



Chicago Teachers' Pension Fund

122ND
Comprehensive Annual
Financial Report



2017



For the years ended June 30, 2017 and 2016

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR THE YEARS ENDED JUNE 30, 2017 AND 2016
CHICAGO, ILLINOIS

PUBLIC SCHOOL TEACHERS' PENSION AND RETIREMENT FUND OF CHICAGO



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INTRODUCTION

This section provides information regarding the Chicago Teachers' Pension Fund Board of Trustees and its consultants, an organizational chart, a Certificate of Achievement, a Letter of Transmittal, and additional administrative information.

BOARD OF TRUSTEES

AS OF JUNE 30, 2017



Jay C. Rehak



Lois W. Ashford



Bernice Eshoo



Jeffery Blackwell



Robert F. Bures



Mark F. Furlong



Tina Padilla



Walter E. Pilditch



Mary Sharon Reilly



Jerry Travlos



Gail D. Ward

OFFICERS

Jay C. Rehak, President

Lois W. Ashford, Vice President

Vacant, Financial Secretary*

Bernice Eshoo, Recording Secretary

MEMBERS

REPRESENTING THE CONTRIBUTORS*

Lois W. Ashford

Jeffery Blackwell

Bernice Eshoo

Tina Padilla

Jay C. Rehak

REPRESENTING THE ANNUITANTS

Robert F. Bures

Walter E. Pilditch[^]

Mary Sharon Reilly

REPRESENTING THE ADMINISTRATORS/PRINCIPALS

Jerry Travlos

REPRESENTING THE BOARD OF EDUCATION

Mark F. Furlong

Gail D. Ward

EXECUTIVE DIRECTOR



Charles A. Burbridge

* Raymond Wohl served as Trustee and Financial Secretary until June 15, 2017, when he vacated his seat due to retirement.

[^] Trustee Pilditch passed away on December 24, 2017.



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of Chicago, Illinois**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2016

Christopher P. Morvill

Executive Director/CEO

CONSULTANTS

AS OF JUNE 30, 2017

LEGAL COUNSEL

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HEALTH INSURANCE CONSULTANTS

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Chicago, Illinois 60606

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AUDITOR

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120 North LaSalle Street, Suite 1350
Chicago, Illinois 60602

The Segal Company
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INFORMATION TECHNOLOGY CONSULTANT

Bradley Consulting Group, Inc.
P.O. Box 637
Lockport, Illinois 60441

ORGANIZATIONAL CHART

AS OF JUNE 30, 2017



Charles A. Burbridge
Executive Director



Mary Cavallaro
Deputy Executive Director



Lauren Axel
*Human Resources
Manager*



Gail Davis
*Manager of Administrative
Services*



Angela Miller-May
*Director of
Investments*



John Schomberg
*Chief Legal
Officer*



Tracey L. Schroeder
*Director of
Communications*



Vandana Vohra
*Chief Technology
Officer*



Alise White
*Chief Financial
Officer*

As of February 1, 2017, there was a vacancy for Internal Auditor, which was filled on November 27, 2017, in fiscal year 2018.



Chicago Teachers' Pension Fund



February 1, 2018

The Pension Board of Trustees and Fund Members
Public School Teachers' Pension and Retirement Fund of Chicago
203 North LaSalle Street, Suite 2600
Chicago, Illinois 60601

Dear Pension Board of Trustees, Contributors, Pensioners, and Members of the Public:

This is the 122nd Comprehensive Annual Financial Report (CAFR) of the Public School Teachers' Pension and Retirement Fund of Chicago (Fund) that covers the fiscal year ended June 30, 2017. Illinois statutes provide for a Board of Trustees to be responsible for the administration of the Fund. An important aspect of the administration is the presentation of a detailed annual report of system finances and operations. This publication is intended for all parties-of-interest as well as for the public at large.

The financial statements and their content are the responsibility of the Fund's management. This report provides a review of the financial, investment, actuarial, and operational conditions of the Fund. It contains financial statements with comparative data, which were subject to an independent audit conducted by Illinois licensed certified public accountants, an actuarial valuation prepared by the Fund's consulting actuary, a description of benefits as specified in Illinois law, and other relevant information.

