuity is greater than the Money Purchase Annuity, the employee is entitled to receive the Minimum Formula Annuity.

Automatic Increase in Retirement Annuity. Employees who retire from service having attained age 60 or more, or, if retirement occurs on or after January 1, 1991, with at least 30 years of service, 3% of the annuity beginning January of the year following the year in which the first anniversary of retirement occurs. If retirement is before age 60 with less than 30 years of service, increases begin in January of the year immediately following the year in which age 60 is attained. Beginning January 1, 1998, increases are calculated as 3% of the monthly annuity payable at the time of the increase.

**Brief Summary of Benefit Provisions (continued)**

Optional Plan of Contributions and Benefits. During the period through June 30, 2005, an employee may establish optional credit for additional benefits by making additional contributions of 3% of salary. The additional benefit is equal to 1% of final average salary for each year of service for which optional contributions have been paid. The additional benefit shall be included in the calculation of the automatic annual increase and the calculation of the survivor's annuity.

Alternate Annuity for County Officers. An alternate annuity is available for county officers elected on or before January 1, 2008. The amount of this alternate annuity is equal to 3% of final salary for the first 8 years of service, 4% for the next 4 years of service, and 5% thereafter, subject to a maximum of 80% of final salary. The elected county officer is required to contribute an additional 3% of salary to be eligible for the alternate annuity. The alternate survivor's annuity for survivors of elected county officers is 66-2/3% of the amount of the elected county officer's earned retirement annuity on the date of death, subject to a minimum payment of 10% of salary.

Annuities for Members of the Cook County Police Department. In lieu of the regular of minimum retirement annuity, a deputy sheriff who is a member of the County Police Department may be entitled to the following annuity:

Upon withdrawal from service after having attained age 50 in service with 20 or more years of service credit as a police officer, the officer shall be entitled to an annuity computed as follows: 50% of final average salary, plus 2% of final average salary for each year of service in excess of 20 years, subject to a maximum of 80% of final average salary.

**Surviving Spouse's Annuity - Death in Service**

Money Purchase Annuity- Death In Service. The amount of of annuity based on the accumulated salary deductions and County contributions for both the employee and the spouse.

Minimum Formula Annuity. A annuity is provided for the eligible surviving spouse of an employee who dies in service with any number of years of service. The amount of such minimum spouse's annuity is equal to 65% of the annuity the employee would have been entitled to as of the date of death, provided the spouse on such date is age 55 or older, or that the employee had 30 or more years of service. If the spouse is under age 55 and the employee had less than 30 years of service, the amount of the spouse's annuity shall be discounted by .5% for each month that the spouse is less than age 55 on the date of the employee's death. The amount of the surviving spouse's annuity shall not be less than 10% of the employee's final average salary as of the date of death.

If the Minimum Formula Annuity is greater than the Money Purchase Annuity, the surviving spouse shall be entitled to receive the Minimum Formula Annuity.

Surviving Spouse's Annuity - Death after Retirement. The amount of the annuity is the greater of the money purchase annuity or the minimum formula annuity. The surviving spouse of an annuitant who dies on or after July 1, 2002 shall be entitled to an annuity of 65% of the employee's annuity at the time of death if the employee had at least 10 years of service, reduced by .5% per month that the spouse is under age 55 at the time of the employee's death. There is no reduction for age if the employee had at least 30 years of service.

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Brief Summary of Benefit Provisions (continued)

Automatic Annual Increase in Surviving Spouse's Annuity. On the January 1 occurring on or immediately after the first anniversary of the deceased employee's death, the surviving spouse's annuity shall be increased by 3% of the amount of annuity payable at the time of the increase. On each January 1 thereafter, the annuity shall be increased by an additional 3% of the amount of annuity payable at the time of the increase.

Child's Annuity. Annuities are provided for unmarried children of a deceased employee who are under age 18. An adopted child is entitled to the child's annuity if such child was legally adopted at least one year before the child's annuity becomes payable. The child's annuity is payable under the following conditions:

(a) the death of the employee was a duty related death; or (b) if the death is not a duty related death, the employee died while in service and had completed at least four years of service from the date of his or her original entrance in service and at least two years from the latest re-entrance; or (c) if the employee died while in receipt of an annuity, her or she must have withdrawn from service after attainment of age 50.

The amount of the annuity is the greater of 10% of the employee's final salary at the date of death or \$140 per month for each child.

Duty Disability Benefits. Duty disability benefits are payable to an employee who becomes disabled as a result of an accidental injury incurred while in the performance of an act of duty. Benefits begin on the first regular and normal work date for which the employee does not receive a salary. The amount of the duty disability benefit is equal to 75% of the employee's salary at the date of injury, reduced by the amount the employee receives from Workers' Compensation. However, if the disability, in any measure has resulted from any physical defect or disease that existed at the time such injury was sustained, the duty disability benefit shall be 50% of salary. The CEABF contributes the 8.5% (9% for County Police) of salary normally contributed by the employee for pension purposes.

If the disability commences prior to age 60, duty disability benefits are payable during disability until the employee attains age 65. If the disability begins after age 60, the benefit is payable during disability for a period of 5 years.

Recipients of duty disability benefits also have a right to receive child's disability benefits of \$10 per month on account of each unmarried child less than age 18. Total children's disability benefits shall not exceed 15% of the employee's salary.

Ordinary Disability Benefits. Ordinary disability benefits are provided for employees who become disabled as the result of any cause other than injury incurred in the performance of an act of duty. The amount of the benefit is 50% of the employee's annual salary at the time of disability. The CEABF also contributes the 8.5% (9% for County Police) of salary normally contributed by the employee for pension purposes.

Ordinary disability benefits are payable after the first 30 days of disability provided the employee is not then in receipt of salary. Ordinary disability benefits are payable until the first of the following shall occur:

(a) the disability ceases; or  
(b) the date that total payments equal the lesser of (1) 1/4 of the total service rendered prior to disability, and (2) five years.

An employee unable to return to work at the expiration of ordinary disability benefit is entitled to an annuity beginning on the date of the employee's withdrawal from service regardless of age on such date.

## Brief Summary of Benefit Provisions (continued)

Death Benefit. Upon the death of an active or retired employee, a death benefit of \$1,000 is payable to the employee's designated beneficiary or to the employee's estate if no beneficiary has been designated.

Group Health Benefits. The CEABF may pay all or any portion of the premium for health insurance on behalf of each annuitant who participates in any of the CEABF's health care Plans. As of January 1, 2005, the CEABF is paying 55% of the premiums for retiree annuitants and 70% of the premiums for survivor annuitants.

Refund to Employee Upon Withdrawal From Service. Upon withdrawal from service, an employee under the age of 55, or anyone with less than 10 years of service is eligible for a refund. The employee is entitled to a refund of the amount accumulated to his or her credit for age and service annuity and the survivor's annuity together with the total amount contributed for the automatic annual increase, without interest. Upon receipt of such refund, the employee forfeits all rights to benefits from the CEABF.

Election of Refund in Lieu of Annuity. If an employee's annuity or spouse's annuity is less than \$150.00 per month, such employee or spouse annuitant may elect a refund of the employee's accumulated contributions in lieu of a monthly annuity.

Refund For Surviving Spouse's Annuity. If an employee is unmarried at the time of retirement, all contributions for surviving spouse's annuity will be refunded with interest at the rate of 3% per year, compounded annually.

Refund of Remaining Amounts. In the event that the total amount accumulated to the account of employee from employee contributions for annuity purposes has not been paid to the employee and surviving spouse as a retirement or surviving spouse's annuity before the death of the survivor of the employee and spouse, a refund of any excess amount shall be paid to the children of the employee, in equal parts, or if there are no children, to the beneficiaries of the employee or the administrator of the estate.

Employee Contributions. Employees contribute through salary deductions 8.5% (9% for County Police) of salary to the CEABF, 6.5% (7% for County Police) being for the retirement annuity. 1.5% being for the surviving spouse's annuity, and .5% being for the automatic increase in retirement annuity.

Employer Contributions. The County levies a tax annually equal to the total amount of contributions made by employees in the calendar year 2 years prior to the year of the levy, multiplied by 1.54.

Employer Pick-up of Employee Contributions. Since April 15, 1982, regular employee contributions have been designated for federal income tax purposes as being made by the employer. The employee's W-2 salary is therefore reduced by the amount of contribution. For pension purposes, the salary remains unchanged. For purposes of benefits, refunds, and financing, these contributions are treated as employee contributions.

## ACTUARIAL SECTION

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### Actuarial Valuation - Pension Benefits (continued)

#### Brief Summary of Benefit Provisions (continued)

##### Persons Who First Become Participants On or After January 1, 2011

The following changes to the aforementioned provisions apply to persons who first become participants on or after January 1, 2011 (Tier 2 employees):

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 2011, the annual salary is limited to the Social Security wage base of \$106,800. Limitations for future years shall automatically be increased by the lesser of 3% or one-half of percentage change in the Consumer Price Index-U for the 12 months ending in September.
3. A participant is eligible to retire with unreduced benefits at age 67 with at least 10 years of service credit. However, a participant may elect to retire at age 62 with at least 10 years of service credit and receive a retirement annuity reduced by one-half of 1% for each month that his or her age is under 67.
4. The initial survivor's annuity is equal to 66-2/3% of the participant's earned retirement annuity at the date of death, subject to automatic annual increases of the lesser of 3% or one-half of the increase in the Consumer Price Index-U for the 12 months ending in September, based on the originally granted survivor's annuity.
5. Automatic annual increases in the retirement annuity then being paid 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.
6. Refund upon withdrawal from service. Upon withdrawal from service, an employee who withdraws from service before age 62 regardless of length of service or withdraws with less than 10 years of service regardless of age is entitled to a refund of total contributions made by the employee without interest.

## Description of Actuarial Methods and Valuation Procedures

### Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the **Entry Age Actuarial Cost Method** of funding.

Sometimes called a “funding method,” this is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension Plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the Plan is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each Member would have been eligible to join the Plan if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the Plan.

The Normal Cost for the Plan is determined by summing individual results for each active Member and determining an average normal cost rate by dividing the summed individual normal costs by the total payroll of Members before assumed retirement age.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the Normal Cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date.)

The **Unfunded Actuarial Accrued Liability** is the excess of the Actuarial Accrued Liability over the Actuarial Value of Plan Assets actually on hand on the valuation date. The Unfunded Actuarial Accrued Liability is amortized over 30 years assuming 2% increase using amortization layers. per the IGA.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the Unfunded Actuarial Accrued Liability.