The Fund is a public employee retirement system established by the State of Illinois to provide annuity, disability, survivor, death, and health benefits for certain certified teachers and other employees of the Chicago Public Schools and approved City of Chicago charter schools. It is administered in accordance with Chapter 40, Act 5, Articles 1, 17, and 20 of the Illinois Compiled Statutes.

OVERVIEW

The Fund's membership decreased to 63,356 members as of June 30, 2017, reflecting a 0.3% reduction over the prior year's membership of 63,556. The 122nd year of continuous operations ended with the Fund's operational condition improving compared to the previous fiscal year. The June 30, 2017, value of net assets held in trust for pension and health benefits amounted to \$10.8 billion, a 6.7% increase from the \$10.1 billion of the previous year.

The financial statements in this report were prepared in accordance with generally accepted accounting principles as promulgated by the Governmental Accounting Standards Board. The specific accounting treatment of transactions is described in the Summary of Accounting Policies in the Notes to the Financial Statements. We encourage readers to consider additional financial information in this Introductory section, and in the Overview and Analysis sections of Management's Discussion and Analysis of the financial report.

INVESTMENT AUTHORITY AND PERFORMANCE

The Trustees' investment authority is found in the Illinois Compiled Statutes, Chapter 40, Act 5, Articles 1 and 17. A discussion of the specific investment authority, policy provisions, diversification posture, performance objective, and asset allocation is provided in the Investments section of this report.

CTPF • 203 North LaSalle Street, Suite 2600 • Chicago, Illinois 60601-1231 • 312.641.4464 phone • 312.641.7185 fax • www.ctpf.org

As of June 30, 2017, investments at fair value plus cash, prepaid, and receivables totaled \$11.0 billion, reflecting a 7.3% increase from the \$10.3 billion value of June 30, 2016. The Fund's investment performance for the one-year and ten-year periods ended June 30, 2017, were 13.6% and 5.2%, respectively. Refer to the Investments section of this report for more detailed performance information.

The Board of Trustees, with the aid of the CTPF investment staff and investment consultants, makes decisions under the prudent person rule authorized by Article 1 of the Illinois Pension Code. The Board approves an asset allocation program designed to obtain the highest expected return on investments with an acceptable level of risk. The Board relies on CTPF investment staff and investment consultants to monitor and evaluate the investment management firms' performance, to aid in the selection of investment management firms and to assist in the development of investment policy. Opportunities to improve the financial strength of the Fund will continue to be explored in accordance with the prudent person standard. Refer to the Manager Analysis and Broker Commission Reports in the Investments section of this report for information regarding investment management firms and brokerage firms that provide services to the Fund.

ACCOUNTING SYSTEM AND INTERNAL CONTROLS

This report was prepared to conform to the principles of governmental accounting and reporting as pronounced by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants. The accrual basis of accounting was used to record the assets, liabilities, revenues and expenses of the Fund. Revenues are recognized in the accounting period in which they are earned, without regard to the date of collection, and expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made.

In developing the Fund's accounting system, consideration is given to the adequacy of internal accounting controls. Although these controls are designed to provide reasonable assurance regarding the safekeeping of assets and the reliability of financial records, the Fund continues to recognize that the anticipated costs should not exceed the projected benefits. Constant effort is directed by the Fund administration toward improving the level of internal accounting control to ensure the members of the Fund belong to a financially sound retirement system.

ECONOMIC REVIEW AND OUTLOOK

The economy and its gradual stabilization continued to have a positive impact on the Fund's overall performance. Economic growth expanded with an annualized Growth Domestic Product (GDP) growth rate of 3.1% as of June 2017, beating consensus expectations. Unemployment fell to a 15-year low of 4.3% in May, and settled at 4.4% in June. However, we continued to observe a relatively low workforce participation rate over the last fiscal year. In addition, inflation remained relatively low. Headline Consumer Price Index (CPI) was 1.6% as of June (year-over-year) while Core CPI (excludes food and energy) was 1.7%, below the Federal Reserve's (Fed) 2.0% target. The Fed raised the Fed Funds rate three times in fiscal year 2017 to a range of 1.0% to 1.25%.