## ACTUARIAL SECTION

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### Actuarial Valuation - Pension Benefits (continued)

#### Description of Actuarial Methods and Valuation Procedures (continued)

##### Asset Valuation Method

The actuarial value of assets is based on a five-year smoothing method and is determined by spreading the effect of each year's investment return in excess of or below the expected return. The Fair Value of assets at the valuation date is reduced by the sum of the following:

- (i) 80% of the return to be spread during the first year preceding the valuation date,
- (ii) 60% of the return to be spread during the second year preceding the valuation date,
- (iii) 40% of the return to be spread during the third year preceding the valuation date, and
- (iv) 20% of the return to be spread during the fourth year preceding the valuation date.

The return to be spread is the difference between (1) the actual investment return on Fair Value and (2) the expected return on Fair Value.

##### Valuation Procedures

No actuarial liability is included for members who terminated non-vested prior to the valuation date, except those due a refund of contributions.

No termination or retirement benefits were projected to be greater than the dollar limitation required by the Internal Revenue Code Section 415 for governmental Plans.

Annual increases in salary were limited to the dollar amount defined under Internal Revenue Code Section 401(a)(17) for affected members.



## Summary of Actuarial Assumptions and Changes in Assumptions

The actuarial assumptions used for the December 31, 2014 actuarial valuation are summarized below. The mortality rate, termination rate, retirement rate, and salary assumptions are based on an experience analysis of CEABF, over the period 2009 through 2012. These assumptions were adopted by the Board as of December 31, 2013, based on the recommendation from the actuary.

Mortality Rates. RP-2000 Blue Collar Mortality Table, base year 2000, fully generational based on Scale BB.

Termination Rates. Termination rates based on the recent experience of the CEABF were used. The following is a sample of the termination rates used:

### Rates of Termination Age at Entrance

Attained Age	Males				Females			
	22	27	32	37	22	27	32	37
22	.225				.200			
27	.128	.145			.115	.183		
32	.030	.116	.165		.030	.117	.165	
37	.030	.030	.105	.141	.030	.030	.093	.114
42	.030	.030	.030	.085	.030	.030	.030	.060
47	.030	.030	.030	.030	.030	.030	.030	.030

**ACTUARIAL SECTION**

**Actuarial Valuation - Pension Benefits (continued)**

**Summary of Actuarial Assumptions and Changes in Assumptions (continued)**

Retirement Rates. For persons who became participants prior to January 1, 2011, rates of retirement for each age from 50 to 75 based on the recent experience of the CEABF. The following are samples of the rates of retirement used:

**Less Than 30 Years of Service at Retirement**

<u>Age</u>	<b>Rates of Retirement</b>	
	<u>Males</u>	<u>Females</u>
50-54	.040	.040
55-58	.080	.060
59	.150	.100
60	.150	.150
61-64	.125	.145
65-69	.225	.200
70	.250	.200
71	.300	.240
72	.350	.280
73	.400	.320
74	.450	.360
75	1.000	1.000

**30 or More Years of Service at Retirement**

<u>Age</u>	<b>Rates of Retirement</b>	
	<u>Males</u>	<u>Females</u>
50-54	.350	.300
55-59	.275	.200
60	.225	.400
61-64	.225	.250
65-69	.270	.200
70	.450	.200
71	.540	.240
72	.630	.280
73	.720	.320
74	.810	.360
75	1.000	1.000

**Retirement Rates for Deputy Sheriffs Who Are Members of the Cook County Police Department With 20 or More Years of Service at Retirement**

<u>Age</u>	<b>Rates of Retirement</b>	
	<u>Males</u>	<u>Females</u>
50-59	.100	.100
60-64	.200	.200
65	1.000	1.000

**Summary of Actuarial Assumptions and Changes in Assumptions (continued)**

Retirement Rates. For persons who became or will become participants on or after January 1, 2011, rates of retirement for each age from 62 to 75 were used. The following are samples of the rates of retirement that were used:

<u>Age</u>	<u>Rates of Retirement</u>	
	<u>Males</u>	<u>Females</u>
62	.400	.350
64	.225	.150
67	.400	.350
70	.450	.200
75	1.000	1.000

Interest Rate. 7.5% per year, compounded annually.

Inflation Rate. 3.25% per year, compounded annually.

Salary Rate (net of inflation):

<u>Age</u>	<u>Rate</u>
25	.0375
30	.0275
35	.0175
40	.0075
45+	.0050

Loading for Reciprocal Benefits. Costs and liabilities of active employees were loaded by 1% for reciprocal annuities where the County is the last employer. It was assumed that 50% of inactive members with one or more year of service would receive a reciprocal annuity where the County is not the last employer. These reciprocal annuities were valued as of the member's retirement date as 10 times an inactive member's accumulated contributions.

Marital Status. 85% of participants were assumed to be married.

Spouse's Age. The spouse of a male employee was assumed to be four years younger than the employee. The spouse of a female employee was assumed to be four years older than the age of the employee.

Inactives. Benefits were estimated based on service and pay and valued as deferred to 55 annuities.

## ACTUARIAL SECTION

### Actuarial Valuation - Pension Benefits (continued)

#### Glossary of Terms

<i>Actuarial Accrued Liability</i>	Total accumulated cost to fund pension benefits arising from service in all prior years.
<i>Actuarial Cost Method</i>	Technique used to assign or allocate, in a systematic and consistent manner, the expected cost of a pension Plan for a group of Plan members to the years of service that give rise to that cost.
<i>Actuarial Present Value of Future Benefits</i>	Amount which, together with future interest, is expected to be sufficient to pay all future benefits.
<i>Actuarial Valuation</i>	Study of probable amounts of future pension benefits and the necessary amount of contributions to fund those benefits.
<i>Actuary</i>	Person who performs mathematical calculations pertaining to pension and insurance benefits based on specific procedures and assumptions.
<i>Annual Required Contribution</i>	Disclosure measure of annual pension cost.
<i>GASB 67</i>	Governmental Accounting Standards Board Statement Number 67.
<i>Maturity Ratio</i>	The ratio of the actuarial accrued liability for members who are no longer active to the total actuarial accrued liability. A ratio of over 50% indicates a mature Plan. The higher the maturity ratio, the more volatile the contribution rate will be from year to year given actuarial gains and losses.
<i>Normal Cost</i>	That portion of the actuarial present value of benefits assigned to a particular year in respect to an individual participant or the plan as a whole.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The portion of the actuarial accrued liability not offset by plan assets.
<i>Vested Benefits</i>	Benefits which are unconditionally guaranteed regardless of employment status.

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# Actuarial Certification - Postemployment Healthcare

buckconsultants



May 27, 2016

Board of Trustees  
County Employees' and Officers' Annuity and Benefit Fund of Cook County  
Chicago, Illinois

## Certification of Actuarial Valuation

Ladies and Gentlemen:

This report summarizes the actuarial valuation results of County Employees' and Officers' Annuity and Benefit Fund of Cook County ("CEABF" or "the Fund") as of December 31, 2015 performed by Buck Consultants, LLC.

The purpose of this valuation is to determine the Annual Required Contribution ("ARC") for the Plan year January 1, 2016 through December 31, 2016, as well as the funded status of the Plan as of the valuation date, December 31, 2015. The ARC and funded status are determined in accordance with GASB Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans* ("GASB 43"). The results may also be used by the government of Cook County for use in determining the County's ARC and Annual OPEB Cost ("AOC") in accordance with GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefit Other Than Pensions* ("GASB 45").

The actuarial valuation is based on unaudited financial data, working rates, plan information and census data provided by Fund staff and summarized in this report. The calculations rely on this information and are only as accurate as the information provided. The benefits considered in this valuation are postretirement health only. The County may offer other postemployment benefits that warrant measurement under GASB 45. However, the scope of this valuation is limited to the County's postretirement health and welfare benefit program as described in this report. The actuary did not verify the data and information submitted but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under the Plan were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable.

The Fund is currently not funded for health liabilities. We recommend that a funding policy be legislated that is sufficient to pay the Normal Costs of active Plan members, Plan expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percent of payroll (or salary) over a period no longer than 30 years

The actuary for CEABF performs an analysis of plan experience periodically and recommends changes in basic assumptions if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. On January 9, 2014 the Retirement Board adopted revised assumptions for use in valuing the Plan. These assumptions were based on an experience analysis performed by Buck Consultants, which reviewed experience for the four-year period ending December 31, 2012. Additional changes to health care specific assumptions were made in the current year to account for recent experience and trends. We believe the economic and demographic assumptions used are reasonable for financial accounting purposes and represent a

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**Actuarial Certification - Postemployment Healthcare (continued)**

reasonable estimate of the plan's future economic and demographic experience. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown at the end of this section.

The assumptions and methods used to determine the ARC of CEABF as outlined in this report and all supporting schedules meet the parameters and requirements pursuant to GASB 43 and GASB 45. Based on member data and asset information provided by the Fund staff, we have prepared the Schedule of Funding Progress and Schedule of Employer Contributions that are included in the Financial Section of the Comprehensive Annual Financial Report.

The undersigned are Members of the American Academy of Actuaries and in combination meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. To the best of the undersigned actuaries' knowledge, the actuarial statement contained in this report is complete and accurate. The calculations in this report have been prepared in accordance with all Applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report or to provide explanations or further details as may be appropriate.

BUCK CONSULTANTS, LLC



Daniel A. Levin, FSA, MAAA, FCA, CEBS  
Principal, Health



Larry Langer, EA, ASA, MAAA, FCA  
Principal, Retirement

# Actuarial Valuation - Postemployment Healthcare

## Overview

The County Employees' and Officers' Annuity and Benefit Fund of Cook County ("CEABF" or "the Fund") offers health benefits to separated and retired employees of Cook County and their eligible dependents. This report presents the results of the actuarial valuation of the Plan benefits as of the valuation date of December 31, 2015.

## Purpose

This report had been prepared at the request of the Fund for use in financial reporting of CEABF under GASB 43. The results may also be used for purposes of the County's financial statements under GASB 45. It may not be appropriate for other purposes, such as analyzing proposed design alternatives, funding, pricing or option evaluation. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of Buck.

## Membership

### Summary of Membership Data

	<b>Year Ending December 31,</b>	
	<b><u>2015</u></b>	<b><u>2014</u></b>
1. Annuitants Currently Receiving Benefits	8,783	8,591
2. Separated Employees Entitled To Benefits But Not Yet Receiving Them	1,371	1,309
3. Active Employees	21,596	21,656
4. Total Number of Members	<u>31,750</u>	<u>31,556</u>



## Changes in Plan Provisions

The following changes in benefits and other plan provisions have been made since the last valuation performed as of December 31, 2014:

- The Pre-Medicare participant contribution rates for the Choice Plus PPO plan increased from 48% to 53% for annuitants and from 33% to 38% for survivors.
- The preferred-brand and non-preferred brand prescription drug copays increased from \$55 to \$65 and from \$90 to \$100, respectively, for both the Choice HMO and Choice Plus PPO plans.