A "risk-on" theme persisted throughout fiscal year 2017 as economic conditions improved both in the U.S. and abroad. The early days of the fiscal year were characterized by a strong rebound in the equity markets following Brexit, optimism over U.S. economic prospects, and easing concerns regarding economic conditions in China. The U.S. presidential election played a significant role in the capital markets toward the end of 2016, as anticipated business-friendly ambitions on taxes, trade and deregulation encouraged investors. The "risk-on" theme persisted through the first quarter of 2017, as improving economic data overshadowed elevated geopolitical uncertainty. However, going forward, we believe that continued geopolitical issues around the world, including tensions with North Korea, may introduce volatility in markets. Hence, it is unclear whether the "risk-on" theme we observed over the last fiscal year will persist if diplomatic conditions continue to deteriorate.

Another notable event overseas this year took place on the political front. British Prime Minister, Theresa May, triggered Article 50 of the Lisbon Treaty on March 29, 2017, giving the U.K. two years to negotiate an exit from the European Union (E.U.). Additionally, Marine Le Pen, the conservative French presidential contender who was the voice of the “Frexit” movement (short for “French Exit” of the E.U.) during the French Presidential elections was defeated by Emmanuel Macron, a centrist and E.U. supporter, essentially halting any move toward exiting the Union. These political issues created volatility in the region and around the world. In spite of this, economic and market conditions improved in Europe during the year. In the U.S., economic fundamentals continued to be relatively strong, but experts are divided regarding the outlook for further rate hikes in 2017. However, the Fed announced that it will begin to reduce the size of its \$4.5 trillion balance sheet in the near future.

FUNDING GOALS

The funding policy of the Fund provides for employer contributions which, when added to contributions received from employee members and earnings on investments, will be sufficient to meet the actuarially determined obligations of the Fund.

On an annual basis, an actuarial valuation is performed in order to determine the amount of required contributions in accordance with the Illinois Compiled Statutes (Public Act 89-15).

The Chicago Board of Education (employer) is required by law to make contributions to the Fund in order to ensure the actuarial value of assets is 90% of the actuarial value of liabilities by the end of a predetermined funding period. In years where the funding ratio exceeds 90%, no employer contribution is required.

Amendments to the Illinois Pension Code during fiscal year 2010 changed the funding requirements for future years. Illinois Compiled Statutes (Public Act 96-0889) limited the contributions required to be made to the Fund by the Chicago Board of Education to \$187 million for fiscal year 2011, \$192 million for fiscal year 2012, and \$196 million for fiscal year 2013. Under the amended statute, the Chicago Board of Education was provided a 14-year extension, or until the end of 2059, to make contributions which ensure that the Fund’s projected actuarial value of assets is 90% of the Fund’s projected actuarial liabilities.

The Illinois Compiled Statutes (Public Act 90-0582) provide that the employer and the State of Illinois (State) are required to make additional contributions as a percentage of payroll to offset a portion of the cost of benefit increases enacted under Public Act 90-0582.

In order to secure funding, two new public acts were enacted in fiscal year 2017. Public Act 99-0521 provides that beginning in fiscal year 2017, a separate tax may be levied by the Chicago Board of Education for making an employer contribution to the Fund at a rate not to exceed 0.383%. The law requires the proceeds from the separate tax be paid directly to the Fund. Public Act 100-0465 provides that beginning in fiscal year 2018, the State shall contribute \$221.3 million for employer normal cost and health insurance cost. Beginning fiscal year 2019, the State shall contribute for each fiscal year an amount to be determined by the Fund’s actuary, equal to the employer normal cost and health insurance cost for that year.

For fiscal years 2014, 2015, 2016, and 2017, the required contributions from the Board of Education and the State of Illinois were \$625 million, \$709 million, \$700 million, and \$745 million, respectively. For fiscal years 2018 and 2019, the required contributions are \$784 million and \$809 million.

MAJOR INITIATIVES

The Fund and its Trustees continue to work to enhance the Fund's investment program, strengthen the Fund's benefits, improve office operations, and safeguard the assets of the Fund.

INVESTMENTS

The Fund's rate of return for the year ended June 30, 2017, was 13.6% as performance of the portfolio was reflective of the equity market's rally. The Fund maintained a diversified portfolio consisting of equities (domestic and international), fixed income, real assets, and alternative investments. The Fund continued to attempt to maximize investment performance while maintaining acceptable levels of risk.