## Changes in Actuarial Assumptions, Methods, or Procedures

The following changes have been made to the actuarial assumptions or valuation procedures since the last actuarial valuation performed as of December 31, 2014:

- The methodology used to determine per capita plan costs was updated to reflect claims experience. Previously, the per capita costs were solely based on premiums.
- The age morbidity curve was updated to reflect the study “Health Care Costs—From Birth to Death”, sponsored by the Society of Actuaries and prepared by Dale H. Yamamoto (May 2013).

ACTUARIAL SECTION

Actuarial Valuation - Postemployment Healthcare (continued)

**Changes in the Actuarial Accrued Liability (AAL)**

	<u>Accrued Liability (AAL)</u>	<u>% Change</u>
<b>December 31, 2014 Report</b>	\$1,980,088,617	
Expected Growth Due to the Passage of Time	112,123,550	5.7%
Demographic Experience	(18,673,317)	-0.9%
Updated Per Capita Health Plan Experience	159,330,093	7.6%
Updated Age Morbidity Curve	(88,774,600)	-4.0%
Updated Contribution Rates	(8,418,040)	-0.4%
Change in Estimated Excise Tax	<u>(1,569,596)</u>	<u>-0.1%</u>
<b>December 31, 2015 Report</b>	\$2,134,106,707	7.8%

*Note: AAL does not reflect Retiree Drug Subsidy (RDS) Payments, since GASB 43/45 rules do not allow it.*

### Development of Annual Required Contribution (ARC)

Development of Employer Contribution	December 31, 2015 Valuation ARC for Fiscal Year <u>2016</u>	December 31, 2014 Valuation ARC for Fiscal Year <u>2015</u>
1. Annual Payroll	\$1,597,597,077	\$1,514,550,023
2. Actuarial Accrued Liability		
a. Active Members	1,201,154,866	1,107,098,509
b. Inactive Members with Deferred Benefits	53,632,394	46,937,834
c. Retired Members and Beneficiaries Receiving Benefits	<u>879,319,447</u>	<u>826,052,274</u>
d. Total (a. + b. + c.)	2,134,106,707	1,980,088,617
3. Actuarial Value of Assets	-	-
4. Unfunded Actuarial Accrued Liability (UAAL)	2,134,106,707	1,980,088,617
5. UAAL as a Percent of Annual Payroll	133.6%	130.7%
6. Amortization Payment for UAAL		
a. Amount	125,374,262	116,326,024
b. As a % of pay	7.8%	7.7%
7. Employer Normal Cost		
a. Amount	73,568,847	67,311,816
b. As a % of pay	4.6%	4.4%
8. Interest Cost	<u>7,735,405</u>	<u>7,233,612</u>
9. Annual Required Contribution (6. + 7. + 8.)	206,678,514	190,871,452
10. Pay-go Costs for the Year <sup>1</sup>	54,692,283	54,628,944
11. Amortization Period (years)	30	30

<sup>1</sup> Source: Estimated amount for 2016; for 2015 as provided by CEABF. Pay-as-you-go costs are net of prescription drug rebates but do not reflect the Retiree Drug Subsidy offset due to GASB 43/45 accounting rules.

## ACTUARIAL SECTION

### Actuarial Valuation - Postemployment Healthcare (continued)

#### Schedule of Funding Progress

A history of the GASB Statement No. 45 liabilities and assets follows:

<u>Actuarial Valuation Date December 31,</u>	<u>Actuarial Value of Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded Liability</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>UAAL as a Percentage of Payroll</u>
2008	\$ -	\$1,448,828,756	\$1,448,828,756	0.0%	\$1,463,372,408	99.0%
2009	-	1,686,872,018	1,686,872,018	0.0%	1,498,161,713	112.6%
2010	-	1,724,622,462	1,724,622,462	0.0%	1,494,093,569	115.4%
2011	-	1,678,571,388	1,678,571,388	0.0%	1,456,444,123	115.3%
2012	-	1,845,609,132	1,845,609,132	0.0%	1,478,253,368	124.9%
2013	-	1,978,767,490	1,978,767,490	0.0%	1,484,269,715	133.3%
2014	-	1,980,088,617	1,980,088,617	0.0%	1,514,550,023	130.7%
2015	-	2,134,106,707	2,134,106,707	0.0%	1,597,597,077	133.6%

#### Schedule of Employer Contributions

A history of the GASB Statement No. 45 required contributions and actual percentages follow:

<u>Fiscal Year Ended December 31,</u>	<u>Annual Required Contribution (ARC)</u>	<u>Employer Contribution</u>	<u>Employer Contribution as a Percent of ARC</u>
2008	\$169,823,905	\$37,781,310	22.25%
2009	157,964,519	35,779,228	22.65%
2010	163,823,488	40,183,057	24.53%
2011	165,176,771	38,185,306	23.12%
2012	156,700,388	37,986,237	24.24%
2013	178,698,965	40,097,630	22.44%
2014	189,907,202	43,957,458	23.15%
2015	190,871,452	50,756,817 <sup>1</sup>	26.59%

<sup>1</sup> Source: Total Employer's Contribution for 2015 as provided by CEABF.

#### GASB 45 Net OPEB Obligation (NOO) as of December 31, 2015

1. NOO as of December 31, 2014	\$866,817,075
2. Annual Required Contribution (ARC)	190,871,452
3. Interest on NOO	39,006,768
4. Adjustment to ARC	(53,215,238)
5. Annual OPEB Cost for 2015 (2. + 3. + 4.)	176,662,982
6. Total Employer Contribution for 2015 <sup>1</sup>	50,756,817
7. NOO as of December 31, 2015 (1. + 5. - 6.)	\$992,723,240

<sup>1</sup> Source: Total Employer's Contribution for 2015 as provided by CEABF.

## Summary of Substantive Plan Provisions

### Eligibility

Tier 1 retirement (hired before January 1, 2011)

- Age 50 and 10 years of service

Tier 2 retirement (hired on or after January 1, 2011)

- Age 62 and 10 years of service

All active employee members who separate with 10 or more years of service can receive postretirement health benefits under the Plan upon receipt of annuity benefits, provided that if they elect to retire under the Illinois Reciprocal Act, CEABF is their final retirement system.

Surviving dependents of actively employed members and surviving dependents of covered annuitants are eligible for postretirement health benefits under the Plan upon receipt of annuity benefits.

Eligible annuitants may cover their spouses and dependent children under the age of 26 and all disabled children (no age limitation).

### Medical Plans

Non-Medicare retirees can choose from:

- United Healthcare Choice HMO
- United Healthcare Choice Plus PPO

Medicare eligible retirees can choose from:

- United Healthcare Choice HMO
- United Healthcare Choice Plus PPO

All Medicare plans are supplemental to Medicare Part A & B benefits.

A retail and mail pharmacy benefit through CVS/Caremark is included with the election of any medical plan.

## ACTUARIAL SECTION

### Actuarial Valuation - Postemployment Healthcare (continued)

#### Summary of Substantive Plan Provisions (continued)

##### Contributions

CEABF pays 52% of the total premium for all post-Medicare retiree annuitants and pre-Medicare retiree annuitants on the Choice plan, including the cost of family coverage, and 67% of the total premium for all post-Medicare survivor annuitants and pre-Medicare survivor annuitants on the Choice plan, including the cost of family coverage.

CEABF pays 47% of the total premium for all pre-Medicare retiree annuitants on the Choice Plus plan, including the cost of family coverage, and 62% of the total premium for all pre-Medicare survivor annuitants on the Choice Plus plan.

The following are the annual working rates effective January 1, 2016. These rates represent an estimated cost of self-insured coverage and include administrative expenses.

The working rates below reflect expected RDS payments. It was assumed that in the absence of RDS, the working rates would increase by the assumed value of the subsidy.

	<u>Choice HMO</u>	<u>Choice Plus PPO</u>
Single w/o Medicare	\$12,396	\$15,600
Two w/o Medicare	24,804	31,212
Single w/ Medicare	5,484	4,716
Two w/ Medicare	10,956	9,444

## Assumptions and Methods

The actuarial assumptions used for the December 31, 2015 actuarial valuation are summarized below. The mortality rate, termination rate, retirement rate and salary assumptions are based on an experience analysis of CEABF, over the period 2009 through 2012. These assumptions were adopted by the Board on January 9, 2014.

**Valuation Date** December 31, 2015

**Discount Rate** 4.50%

<b>Salary Scale</b>	<b><u>Age</u></b>	<b><u>Inflation</u></b>	<b><u>Merit</u></b>	<b><u>Total</u></b>
	<21	3.25%	4.75%	8.00%
	21	3.25%	4.55%	7.80%
	22	3.25%	4.35%	7.60%
	23	3.25%	4.15%	7.40%
	24	3.25%	3.95%	7.20%
	25	3.25%	3.75%	7.00%
	26	3.25%	3.55%	6.80%
	27	3.25%	3.35%	6.60%
	28	3.25%	3.15%	6.40%
	29	3.25%	2.95%	6.20%
	30	3.25%	2.75%	6.00%
	31	3.25%	2.55%	5.80%
	32	3.25%	2.35%	5.60%
	33	3.25%	2.15%	5.40%
	34	3.25%	1.95%	5.20%
	35	3.25%	1.75%	5.00%
	36	3.25%	1.55%	4.80%
	37	3.25%	1.35%	4.60%
	38	3.25%	1.15%	4.40%
	39	3.25%	0.95%	4.20%
	40	3.25%	0.75%	4.00%
	41	3.25%	0.55%	3.80%
	42+	3.25%	0.50%	3.75%

**ACTUARIAL SECTION**

**Actuarial Valuation - Postemployment Healthcare (continued)**

**Assumptions and Methods (continued)**

**Termination Rates** The following is a sample of the termination rates used:

Attained	Age at Entrance					
	Males			Females		
	<u>Age</u>	<u>27</u>	<u>32</u>	<u>37</u>	<u>27</u>	<u>32</u>
27	.145			.183		
32	.116	.165		.117	.165	
37	.030	.105	.141	.030	.093	.114
42	.030	.030	.085	.030	.030	.060
47	.030	.030	.030	.030	.030	.030

**Retirement Rates** For deputy sheriffs who are members of the Cook County Police department who became participants prior to January 1, 2011 (Tier 1):

Service at retirement	< 20 Years		≥20 Years	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
<u>Age</u>				
50	.010	.012	.100	.100
55	.060	.072	.100	.100
60	.250	.216	.200	.200
65	.150	.120	1.000	1.000
70	.250	.200	1.000	1.000
75	1.000	1.000	1.000	1.000

For other members who became participants prior to January 1, 2011 (Tier 1):

Service at retirement	< 30 Years		≥30 Years	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
<u>Age</u>				
50	.040	.040	.350	.300
55	.080	.060	.275	.200
60	.150	.150	.225	.400
65	.225	.200	.270	.200
70	.250	.200	.450	.200
75	1.000	1.000	1.000	1.000



**Assumptions and Methods (continued)**

For members who became participants on or after January 1, 2011 (Tier 2):

<u>Age</u>	<u>Male</u>	<u>Female</u>
62	.400	.350
64	.225	.150
67	.400	.350
70	.450	.200
75	1.000	1.000

**Mortality Rates** The RP-2000 Blue Collar table, base year 2000, fully generational based on scale BB.

**Disability Rates** Included in termination and retirement rates.

**Anticipated Plan Participation** 70% of eligible employees are assumed to elect retiree medical benefits.

30% of vested terminated employees are assumed to elect retiree medical benefits upon retirement, and are assumed to retire according to the rates below:

<u>Age</u>	<u>% Who Elect</u>
55-59	6%
60-61	20%
62-64	5%
65-69	20%
70-74	25%
75	15%
76+	0%

Based on recent experience, future annuitants are assumed to elect from among the available plans as follows:

<u>% Who Elect</u>	<u>Choice HMO</u>	<u>Choice Plus PPO</u>
Pre-Medicare	89%	11%
Post-Medicare	67%	33%

Current annuitants who elect coverage are assumed to remain in coverage. Current annuitants who have waived or deferred coverage are not assumed to participate in the future.

**Dependent Coverage** 40% of future annuitants are assumed to cover a dependent. 40% of surviving dependents are assumed to elect coverage upon the death of an actively employed member and are assumed to commence benefits when the actively employed member would have reached age 61. Males are assumed to be 4 years older than females. Actual ages were used for dependents of current annuitants.

**ACTUARIAL SECTION**

**Actuarial Valuation - Postemployment Healthcare (continued)**

**Assumptions and Methods (continued)**

**Medicare Coordination** Medicare is assumed to remain the primary payer for current and future retirees and spouses who are at least age 65 and who are currently on Medicare. Medicare is assumed to become primary for 95% of retirees and spouses who retired before January 1, 2014 and who are not yet age 65, when they attain that age. For all other retirees and spouses, Medicare is assumed to be the primary payer at the time they reach age 65.

**Per Capita Health Plan Costs** Estimated net annual per capita incurred claim costs per covered adult for fiscal 2015 at age 65, reflecting administrative expenses, drug rebates, and the Retiree Drug Subsidy.

	<u>Choice Plan</u>	<u>Choice Plus Plan</u>
Not Medicare eligible	\$16,370	\$18,550
Medicare eligible	4,533	3,947

Per capita medical costs were developed using a 50/50 blend of historical methodology, which bases the costs on the medical working rates provided by the Fund for calendar year 2016, and new methodology, which bases the costs on claims experience. The resulting costs were adjusted for age morbidity.

The working rates reflect expected RDS payments. The claims experience was also adjusted to reflect RDS payments. Since GASB 43/45 requires AAL and ARC to be calculated without reduction for RDS payments, the above per capita costs were then adjusted upward to include the assumed value of RDS payments, an average of \$493 per eligible individual, for fiscal 2016.

The valuation relies on the accuracy of the rate calculations. We understand that the rates represent medical benefit costs only for annuitants under the Fund.

**Assumptions and Methods (continued)**

**Age-Based  
Morbidity**

Per capita costs are adjusted to reflect expected cost differences due to age and gender. Age morbidity factors for pre-Medicare morbidity were developed from “Health Care Costs—From Birth to Death” sponsored by the Society of Actuaries and prepared by Dale H. Yamamoto (May 2013). Table 4 from Mr. Yamamoto’s study formed the basis of Medicare morbidity factors that are gender distinct and assumed a cost allocation of 60% for pharmacy, 20% for inpatient, 10% for outpatient, and 10% for professional services. Adjustments were made to Table 4 factors for inpatient costs at age 70 and below to smooth out what appears to be a spike in utilization for Medicare retirees gaining healthcare for the first time through Medicare. While such retirees were included in the study, their specific experience is not applicable for a valuation of an employer retiree medical plan where participants had group active coverage before retirement. Morbidity factors at sample ages are shown below:

<u>Age</u>	<u>Male</u>	<u>Female</u>
50	0.4612	0.5736
55	0.6085	0.6667
60	0.7829	0.7791
65	1.0000	0.9438
70	1.1873	1.1094
75	1.2752	1.2009
80	1.3381	1.2697
85	1.3479	1.3171
90	1.3235	1.3303

**Health Care Cost  
Trend Rates**

Health care cost trend rates apply to expected claims, premiums and retiree contributions:

<u>Year</u>	<u>Pre-Medicare</u>	<u>Post-Medicare</u>
2015	8.00%	6.50%
2016	7.75%	6.25%
2017	7.50%	6.00%
2018	7.25%	5.75%
2019	7.00%	5.50%
2020	6.75%	5.25%
2021	6.50%	5.00%
2022	6.25%	4.75%
2023	6.00%	4.75%
2024	5.75%	4.75%
2025	5.50%	4.75%
2026	5.25%	4.75%
2027	5.00%	4.75%
2028+	4.75%	4.75%

## ACTUARIAL SECTION

### Actuarial Valuation - Postemployment Healthcare (continued)

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#### Assumptions and Methods (continued)

<b>Census Data</b>	The active, deferred vested, and retiree census were provided by the Fund.
<b>Actuarial Cost Method</b>	The entry age actuarial cost as a percentage of earnings was used.
<b>Amortization Method</b>	30 years open, level dollar.
<b>Assets</b>	The valuation assumes CEABF or the County has not set aside any assets to prefund its retiree medical liabilities.
<b>IBNR</b>	The calculations do not include any explicit amount for incurred but not reported claims (IBNR).
<b>Retiree Drug Subsidy</b>	The value of the Retiree Drug Subsidy under Medicare Part D is not directly reflected in the valuation, in accordance with GASB Technical Bulletin No. 2006-1 <i>Accounting and Financial Reporting by Employers and OPEB Plans for Payments from the Federal Government Pursuant to the Retiree Drug Subsidy Provisions of Medicare Part D</i> , on this issue. An estimate of the value of the subsidy has been reflected in projecting the value of the Excise Tax on High-Cost Employer Plans (see next section).
<b>Miscellaneous</b>	The valuation was prepared on an on-going plan basis. This assumption does not imply that an obligation to continue the plan actually exists.

## Assumptions and Methods (continued)

### Considerations of the Patient Protection and Affordable Care Act (PPACA)

#### Summary of Effects of Selected Provisions

**Early Retiree Reinsurance Program: Effective 6/1/2010.** Due to the short-term nature of the payments expected to be received under this program it is assumed to have no future impact on CEABF.

**Removal of Lifetime/Annual Maximum:** The plan is not subject to the requirement to eliminate lifetime maximums, since it is a retiree only plan.

**Expansion of Child Coverage to Age 26:** The impact of covering retiree children to age 26 is assumed to have already been reflected in the working rates provided and in the claims experience.

**Medicare Part D Retiree Drug Subsidy:** RDS payments are not reflected as an ongoing offsetting item in GASB 43 valuations, and so no direct impact is reflected. The valuation does reflect the RDS in estimating the future impact of the Excise Tax on High-Cost Employer Health Plan.

**Excise Tax on High-Cost Employer Health Plans (aka “Cadillac Tax”) - Effective 1/1/2020:** We performed a projection of the calculation on the Plan using a CPI of 3.25%, blending non-Medicare and Medicare retiree coverage for testing purposes. The tax amount expected is based on projected net employer costs for Medicare retirees after RDS, as this is the way we expect costs to be determined for tax purposes. The projection indicates that the overall increase in liability would be approximately 0.46% and we have adjusted the results accordingly. Additional commentary on this issue can be found on the following page.

**Other Revenue Raisers:** The PPACA legislation includes a variety of other revenue raisers that involve additional costs on employers, providers (such as medical device manufacturers) and insurers. We considered these factors when developing the trend assumption used.

**Other:** We have not identified any other specific provision of the PPACA legislation that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

## ACTUARIAL SECTION

### Actuarial Valuation - Postemployment Healthcare (continued)

#### Assumptions and Methods (continued)

**High-Cost Plan Excise Tax:** The PPACA legislation added a new High-Cost Plan Excise Tax (also known as the “Cadillac Tax”) starting in calendar year 2020. For valuation purposes, we assumed that the value of the tax will be passed back to the Plan in higher premium rates.

Based on our understanding of the tax, we think it is clear that the tax does not apply directly to CEABF. Rather, the tax applies to the administrator of the benefits, UnitedHealthcare, which in turn is then expected to pass the additional cost along to CEABF.

The tax is 40% of the excess of a) the cost of coverage over b) the limit. We modeled the cost of the tax by calculating “a” (the cost of coverage) using the working rates projected with trend. We calculated “b” (the limit) starting with the statutory limits (\$10,200 single and \$27,500 family), adjusted for the following:

- Limits will increase from 2018 to 2019 by 4.25% (CPI plus 1%);
- Limits will increase after 2019 by 3.25% (CPI); and
- For retirees over age 55 but not on Medicare, the limit is increased by an additional dollar amount of \$1,650 for single coverage, \$3,450 for family coverage .

We also examined the possibility that the limits would be increased due to excess trend. An estimate of trend for the period from 2010 through 2018 for the federal standard Blue Cross Blue Shield option (using actual increase rates from 2010 to 2015 and the valuation trend from 2015 to 2018) is compared to the statutory “assumed” 55% trend, with trend in excess of 55% applied on the base amount before the additional amount for “early” retirees. However, it appears due to favorable experience in the federal benchmark Blue Cross Blue Shield plan that there will not be any excess trend.

<sup>1</sup> These additional amounts are available at other ages for plans sponsored by an employer where the majority of employees are engaged in high risk professions including law enforcement officers and fire fighters. Since only a minority of the retirees included in this valuation is police and fire, we are assuming that this exception would not apply.

## Description of Actuarial Methods and Valuation Procedures

### Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the **Entry Age Actuarial Cost Method** of funding.

Sometimes called a “funding method,” this is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the plan is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each Member would have been eligible to join the Plan if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the Plan.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of funding that would have accumulated had annual contributions equal to the Normal Cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date).

The **Unfunded Actuarial Accrued Liability** is the excess of the Actuarial Accrued Liability over the Actuarial Value of Plan Assets actually on hand on the valuation date. The Unfunded Actuarial Accrued Liability is amortized as a level dollar amount over an open 30-year period.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the Unfunded Actuarial Accrued Liability.