The Board started and is implementing its policy target allocation. The Board's policy targets are global equity at 66.0% (comprised of domestic equity at 30.5%, international equity at 30.5%, and private equity at 5%), fixed income at 23.0%, and real assets at 11.0% (comprised of private real estate at 9.0%, infrastructure at 2%).

During the year, the Board and staff performed due diligence over its investment managers in order to monitor performance and compliance. The Fund continued its formal manager performance review process in order to monitor managers in all asset classes. During the year ended June 30, 2017, the Fund increased its commitment to three fixed income managers, one female-owned fixed income firm, one Latino-owned fixed income firm, and one majority-owned fixed income firm. In the private equity asset class, the Fund initiated investments with one existing private equity fund-of-funds manager. In the real estate asset class, the Fund initiated investments with one non-core Latino-owned real estate firm and one infrastructure firm.

The Fund continues to be committed to diversity and, as of June 30, 2017, approximately 39.7% (\$4.0 billion) of the Fund's assets were managed by qualified minority, women, and disabled-person owned investment managers. Additionally, the Fund directed approximately \$1.4 million in commissions to qualified minority, women, and disabled-person owned brokers/dealers in fiscal year 2017.

LEGISLATIVE

The following Public Acts were enacted and implemented in fiscal year 2017:

Public Act 99-0683 requires every pension fund or retirement system under the Illinois Pension Code to develop and implement, no later than June 30, 2017, a process to identify annuitants who are deceased. The process requires the pension fund or retirement system to check for any deceased annuitants at least once per month and include the use of commonly accepted methods to identify persons who are deceased, including but not limited to:

- The use of a third-party entity that specializes in the identification of deceased persons,
- The use of data provided by the Social Security Administration,
- The use of data provided by the Department of Public Health's Office of Vital Records, or
- The use of any other method that is commonly used by other states to identify deceased persons.

Additionally, Public Act 99-0683:

- Provides that the information contained in the vital records shall be made available at no cost to the pension fund or retirement system, and
- Provides that any information contained in the vital records shall be made available at no cost to any pension fund or retirement system under the Illinois Pension Code for administrative purposes.

Public Act 99-0687 amends the Open Meetings Act. It provides that a public body may hold closed meetings to consider, among other subjects, the discussion of matters protected under the federal Patient Safety and Quality Improvement Act of 2005, and the regulations promulgated thereunder, or for the discussion of matters protected under the federal Health Insurance Portability and Accountability Act of 1996, and the regulations promulgated thereunder, by a hospital or other institution providing medical care that is operated by the public body.

Public Act 99-0702 amends the Chicago Teacher Article of the Illinois Pension Code. It provides that, for a person who first becomes a member after the effective date, the service retirement pension shall not commence more than one year prior to the date of the Fund's receipt of an application for the benefit.

Public Act 99-0786 amends the Chicago Teacher Article of the Illinois Pension Code. It provides that the Board of Trustees of the Fund shall have the power to issue subpoenas to compel the attendance of witnesses and the production of documents and records in conjunction with the determination of certain employer payments, a disability claim, an administrative review proceeding, an attempt to obtain information to assist in the collection of sums due to the Fund, or a felony forfeiture investigation.

Additionally, Public Act 99-0786:

- Provides that fees of witnesses for attendance and travel shall be the same as the fees of witnesses before the circuit courts of the State of Illinois and shall be paid by the party seeking the subpoena,
- Authorizes the Board to apply to any circuit court in the State of Illinois for an order requiring compliance with the subpoena,
- Provides that, in a provision concerning compensation limitations in the case of a service retirement pensioner who is re-employed as a teacher, a service retirement pension shall not be cancelled in the case of a service retirement pensioner who teaches only driver education courses after regular school hours and does not teach any other subject area, so long as the person does not work as a teacher for compensation for more than 900 hours in a school year.

OPERATIONS

Fund management continued to focus on strengthening operations, improving internal controls, modernizing key infrastructure components of the Fund, and emphasizing customer service for our members.

Plante Moran, PLLC, conducted the fiscal year 2017 audit and Gabriel, Roeder, Smith & Company Holdings, Inc. produced the fiscal year 2017 actuarial valuation.