## ACTUARIAL SECTION

### Actuarial Valuation - Postemployment Healthcare (continued)

#### Glossary of Terms

<i>Actuarial Accrued Liability</i>	Total accumulated cost to fund OPEB benefits and expenses arising from service in all prior years.
<i>Actuarial Cost Method</i>	Technique used to assign or allocate, in a systematic and consistent manner, the expected cost of a OPEB plan for a group of plan members to the years of service that give rise to that cost.
<i>Actuarial Present Value of Future Benefits</i>	Amount which, together with future interest, is expected to be sufficient to pay all future benefits.
<i>Actuarial Valuation</i>	Study of probable amounts of future OPEB benefits and the necessary amount of contributions to fund those benefits.
<i>Actuary</i>	Person who performs mathematical calculations pertaining to OPEB and insurance benefits based on specific procedures and assumptions.
<i>Annual Required Contribution</i>	Disclosure measure of annual OPEB cost.
<i>GASB 43</i>	Governmental Accounting Standards Board Statement Number 43 which specifies how the Annual Required Contribution (ARC) is to be calculated and disclosure requirement for CEABF.
<i>GASB 45</i>	Government Accounting Standards Board Statement Number 45 which specifies how to calculate the Annual OPEB Cost that the employer recognizes.
<i>Employer Normal Cost</i>	That portion of the actuarial present value of benefits assigned to a particular year in respect to an individual participant or the Plan as a whole.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The portion of the actuarial accrued liability not offset by Plan assets.



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# Additional Actuarial Tables

## Schedule of Active Member Valuation Data - Pension Benefits

<u>Valuation Date</u>	<u>Number</u>	<u>Annual Payroll</u>	<u>Annual Average Pay</u>	<u>% Increase In Average Pay</u>
12/31/06	25,555	\$1,412,878,627	\$55,288	2.5%
12/31/07	23,456	1,370,844,734	58,443	5.7%
12/31/08	23,436	1,463,372,408	62,441	6.8%
12/31/09	23,570	1,498,161,713	63,562	1.8%
12/31/10	23,165	1,494,093,569	64,498	1.5%
12/31/11	22,037	1,456,444,123	66,091	2.5%
12/31/12	21,447	1,478,253,368	68,926	4.3%
12/31/13	21,287	1,484,269,715	69,727	1.2%
12/31/14	21,656	1,514,550,023	69,937	0.3%
12/31/15	21,596	1,572,417,298	72,811	4.1%

## Schedule of Retirees and Beneficiaries Added to and Removed from Rolls - Pension Benefits

<u>Year Ended</u>	<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>End of Year Rolls</u>		<u>Average Annual Benefit</u>	<u>% Increase in Average Annual Benefit</u>
	<u>Number</u>	<u>Annual Benefits</u>	<u>Number</u>	<u>Annual Benefits</u>	<u>Number</u>	<u>Annual Benefits</u>		
2006	689	\$21,223,721	424	\$ 8,871,159	13,710	\$321,741,205	\$23,468	2.0%
2007	910	37,609,335	602	9,344,686	14,018	350,005,854	24,968	6.4%
2008	791	32,064,586	517	8,641,406	14,292	373,429,034	26,129	4.6%
2009	693	43,524,587	510	9,455,204	14,475	407,498,417	28,152	7.7%
2010	917	40,259,064	538	10,616,859	14,854	437,140,622	29,429	4.5%
2011	1,158	55,308,088	580	12,124,191	15,432	480,324,519	31,125	5.8%
2012	1,374	58,601,319	632	14,697,753	16,174	524,228,085	32,412	4.1%
2013	992	52,564,737	489	10,006,848	16,677	566,785,974	33,986	4.9%
2014	929	52,208,075	530	11,628,617	17,076	607,365,432	35,568	4.7%
2015	1,323	69,890,199	802	22,262,895	17,597	654,992,736	37,222	4.7%

## Schedule of Retirees and Beneficiaries Added to and Removed from Rolls - Postemployment Healthcare

<u>Year Ended</u>	<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>End of Year Rolls</u>		<u>Average Annual Benefit</u>	<u>% Change in Average Annual Benefit</u>
	<u>Number</u>	<u>Annual Benefits</u>	<u>Number</u>	<u>Annual Benefits <sup>1</sup></u>	<u>Number</u>	<u>Annual Benefits</u>		
2010	539	\$6,120,411	352	\$2,652,932	7,554	\$44,900,801	\$5,944	5.7%
2011	752	4,513,262	381	2,509,723	7,925	46,904,340	5,919	-0.4%
2012	640	3,715,909	386	6,655,532	8,179	43,964,717	5,375	-9.2%
2013	703	3,970,847	346	3,986,309	8,536	43,949,255	5,149	-4.2%
2014	556	2,308,094	501	2,229,694	8,591	48,487,043	5,644	9.6%
2015	631	8,261,563	439	2,119,662	8,783	54,628,944	6,220	10.2%

<sup>1</sup> Includes liability from changes in benefit levels.

**Solvency Test - Pension Benefits**

Year Ended	Accrued Liabilities for				Percent of Accrued Liabilities Covered by Assets		
	(1) Active and Inactive Members Accumulated Contributions	(2) Members Currently Receiving Benefits	(3) Active and Inactive Member Employer Portion	Actuarial Value of Assets	(1)	(2)	(3)
2006	\$1,496,918,427	\$3,738,360,199	\$3,591,302,839	\$7,462,683,122	100%	100%	62%
2007	1,569,401,144	4,035,560,084	3,781,326,569	8,059,879,804	100%	100%	65%
2008	1,650,186,209	4,258,683,439	4,188,158,217	8,036,074,797	100%	100%	51%
2009	1,749,058,834	5,043,516,963	4,696,505,501	7,945,567,096	100%	100%	25%
2010	1,824,472,753	5,373,790,587	4,824,959,545	7,982,368,659	100%	100%	16%
2011	1,662,273,117	5,902,779,764	5,063,221,680	7,897,102,116	100%	100%	7%
2012	1,821,792,594	6,431,295,762	5,168,398,587	7,833,882,926	100%	93%	0%
2013	1,854,155,647	6,822,552,230	4,959,868,300	8,381,444,287	100%	96%	0%
2014	1,897,951,260	7,295,515,219	4,947,080,874	8,810,509,070	100%	95%	0%
2015	1,914,569,837	7,864,534,443	5,157,487,056	8,991,018,918	100%	90%	0%

**Solvency Test - Postemployment Healthcare**

Year Ended	Accrued Liabilities for				Percent of Accrued Liabilities Covered by Assets		
	(1) Active and Inactive Members Accumulated Contributions	(2) Members Currently Receiving Benefits	(3) Active and Inactive Member Employer Portion	Actuarial Value of Assets	(1)	(2)	(3)
2010	\$ -	\$606,821,210	\$1,117,801,252	\$ -	0%	0%	0%
2011	-	605,375,403	1,073,195,985	-	0%	0%	0%
2012	-	776,395,244	1,069,213,888	-	0%	0%	0%
2013	-	818,201,554	1,160,565,936	-	0%	0%	0%
2014	-	826,052,274	1,154,036,343	-	0%	0%	0%
2015	-	879,319,447	1,254,787,260	-	0%	0%	0%

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The background of the page is a faded, grayscale image of the Chicago skyline. The Willis Tower is the most prominent building, with its two antennas visible. Other skyscrapers of varying heights and architectural styles are scattered across the horizon. In the foreground, there are silhouettes of trees and a body of water, likely Lake Michigan, which reflects the light. The overall tone is professional and clean.

# Statistical Section

*This section contains additional schedules that are designed to supplement the information in the Comprehensive Annual Financial Report:*

*Statements of Changes in Plan Net Position – Pension Benefits and Postemployment Healthcare provides details on the specific sources and uses of funds.*

*Schedules of Retired Members by Benefit Type – Pension Benefits and Postemployment Healthcare provides details on the monthly pension amounts for retirement and survivor members, including those with postemployment healthcare.*

*Schedule of Average Benefit Payments – Pension Benefits and Postemployment Healthcare provides details on years of credited service, average monthly pension, average monthly final average salary, and the number of new retirees, including those with postemployment healthcare.*

*Schedule of Principal Participating Employers – Pension Benefits and Postemployment Healthcare provides details on employers who participate in the Plan.*

*Additional Schedules Required by Employer provides details on historical financial, investment and actuarial performance.*

# Statement of Changes in Pension Plan Fiduciary Net Position

For year ended December 31, 2015, with comparative totals for 9 years

	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Additions:					
Employer contributions	\$ 136,075,504	\$ 146,075,414	\$ 147,720,014	\$ 152,734,539	\$ 162,667,160
Employee contributions	137,707,719	129,325,318	127,593,220	128,869,508	127,577,473
Net investment and net securities					
lending income (loss)	(21,896,696)	488,890,897	1,179,440,119	887,687,519	82,701,033
Other	<u>4,380,293</u>	<u>3,753,960</u>	<u>4,041,145</u>	<u>4,212,209</u>	<u>3,380,437</u>
Total additions	<u>256,266,820</u>	<u>768,045,589</u>	<u>1,458,794,498</u>	<u>1,173,503,775</u>	<u>376,326,103</u>
Deductions:					
Benefits					
Retirement	587,861,744	543,274,840	507,494,409	469,398,775	429,527,599
Survivors	45,002,859	41,865,298	38,761,919	35,762,286	33,003,057
Disability	10,332,441	10,515,760	10,909,478	12,265,257	13,961,631
Refunds					
Death	4,983,186	3,187,363	3,461,166	4,636,647	3,036,462
Separation	14,486,833	13,082,086	15,180,523	16,740,836	15,813,775
Other	13,803,152	10,077,912	11,231,341	11,704,243	10,315,098
Net administrative and miscellaneous expenses	<u>5,151,110</u>	<u>5,010,206</u>	<u>4,324,634</u>	<u>4,303,353</u>	<u>4,078,843</u>
Total deductions	<u>681,621,325</u>	<u>627,013,465</u>	<u>591,363,470</u>	<u>554,811,397</u>	<u>509,736,465</u>
Net increase (decrease)	(425,354,505)	141,032,124	867,431,028	618,692,378	(133,410,362)
Net position:					
Beginning of year	<u>9,068,398,780</u>	<u>8,927,366,656</u>	<u>8,059,935,628</u>	<u>7,441,243,250</u>	<u>7,574,653,612</u>
End of year	<u>\$8,643,044,275</u>	<u>\$9,068,398,780</u>	<u>\$8,927,366,656</u>	<u>\$8,059,935,628</u>	<u>\$7,441,243,250</u>

Statement of Changes in Pension Plan Fiduciary Net Position (continued)

For year ended December 31, 2015, with comparative totals for 9 years (continued)

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Additions:					
Employer contributions	\$ 141,326,266	\$ 147,934,643	\$ 146,134,911	\$ 226,721,014	\$ 194,367,840
Employee contributions	129,449,866	127,795,881	123,776,705	123,047,516	121,672,773
Net investment and net securities					
lending income (loss)	832,882,639	1,013,615,250	(1,858,853,846)	477,494,266	749,245,001
Other	<u>8,248,307</u>	<u>6,087,899</u>	<u>4,382,353</u>	<u>4,142,324</u>	<u>5,433,125</u>
Total additions	<u>1,111,907,078</u>	<u>1,295,433,673</u>	<u>(1,584,559,877)</u>	<u>831,405,120</u>	<u>1,070,718,739</u>
Deductions:					
Benefits					
Retirement	393,525,707	369,226,987	347,922,288	324,724,997	301,803,116
Survivors	30,307,794	27,837,079	25,815,860	23,645,235	21,459,472
Disability	13,789,106	13,510,567	13,234,974	13,038,555	11,722,480
Refunds					
Death	5,569,966	3,424,156	3,565,245	3,997,807	4,101,200
Separation	12,704,374	11,582,869	15,322,631	56,013,958	17,564,604
Other	6,767,478	5,397,886	5,836,226	6,611,592	3,256,405
Net administrative and miscellaneous expenses	<u>4,074,955</u>	<u>4,248,287</u>	<u>4,172,536</u>	<u>4,450,330</u>	<u>3,979,155</u>
Total deductions	<u>466,739,380</u>	<u>435,227,831</u>	<u>415,869,760</u>	<u>432,482,474</u>	<u>363,886,432</u>
Net increase (decrease)	645,167,698	860,205,842	(2,000,429,637)	398,922,646	706,832,307
Net position:					
Beginning of year	<u>6,929,485,914</u>	<u>6,069,280,072</u>	<u>8,069,709,709</u>	<u>7,670,787,063</u>	<u>6,963,954,756</u>
End of year	<u>\$7,574,653,612</u>	<u>\$6,929,485,914</u>	<u>\$6,069,280,072</u>	<u>\$8,069,709,709</u>	<u>\$ 7,670,787,063</u>

# Statement of Changes in Postemployment Healthcare Plan Net Position

For year ended December 31, 2015, with comparative totals for 9 years

	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Additions:					
Employer contributions	\$50,765,817	\$43,957,458	\$40,097,630	\$37,986,237	\$32,670,461
Annuitant healthcare benefits contributions	37,635,349	37,358,502	35,927,206	33,948,728	33,236,282
Other	7,077,550	5,988,102	4,506,584	5,978,480	14,233,879
Total additions	<u>95,469,716</u>	<u>87,304,062</u>	<u>80,531,420</u>	<u>77,913,445</u>	<u>80,140,622</u>
Deductions:					
Healthcare benefits	<u>95,469,716</u>	<u>87,304,062</u>	<u>80,531,420</u>	<u>77,913,445</u>	<u>80,140,622</u>
Net increase (decrease)	-	-	-	-	-
Net position:					
Beginning of year	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
End of year	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>



Statement of Changes in Postemployment Healthcare Plan Net Position (continued)

For year ended December 31, 2015, with comparative totals for 9 years (continued)

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Additions:					
Employer contributions	\$40,183,057	\$35,779,227	\$37,781,310	\$31,420,216	\$26,818,379
Annuitant healthcare benefits contributions	30,108,884	28,809,395	29,074,233	26,844,312	24,170,805
Other	4,717,744	5,653,995	2,699,033	5,860,228	3,823,866
Total additions	<u>75,009,685</u>	<u>70,242,617</u>	<u>69,554,576</u>	<u>64,124,756</u>	<u>54,813,050</u>
Deductions:					
Healthcare benefits	<u>75,009,685</u>	<u>70,242,617</u>	<u>69,554,576</u>	<u>64,124,756</u>	<u>54,813,050</u>
Net increase (decrease)	-	-	-	-	-
Net position:					
Beginning of year	-	-	-	-	-
End of year	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

# Schedule of Retired Members by Benefit Type - Pension Benefits

As of December 31, 2015

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit		Option Selected		
		1	2	1	2	3
\$ 1 – \$ 500	2,035	1,401	634	1,305	640	90
501 – 1,000	1,950	1,268	682	1,300	603	47
1,001 – 1,500	1,607	1,216	391	1,056	551	0
1,501 – 2,000	1,393	1,121	272	880	513	0
2,001 – 2,500	1,434	1,228	206	848	586	0
2,501 – 3,000	1,345	1,187	158	809	536	0
3,001 – 3,500	1,247	1,112	135	711	536	0
3,501 – 4,000	1,184	1,089	95	666	518	0
4,001 – 4,500	947	907	40	460	487	0
4,501 – 5,000	969	946	23	416	553	0
5,001 – 5,500	754	743	11	302	452	0
5,501 – 6,000	695	689	6	268	427	0
6,001 – 6,500	724	721	3	246	478	0
6,501 – 7,000	360	358	2	149	211	0
7,001 – 7,500	268	267	1	97	171	0
7,501 – 8,000	196	193	3	66	130	0
8,001 – 8,500	120	118	2	38	82	0
8,501 – 9,000	54	53	1	13	41	0
9,001 – 9,500	28	26	2	9	19	0
9,501 – 10,000	29	27	2	7	22	0
10,001 – 10,500	20	19	1	1	19	0
10,501 – 11,000	25	24	1	6	19	0
11,001 – 11,500	24	23	1	4	20	0
11,501 – 12,000	19	18	1	7	12	0
12,001 – 12,500	17	17	0	4	13	0
12,501 – 13,000	12	12	0	4	8	0
13,001 – 13,500	19	19	0	3	16	0
13,501 – 14,000	12	12	0	3	9	0
14,001 – 14,500	7	7	0	2	5	0
14,501 – 15,000	13	12	1	7	6	0
Over \$15,000	90	89	1	19	71	0
<b>Totals</b>	<b>17,597</b>	<b>14,922</b>	<b>2,675</b>	<b>9,706</b>	<b>7,754</b>	<b>137</b>

**Type of Pension Benefit**

- 1. Regular retirement
- 2. Survivor payment

**Option Selected**

- 1. Whole Life Annuity
- 2. 65% Joint and Contingent Annuity
- 3. Temporary Annuity

## Schedule of Retired Members by Benefit Type - Postemployment Healthcare

As of December 31, 2015

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit		Option Selected		
		1	2	1	2	3
\$ 1 – \$ 500	274	163	111	236	25	13
501 – 1,000	402	161	241	328	70	4
1,001 – 1,500	546	372	174	404	142	0
1,501 – 2,000	630	481	149	446	184	0
2,001 – 2,500	760	650	110	491	269	0
2,501 – 3,000	806	697	109	537	269	0
3,001 – 3,500	829	738	91	522	307	0
3,501 – 4,000	787	731	56	501	286	0
4,001 – 4,500	613	584	29	336	277	0
4,501 – 5,000	644	626	18	332	312	0
5,001 – 5,500	542	535	7	259	283	0
5,501 – 6,000	490	485	5	226	264	0
6,001 – 6,500	529	527	2	214	315	0
6,501 – 7,000	261	259	2	130	131	0
7,001 – 7,500	189	188	1	85	104	0
7,501 – 8,000	154	151	3	58	96	0
8,001 – 8,500	81	80	1	30	51	0
8,501 – 9,000	35	34	1	10	25	0
9,001 – 9,500	13	11	2	5	8	0
9,501 – 10,000	25	23	2	7	18	0
10,001 – 10,500	15	14	1	1	14	0
10,501 – 11,000	14	14	0	4	10	0
11,001 – 11,500	21	20	1	4	17	0
11,501 – 12,000	14	13	1	5	9	0
12,001 – 12,500	11	11	0	2	9	0
12,501 – 13,000	6	6	0	2	4	0
13,001 – 13,500	12	12	0	2	10	0
13,501 – 14,000	10	10	0	2	8	0
14,001 – 14,500	3	3	0	1	2	0
14,501 – 15,000	8	8	0	5	3	0
Over \$15,000	59	58	1	10	49	0
<b>Totals</b>	<b>8,783</b>	<b>7,665</b>	<b>1,118</b>	<b>5,195</b>	<b>3,571</b>	<b>17</b>
<b>Type of Pension Benefit</b>	<b>Option Selected</b>					
1. Regular retirement	1. Whole Life Annuity					
2. Survivor payment	2. 65% Joint and Contingent Annuity					
	3. Temporary Annuity					

# Schedule of Average Benefit Payments - Pension Benefits

		Years of Credited Service						
		<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>
2006	Average Monthly Pension	\$ 363	\$1,280	\$1,821	\$2,248	\$2,843	\$3,689	\$4,094
	Average Monthly Final Average Salary	N/A	N/A	\$5,052	\$4,516	\$4,880	\$6,252	\$4,946
	Number of New Retirees	80	55	110	111	68	39	46
2007	Average Monthly Pension	\$ 355	\$1,016	\$1,921	\$2,543	\$3,404	\$4,034	\$4,477
	Average Monthly Final Average Salary	N/A	N/A	\$5,435	\$5,138	\$5,506	\$5,421	\$5,907
	Number of New Retirees	71	65	156	158	127	59	119
2008	Average Monthly Pension	\$ 382	\$1,368	\$1,871	\$2,751	\$3,394	\$4,441	\$4,575
	Average Monthly Final Average Salary	\$ N/A	N/A	\$5,719	\$5,540	\$5,682	\$6,219	\$6,048
	Number of New Retirees	69	43	121	128	121	76	91
2009	Average Monthly Pension	\$ 302	\$1,311	\$2,055	\$2,671	\$3,682	\$3,854	\$4,491
	Average Monthly Final Average Salary	N/A	N/A	\$6,649	\$5,778	\$6,095	\$5,931	\$5,992
	Number of New Retirees	58	30	77	96	100	59	120
2010	Average Monthly Pension	\$ 335	\$1,144	\$1,855	\$2,598	\$3,349	\$3,968	\$4,278
	Average Monthly Final Average Salary	\$5,927	\$6,780	\$5,616	\$5,512	\$5,319	\$5,466	\$5,408
	Number of New Retirees	74	38	92	122	153	72	176
2011	Average Monthly Pension	\$ 439	\$ 955	\$1,931	\$2,705	\$3,686	\$4,316	\$4,537
	Average Monthly Final Average Salary	\$6,747	\$6,114	\$6,090	\$5,667	\$5,948	\$6,123	\$5,712
	Number of New Retirees	74	30	138	157	212	131	267
2012	Average Monthly Pension	\$ 432	\$ 982	\$1,828	\$2,579	\$3,273	\$4,273	\$4,578
	Average Monthly Final Average Salary	\$7,369	\$6,598	\$5,733	\$5,475	\$5,391	\$5,882	\$5,795
	Number of New Retirees	97	35	110	167	210	113	287
2013	Average Monthly Pension	\$ 469	\$1,150	\$1,864	\$2,567	\$3,334	\$4,864	\$4,813
	Average Monthly Final Average Salary	\$7,331	\$7,653	\$5,999	\$5,419	\$5,597	\$6,609	\$6,087
	Number of New Retirees	60	44	113	123	168	132	275
2014	Average Monthly Pension	\$ 421	\$1,336	\$1,767	\$2,643	\$3,770	\$4,620	\$4,829
	Average Monthly Final Average Salary	\$6,611	\$8,364	\$5,943	\$5,968	\$6,296	\$6,447	\$6,131
	Number of New Retirees	53	33	104	119	155	135	246
2015	Average Monthly Pension	\$ 485	\$1,153	\$1,756	\$2,683	\$3,696	\$4,796	\$5,011
	Average Monthly Final Average Salary	\$8,264	\$7,364	\$6,060	\$6,286	\$6,382	\$6,770	\$6,363
	Number of New Retirees	73	43	106	110	180	165	329