The Fund continued to work with its primary employer, Chicago Public Schools, to resolve payroll system issues that impacted pension fund data while establishing a robust process to work with the increasing number of charter school employers.

The Board has supported the administrative staff and is committed to moving into an automated work environment and organizational structure that will continue the Fund's long history of superior customer service. A detailed discussion regarding all of the Fund's financial operations is found in the Management's Discussion and Analysis section of this financial report.

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 Public School Teachers' Pension and Retirement Fund of Chicago for its Comprehensive Annual Financial Report for the period ended June 30, 2016. This was the 26th year that the Fund received 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.

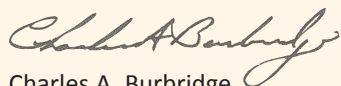
CONCLUDING COMMENTS

In the fiscal year 2017 CTPF Board of Trustees elections, Trustees Bernice Eshoo and Jeffery Blackwell were declared elected in the Teacher Trustee Election. There was no Pensioner Trustee Election. As no candidates filed petitions for the Administrator Trustee Election, the Board of Trustees appointed Trustee Jerry Travlos to serve until the next election.

In the election for officers, Jay C. Rehak was elected President; Lois W. Ashford, Vice President; Raymond Wohl, Financial Secretary; and Bernice Eshoo, Recording Secretary. Trustee Wohl retired from active teaching and announced his resignation on June 15, 2017. The Trustees declared a vacancy and appointed a committee to fill the vacated Teacher Trustee Position.

Chairs of standing committees included Tina Padilla, Investments; Jeffery Blackwell, Claims and Service Credit; Raymond Wohl, Finance and Audit; Lois W. Ashford, Pension Law and Rules.

This annual report of the Public School Teachers' Pension and Retirement Fund of Chicago was prepared through the combined efforts of the Pension Board of Trustees, the Fund's actuary, certified public accountants, and administrative staff. We want to express our gratitude and appreciation for the diligence of all contributors in the preparation of this publication.



Charles A. Burbridge
Executive Director



Alise White, CPA
Chief Financial Officer

FINANCIAL

This section contains the report of the independent public accountants, the financial statements of the Fund, along with footnotes to the financial statements, and supplemental financial information.



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Independent Auditor's Report

To the Board of Trustees
Public School Teachers' Pension and
Retirement Fund of Chicago

Report on the Financial Statements

We have audited the accompanying basic financial statements of the Public School Teachers' Pension and Retirement Fund of Chicago (CTPF) as of and for the years ended June 30, 2017 and 2016, and the related notes to the financial statements, which collectively comprise CTPF's basic financial statements, as listed in the table of contents.

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.

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity'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 entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinions

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the plan net position of the Public School Teachers' Pension and Retirement Fund of Chicago as of June 30, 2017 and 2016 and the changes in plan net position for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

To the Board of Trustees
Public School Teachers' Pension and
Retirement Fund of Chicago

Emphasis of Matter

As explained in Note 2C, the financial statements include investments valued at \$1,668,419,420 (15.5 percent of net position) at June 30, 2017 and at \$1,580,348,623 (15.6 percent of net position) at June 30, 2016, whose fair values have been estimated by management in the absence of readily determinable market values. Management's estimates are based on information provided by the fund managers of the general partners.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other required supplemental information, as identified in the table of contents, 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, which 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 inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Public School Teachers' Pension and Retirement Fund of Chicago's basic financial statements. The other supplementary information and the introductory, investments, actuarial, and statistical sections, as identified in the table of contents, are presented for the purpose of additional analysis and are not a required part of the basic financial statements.

The other supplementary information, as identified in the table of contents, 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 audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary information, as identified in the table of contents, is fairly stated in all material respects in relation to the basic financial statements as a whole.

The introductory, investments, actuarial, and statistical sections, as identified in the table of contents, have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Plante & Moran, PLLC

February 15, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) JUNE 30, 2017 AND 2016

Management is pleased to provide this overview and analysis of the financial activities of the Public School Teachers' Pension and Retirement Fund of Chicago (the Fund) for the year ended June 30, 2017 and 2016. This information is intended to supplement the financial statements, which begin on page 24 of this report. We encourage readers to consider additional information and data in the Fund's 2017 Comprehensive Annual Financial Report.