N/A - Not Available

## Schedule of Average Benefit Payments - Postemployment Healthcare

		Years of Credited Service						
		<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>
2006	Average Monthly Pension	\$ 412	\$1,329	\$1,923	\$2,342	\$2,985	\$5,291	\$4,269
	Average Monthly Final Average Salary	N/A	N/A	\$5,117	\$4,696	\$5,014	\$6,508	\$5,023
	Number of New Retirees	3	17	57	70	44	26	32
2007	Average Monthly Pension	\$ 380	\$1,467	\$2,153	\$2,601	\$3,530	\$4,117	\$4,630
	Average Monthly Final Average Salary	N/A	N/A	\$5,721	\$5,121	\$5,486	\$5,600	\$6,056
	Number of New Retirees	3	13	77	109	87	37	82
2008	Average Monthly Pension	\$ 150	\$1,238	\$1,830	\$3,046	\$3,418	\$4,317	\$4,585
	Average Monthly Final Average Salary	N/A	N/A	\$5,050	\$5,941	\$6,128	\$5,920	\$6,016
	Number of New Retirees	1	10	62	76	70	47	72
2009	Average Monthly Pension	\$ 399	\$ 0	\$2,031	\$2,672	\$3,434	\$3,906	\$4,398
	Average Monthly Final Average Salary	N/A	\$ 0	\$6,679	\$5,804	\$6,652	\$5,994	\$6,031
	Number of New Retirees	4	0	31	64	46	41	88
2010	Average Monthly Pension	\$ 199	\$1,468	\$1,931	\$2,784	\$3,273	\$4,141	\$4,239
	Average Monthly Final Average Salary	\$ 2,747	\$7,743	\$5,740	\$5,673	\$5,151	\$5,639	\$5,361
	Number of New Retirees	1	5	41	72	110	58	118
2011	Average Monthly Pension	\$ 239	\$ 783	\$1,839	\$2,852	\$3,787	\$4,056	\$4,574
	Average Monthly Final Average Salary	\$ 4,669	\$5,044	\$5,376	\$5,729	\$5,991	\$5,710	\$5,750
	Number of New Retirees	2	7	58	89	144	96	196
2012	Average Monthly Pension	\$ 635	\$1,127	\$1,767	\$2,746	\$3,462	\$4,572	\$4,479
	Average Monthly Final Average Salary	\$ 5,149	\$7,880	\$5,489	\$5,552	\$5,457	\$6,193	\$5,672
	Number of New Retirees	2	4	36	88	142	82	197
2013	Average Monthly Pension	\$ 607	\$ 868	\$2,014	\$2,674	\$3,562	\$4,739	\$4,705
	Average Monthly Final Average Salary	\$ 5,833	\$4,857	\$6,140	\$5,441	\$5,737	\$6,441	\$5,952
	Number of New Retirees	1	5	48	76	110	87	190
2014	Average Monthly Pension	\$ 0	\$ 609	\$1,786	\$2,682	\$3,631	\$4,768	\$4,781
	Average Monthly Final Average Salary	\$ 0	\$4,183	\$5,834	\$5,718	\$6,035	\$6,521	\$6,062
	Number of New Retirees	0	4	31	63	104	97	162
2015	Average Monthly Pension	\$ 2,419	\$1,150	\$1,915	\$3,078	\$3,881	\$4,965	\$4,860
	Average Monthly Final Average Salary	\$26,180	\$8,620	\$6,239	\$6,854	\$6,375	\$6,890	\$6,175
	Number of New Retirees	1	5	37	60	101	95	232

*N/A - Not Available*

# Schedule of Principal Participating Employers - Pension Benefits and Postemployment Healthcare Combined

As of December 31, 2015 and 2006

<b>Participating Employer</b>	<b>2015</b>		<b>2006</b>	
	<b>Covered Employees</b>	<b>Percentage of Total Covered Employees</b>	<b>Covered Employees</b>	<b>Percentage of Total Covered Employees</b>
Cook County	21,956	99.86%	25,555	99.91%
County Employees' and Officers' Annuity and Benefit Fund of Cook County	31	0.14%	23	0.09%
Total	<u>21,987</u>	<u>100.00%</u>	<u>25,578</u>	<u>100.00%</u>

## Additional Schedules Required by Employer

### Schedule of Investment Rate of Return - Pension Benefits and Postemployment Healthcare Combined

<u>Year Ended December 31,</u>	<u>Investment Rate of Return (Net of Fees)</u>
2006	11.4%
2007	6.3%
2008	-24.5%
2009	18.0%
2010	12.4%
2011	1.2%
2012	12.5%
2013	15.1%
2014	5.9%
2015	-0.1%

### Schedule of Actuarial Value of Assets vs. Fair Value of Assets - Pension Benefits and Postemployment Healthcare Combined

<u>Year Ended December 31,</u>	<u>Actuarial Value of Assets</u>	<u>Fair Value of Assets</u>	<u>Actuarial Value as a Percentage of Fair Value</u>
2006	\$7,462,683,122	\$7,670,787,063	97.3%
2007	8,059,879,804	8,069,709,709	99.9%
2008	8,036,074,797	6,069,280,072	132.4%
2009	7,945,567,096	6,929,485,914	114.7%
2010	7,982,368,659	7,574,653,612	105.4%
2011	7,897,102,116	7,441,243,250	106.1%
2012	7,833,882,926	8,059,935,628	97.2%
2013	8,381,444,287	8,927,366,656	93.9%
2014	8,810,509,070	9,068,398,780	97.2%
2015	8,991,018,918	8,643,044,275	104.0%

### Schedule of Employer Contributions - Pension Benefits and Postemployment Healthcare Combined

<u>Year Ended December 31,</u>	<u>Actuarially Required Contribution (ARC)</u>	<u>Tax Levy Requested</u>	<u>Actual Employer Contribution</u>	<u>Percentage of ARC Contributed</u>
2006	\$398,340,979	\$223,270,000	\$225,438,363	56.6%
2007	421,092,345	264,846,000	261,534,551	62.1%
2008	406,625,773	183,124,000	188,008,670	46.2%
2009	468,181,943	186,099,854	188,285,317	40.2%
2010	572,318,384	186,523,677	184,722,634	32.3%
2011	613,952,848	192,234,211	198,837,424	32.4%
2012	655,800,100	196,139,483	190,720,776	29.1%
2013	719,890,057	192,969,505	187,817,644	26.1%
2014	634,722,132	194,668,229	190,032,872	29.9%
2015	639,794,759	192,786,468	186,832,321	29.2%

## STATISTICAL SECTION

### Additional Schedules Required by Employer (continued)

#### Schedule of Financial Condition - Pension Benefits and Postemployment Healthcare Combined for year ended December 31, 2015, with comparative totals for 9 years

	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Beginning Net Position (Fair Value)	\$9,068,398,780	\$ 8,927,366,656	\$ 8,059,935,628	\$7,441,243,250	\$ 7,574,653,612
Additions:					
Employer contributions	186,832,321	190,032,872	187,817,644	190,720,776	195,337,621
Employee contributions	137,707,719	129,325,318	127,593,220	128,869,508	127,577,473
Annuitant health benefit contributions	37,635,349	37,358,502	35,927,206	33,948,728	33,236,282
Net investment income (loss)	(21,896,696)	488,890,897	1,179,440,119	887,687,519	82,701,033
Other	<u>11,457,843</u>	<u>9,742,062</u>	<u>8,547,729</u>	<u>10,190,689</u>	<u>17,614,316</u>
Total additions	<u>351,736,536</u>	<u>855,349,651</u>	<u>1,539,325,918</u>	<u>1,251,417,220</u>	<u>456,466,725</u>
Deductions:					
Benefits	738,666,760	682,959,960	637,697,226	595,339,763	556,632,909
Refunds	33,273,171	26,347,361	29,873,030	33,081,726	29,165,335
Administrative expenses	<u>5,151,110</u>	<u>5,010,206</u>	<u>4,324,634</u>	<u>4,303,353</u>	<u>4,078,843</u>
Total deductions	<u>777,091,041</u>	<u>714,317,527</u>	<u>671,894,890</u>	<u>632,724,842</u>	<u>589,877,087</u>
Ending Net Position (Fair Value)	<u><u>\$8,643,044,275</u></u>	<u><u>\$ 9,068,398,780</u></u>	<u><u>\$ 8,927,366,656</u></u>	<u><u>\$8,059,935,628</u></u>	<u><u>\$ 7,441,243,250</u></u>
Actuarial Value of Assets	8,991,018,918	8,810,509,070	8,381,444,287	7,833,882,926	7,897,102,116
Actuarial Accrued Liabilities (AAL)	16,232,185,534	15,318,790,688	14,812,087,677	14,630,250,955	13,724,012,399
Unfunded AAL (UAAL) (Fair Value)	7,589,141,259	6,250,391,908	5,884,721,021	6,570,315,327	6,282,769,149
Unfunded AAL (UAAL) (Actuarial Value)	7,241,166,616	6,508,281,618	6,430,643,390	6,796,368,029	5,826,910,283
Funded Ratio (Fair Value)	53.2%	59.2%	60.3%	55.1%	54.2%
Funded Ratio (Actuarial Value)	55.4%	57.5%	56.6%	53.5%	57.5%



Additional Schedules Required by Employer (continued)

**Schedule of Financial Condition - Pension Benefits and Postemployment Healthcare Combined for year ended December 31, 2015, with comparative totals for 9 years (continued)**