ANNUAL FINANCIAL REVIEW

The Fund maintains a highly diversified portfolio of investments for the purpose of accumulating sufficient assets to provide benefits to members and survivors. Diversification of investments among U.S. stocks, real estate, fixed income, private equity, and international investments provides risk-adjusted returns while allowing the Fund to "ride out" short-term fluctuations in individual asset classes. Due to a strong rebound of the financial market, the Fund returned 13.6% (time-weighted return) in fiscal year 2017. Although the Fund is a long-term investor and results are more significant over longer periods, the sharp decline in value across investment classes in previous years brought the Fund's compounded rate of return over the past 10 years to 5.2%, lower than the actuarial assumption of 7.25%.

The Fund's consulting actuary has certified the total actuarial accrued liability of the Pension Fund to be \$21.8 billion as of June 30, 2017. This represents an increase in the total actuarial accrued liability of \$1.6 billion when compared to the actuarial accrued liability of \$20.2 billion as of June 30, 2016. The unfunded actuarial accrued liability increased from \$9.6 billion to \$10.9 billion. Total pension liability, under GASB 67, for fiscal years 2017 and 2016, was \$23.2 billion and \$21.1 billion, respectively.

FINANCIAL HIGHLIGHTS

- Investment returns were favorable in comparison to the previous fiscal year. The time-weighted rate of return for fiscal year 2017 was 13.6% (benchmark of 13.1%) following fiscal year 2016's return of 0.5% and fiscal year 2015's return of 3.5%. Five and ten-year annualized returns were 9.7% (vs. benchmark of 8.9%) and 5.2% (vs. benchmark of 4.9%), respectively.
- Total plan fiduciary net position increased during the fiscal year to \$10.8 billion at June 30, 2017, from \$10.1 billion at June 30, 2016.
- The Fund paid members \$1.4 billion in service retirement, disability, refunds, and survivor benefits, an additional \$48.5 million for healthcare benefits, and administrative expenses of \$14.3 million, a 1.6% increase over fiscal year 2016.
- Total additions to plan fiduciary net position were \$2.2 billion for fiscal year 2017, including total contributions of \$934.4 million and net investment income of \$1.2 billion.
- The funded ratio for pension benefits, based on the actuarial value of assets, decreased to 50.10% as of June 30, 2017, from 52.51% at the end of the previous year.

OVERVIEW OF THE FINANCIAL STATEMENTS OF THE FUND

The two basic financial statements of the Fund are the *Statement of Fiduciary Net Position* and the *Statement of Changes in Fiduciary Net Position*. Statements are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items. The statements are prepared in conformity with U.S. generally accepted accounting principles.

The *Statement of Fiduciary Net Position* is a measure of the Fund's assets and liabilities at the close of the fiscal year. Total assets less liabilities equal net position restricted for benefits.

The *Statement of Changes in Fiduciary Net Position* shows revenues (additions) and expenses (deductions) for the fiscal year. The net increase (or decrease) is the change in net position restricted for benefits since the end of the previous fiscal year.

For financial reporting purposes, the Fund's assets are divided into two primary funds: the Pension Fund (a defined benefit plan) and the Health Insurance Fund (a postemployment healthcare plan). The Pension Fund includes member contributions and investment earnings used to pay service retirement benefits for participants. The Fund pays service retirement benefits using a fixed formula based on years of service and salary, subject to certain age requirements. In addition to service retirement, participants are eligible for disability and survivor benefits. The Health Insurance Fund consists of benefits to subsidize healthcare premiums for members receiving pension benefits.

The *Notes to the Financial Statements* are a fundamental part of the financial statements and provide important information to complement the understanding of the figures in the financial statements. The notes describe accounting policies along with plan membership and benefits. Supplementary disclosures of selected financial data are included in the notes.

In addition to the basic financial statements, a *Schedule of Changes in the Employer's Net Pension Liability*, a *Schedule of the Employer's Net Pension Liability*, a *Schedule of the Employer's Contribution*, and a *Schedule of Money-Weighted Rate of Return* are included as required supplementary information for the pension plan. The *Schedule of the Employer's Net Pension Liability* and the *Schedule of Changes in the Employer's Net Pension Liability* show the liability of employer and non-employer contributing entities to plan members for benefits provided through the pension plan and the changes thereof during the year. The *Schedule of Money-Weighted Rate of Return* shows the period-by-period returns on pension plan investments that adjust for the changing amounts actually invested. It represents an internal rate of return on pension plan investments, net of pension plan investment expenses.

INVESTMENT PERFORMANCE

For fiscal year 2017, the Fund's total investment performance resulted in a 13.6% gain, based on time-weighted returns. International and private equity, as well as fixed income, real estate, and infrastructure generated positive returns. Domestic equity experienced flat returns driven by early market volatility followed by a strong rally toward the end of the fiscal year. The Fund's portfolio of domestic equity reported an 18.9% return, international equity reported 19.8% return, fixed income reported 0.9% return, private equity reported a 15.8% return, real estate reported a 6.7% return, and infrastructure reported a 6.8% return.

The Fund's net money-weighted rate of return for the fiscal year ended June 30, 2017, was 13.12%.

1-YEAR RETURNS (2017)

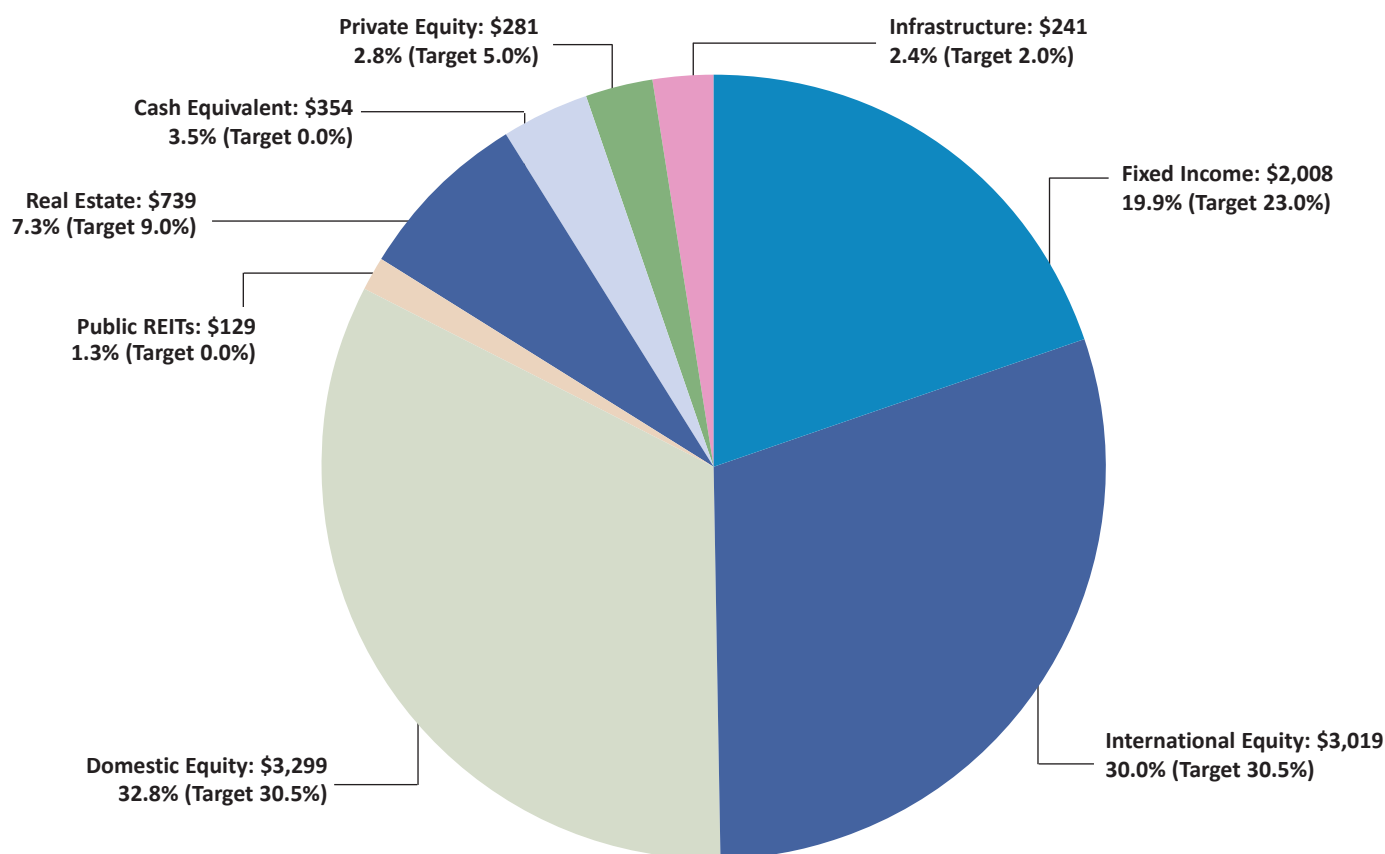
ASSET CATEGORY	FUND RETURN	INDEX NAME	INDEX RETURN
Total Fund	13.6%	Fund Benchmark Index	13.1%
Domestic Equity	18.9%	Domestic Equity Benchmark	18.5%
International Equity	19.8%	MSCI ACWI ex US Index	20.5%
Fixed Income	0.9%	Barclays Aggregate Index	(0.3%)
Private Equity	15.8%	N/A	–
Real Estate	6.7%	NFI-ODCE Value Weight Index	6.9%
Infrastructure	6.8%	Absolute Benchmark	8.0%