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Beginning Net Position (Fair Value)	\$6,929,485,914	\$6,069,280,072	\$8,069,709,709	\$7,670,787,063	\$6,963,954,756
Additions:					
Employer contributions	181,509,323	183,713,870	183,916,221	258,141,230	221,186,219
Employee contributions	129,449,866	127,795,881	123,776,705	123,047,516	121,672,773
Annuitant health benefit contributions	30,108,884	28,809,395	29,074,233	26,844,312	24,170,805
Net investment income (loss)	833,052,844	1,013,615,250	(1,858,853,846)	477,494,266	749,245,001
Other	12,795,846	11,741,894	7,081,386	10,002,552	9,256,991
Total additions	<u>1,186,916,763</u>	<u>1,365,676,290</u>	<u>(1,515,005,301)</u>	<u>895,529,876</u>	<u>1,125,531,789</u>
Deductions:					
Benefits	512,632,292	480,817,250	456,527,698	425,533,543	389,798,118
Refunds	25,041,818	20,404,911	24,724,102	66,623,357	24,922,209
Administrative expenses	4,074,955	4,248,287	4,172,536	4,450,330	3,979,155
Total deductions	<u>541,749,065</u>	<u>505,470,448</u>	<u>485,424,336</u>	<u>496,607,230</u>	<u>418,699,482</u>
Ending Net Position (Fair Value)	<u>\$7,574,653,612</u>	<u>\$6,929,485,914</u>	<u>\$6,069,280,072</u>	<u>\$8,069,709,709</u>	<u>\$7,670,787,063</u>
Actuarial Value of Assets	7,982,368,659	7,945,567,096	8,036,074,797	8,059,879,804	7,462,683,122
Actuarial Accrued Liabilities (AAL)	13,142,137,175	12,575,515,749	11,073,181,349	10,423,729,900	9,904,578,174
Unfunded AAL (UAAL) (Fair Value)	5,567,483,563	5,646,029,835	5,003,901,277	2,354,020,191	2,233,791,111
Unfunded AAL (UAAL) (Actuarial Value)	5,159,768,516	4,629,948,653	3,037,106,552	2,363,850,096	2,441,895,052
Funded Ratio (Fair Value)	57.6%	55.1%	54.8%	77.4%	77.4%
Funded Ratio (Actuarial Value)	60.7%	63.2%	72.6%	77.3%	75.3%

STATISTICAL SECTION

Additional Schedules Required by Employer (continued)

Schedule of Funding Progress - Pension Benefits and Postemployment Healthcare Combined

<u>Year Ended December 31,</u>	<u>Actuarial Accrued Liabilities (AAL)</u>	<u>Actuarial Value of Assets</u>	<u>Fair Value of Net Position</u>	<u>Unfunded AAL (UAAL) (Actuarial Value)</u>
2006	\$ 9,904,578,174	\$7,462,683,122	\$7,670,787,063	\$2,441,895,052
2007	10,423,729,900	8,059,879,804	8,069,709,709	2,363,850,096
2008	11,073,181,349	8,036,074,797	6,069,280,072	3,037,106,552
2009	12,575,515,749	7,945,567,096	6,929,485,914	4,629,948,653
2010	13,142,137,175	7,982,368,659	7,574,653,612	5,159,768,516
2011	13,724,012,399	7,897,102,116	7,441,243,250	5,826,910,283
2012	14,630,250,955	7,833,882,926	8,059,935,628	6,796,368,029
2013	14,812,087,677	8,381,444,287	8,927,366,656	6,430,643,390
2014	15,318,790,688	8,810,509,070	9,068,398,780	6,508,281,618
2015	16,232,185,534	8,991,018,918	8,643,044,275	7,241,166,616

Schedule of Funding Progress - Pension Benefits

<u>Year Ended December 31,</u>	<u>Actuarial Accrued Liabilities (AAL)</u>	<u>Actuarial Value of Assets</u>	<u>Fair Value of Net Position</u>	<u>Unfunded AAL (UAAL) (Actuarial Value)</u>
2006	\$ 8,826,581,465	\$7,462,683,122	\$7,670,787,063	\$1,363,898,343
2007	9,386,287,797	8,059,879,804	8,069,709,709	1,326,407,993
2008	10,097,027,865	8,036,074,797	6,069,280,072	2,060,953,068
2009	11,489,081,298	7,945,567,096	6,929,485,914	3,543,514,202
2010	12,023,222,885	7,982,368,659	7,574,653,612	4,040,854,226
2011	12,628,274,561	7,897,102,116	7,441,243,250	4,731,172,445
2012	13,418,486,943	7,833,882,926	8,059,935,628	5,584,604,017
2013	13,636,576,177	8,381,444,287	8,927,366,656	5,255,131,890
2014	14,140,547,353	8,810,509,070	9,068,398,780	5,330,038,283
2015	14,936,591,336	8,991,018,918	8,643,044,275	5,945,572,418

**Schedule of Funding Progress - Pension Benefits and Postemployment Healthcare Combined (cont'd)**

<u>Unfunded AAL (UAAL) Fair Value</u>	<u>Funded Ratio Actuarial Value</u>	<u>Funded Ratio Fair Value</u>	<u>Covered Payroll</u>	<u>UAAL as a Percentage of Covered Payroll (Actuarial Value)</u>	<u>UAAL as a Percentage of Covered Payroll (Fair Value)</u>
\$2,233,791,111	75.3%	77.4%	\$1,412,878,627	172.8%	158.1%
2,354,020,191	77.3%	77.4%	1,370,844,734	172.4%	171.7%
5,003,901,277	72.6%	54.8%	1,463,372,408	207.5%	341.9%
5,646,029,835	63.2%	55.1%	1,498,161,713	309.0%	376.9%
5,567,483,563	60.7%	57.6%	1,494,093,569	345.3%	372.6%
6,282,769,149	57.5%	54.2%	1,456,444,123	400.1%	431.4%
6,570,315,327	53.5%	55.1%	1,478,253,368	459.8%	444.5%
5,884,721,021	56.6%	60.3%	1,484,269,715	433.3%	396.5%
6,250,391,908	57.5%	59.2%	1,514,550,023	429.7%	412.7%
7,589,141,259	55.4%	53.2%	1,572,417,298	460.5%	482.6%

**Schedule of Funding Progress - Pension Benefits (continued)**

<u>Unfunded AAL (UAAL) Fair Value</u>	<u>Funded Ratio Actuarial Value</u>	<u>Funded Ratio Fair Value</u>	<u>Covered Payroll</u>	<u>UAAL as a Percentage of Covered Payroll (Actuarial Value)</u>	<u>UAAL as a Percentage of Covered Payroll (Fair Value)</u>
\$1,155,794,402	84.5%	86.9%	\$1,412,878,627	96.5%	81.8%
1,316,578,088	85.9%	86.0%	1,370,844,734	96.8%	96.0%
4,027,747,793	79.6%	60.1%	1,463,372,408	140.8%	275.2%
4,559,595,384	69.2%	60.3%	1,498,161,713	236.5%	304.3%
4,448,569,273	66.4%	63.0%	1,494,093,569	270.5%	297.7%
5,187,031,311	62.5%	58.9%	1,456,444,123	324.8%	356.1%
5,358,551,315	58.4%	60.1%	1,478,253,368	377.8%	362.5%
4,709,209,521	61.5%	65.5%	1,484,269,715	354.1%	317.3%
5,072,148,573	62.3%	64.1%	1,514,550,023	351.9%	334.9%
6,293,547,061	60.2%	57.9%	1,572,417,298	378.1%	400.2%

STATISTICAL SECTION

Additional Schedules Required by Employer (continued)

**Schedule of Funding Progress - Postemployment Healthcare**

<u>Year Ended December 31,</u>	<u>Actuarial Accrued Liabilities (AAL)</u>	<u>Actuarial Value of Assets</u>	<u>Fair Value of Net Position</u>	<u>Unfunded AAL (UAAL) (Actuarial Value)</u>
2006	\$1,506,821,967	\$ -	\$ -	\$1,506,821,967
2007	1,554,123,496	-	-	1,554,123,496
2008	1,448,828,756	-	-	1,448,828,756
2009	1,686,872,018	-	-	1,686,872,018
2010	1,724,622,462	-	-	1,724,622,462
2011	1,678,571,388	-	-	1,678,571,388
2012	1,845,609,132	-	-	1,845,609,132
2013	1,978,767,490	-	-	1,978,767,490
2014	1,980,088,617	-	-	1,980,088,617
2015	2,134,106,707	-	-	2,134,106,707

**Schedule of Components of Change in Unfunded Liability -  
Pension Benefits and Postemployment Healthcare Combined**

<u>Year Ended December 31,</u>	<u>Salary Increase Higher/Lower than Assumed</u>	<u>Investment Returns Higher/Lower than Assumed</u>	<u>Employer Contributions Higher/Lower than Normal Cost Plus Interest</u>	<u>Changes in Actuarial Assumptions</u>	<u>Other Sources (1)</u>	<u>Total Change in Unfunded Liability</u>
2006	\$ (43,191,730)	\$ 47,913,709	\$152,221,465	\$ -	\$ 42,515,613	\$ 199,459,057
2007	78,765,800	(118,960,238)	135,979,428	-	(173,829,946)	(78,044,956)
2008	160,614,779	481,086,534	198,154,784	-	(166,599,641)	673,256,456
2009	(138,750,205)	534,155,051	258,309,848	810,786,835	128,340,572	1,592,842,101
2010	(185,530,277)	364,312,504	349,354,012	-	1,683,624	529,819,863
2011	(138,554,686)	459,875,129	371,793,485	-	(25,972,161)	667,141,767
2012	34,073,219	376,601,751	252,886,106	-	305,896,670	969,457,746
2013	(184,385,510)	(586,433,767)	513,419,056	-	(108,324,418)	(365,724,639)
2014	(148,871,075)	(161,124,113)	423,103,748	-	(35,470,332)	77,638,228
2015	164,977,011	61,964,372	431,124,367	-	74,819,248	732,884,998

(1) Includes but is not limited to health insurance, optional retirement experience and death, retirement and withdrawal experience.

**Schedule of Funding Progress - Postemployment Healthcare (continued)**

<u>Unfunded AAL (UAAL) Fair Value</u>	<u>Funded Ratio Actuarial Value</u>	<u>Funded Ratio Fair Value</u>	<u>Covered Payroll</u>	<u>UAAL as a Percentage of Covered Payroll (Actuarial Value)</u>	<u>UAAL as a Percentage of Covered Payroll (Fair Value)</u>
\$1,506,821,967	0.0%	0.0%	\$1,412,878,627	106.6%	106.6%
1,554,123,496	0.0%	0.0%	1,370,844,734	113.4%	113.4%
1,448,828,756	0.0%	0.0%	1,463,372,408	99.0%	99.0%
1,686,872,018	0.0%	0.0%	1,498,161,713	112.6%	112.6%
1,724,622,462	0.0%	0.0%	1,494,093,569	115.4%	115.4%
1,678,571,388	0.0%	0.0%	1,456,444,123	115.3%	115.3%
1,845,609,132	0.0%	0.0%	1,478,253,368	124.9%	124.9%
1,978,767,490	0.0%	0.0%	1,484,269,715	133.3%	133.3%
1,980,088,617	0.0%	0.0%	1,514,550,023	130.7%	130.7%
2,134,106,707	0.0%	0.0%	1,597,597,077	133.6%	133.6%

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# COUNTY EMPLOYEES' AND OFFICERS' ANNUITY AND BENEFIT FUND OF COOK COUNTY

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