5-YEAR RETURNS (2017)

ASSET CATEGORY	FUND RETURN	INDEX NAME	INDEX RETURN
Total Fund	9.7%	Fund Benchmark Index	8.9%
Domestic Equity	14.4%	Domestic Equity Benchmark	14.6%
International Equity	9.2%	MSCI ACWI ex US Index	7.2%
Fixed Income	2.9%	Barclays Aggregate Index	2.2%
Private Equity	11.4%	N/A	–
Real Estate	11.6%	NFI-ODCE Value Weight Index	10.8%
Infrastructure	5.4%	Absolute Benchmark	8.0%

ASSET ALLOCATION SUMMARY AS OF JUNE 30, 2017

IN MILLIONS OF DOLLARS



* Note: Percentage indicates actual category weight as a percentage of the entire portfolio.

FINANCIAL STATEMENT ANALYSIS

PLAN FIDUCIARY NET POSITION

The plan fiduciary net position increased by \$679.9 million, 6.7%, during fiscal year 2017, and decreased by \$598.4 million, (5.6%), in fiscal year 2016. The increase reflects revenues exceeding expenditures. The increase in revenues is driven by a significant increase in net investment income during fiscal year 2017.

Cash and cash equivalents increased by \$448.3 million during fiscal year 2017 and decreased by \$637.4 million in fiscal year 2016. The large fluctuations in cash and cash equivalents as of June 30 from fiscal-year-to-year is mainly due to the timing of the statutorily required contribution from the Board of Education (the Employer) being deposited into a cash account, as it was received on the last day of the fiscal year in 2017. In some years, such as fiscal year 2016, the statutorily required contribution from the Board of Education has been received earlier and by fiscal year-end been invested into the investment portfolio, instead of remaining in the cash account.

Total receivables, excluding amounts due from brokers, increased by \$292.0 million in 2017 and decreased by \$8.9 million in 2016. The increase in 2017 is primarily due to legislation which allowed the Employer to levy a Special Pension property tax to pay a portion of the required contribution. As of June 30, 2017, approximately \$250.0 million was expected to be received from the property tax levy and applied toward the Employer's required contribution amount. The remaining increase is mainly due to an \$11.9 million receivable due from the Board of Education pertaining to fiscal year 2014 required contributions, recorded during fiscal year 2017, and an \$11.2 million receivable due from the State of Illinois pertaining to fiscal year 2017 required contributions. The decrease in fiscal year 2016 was largely the result of reduced appropriated funding from the State of Illinois compared to the previous fiscal year.

Due from Brokers (proceeds from investment sales) increased by \$38.1 million in fiscal year 2017, and decreased by \$4.4 million in fiscal year 2016, due to the timing of investment sales at fiscal year-end.

The Fund continued its Security Lending Fund Advance Agreement with Deutsche Bank during fiscal year 2017 and 2016. As the Fund's portfolio in the securities lending program continued to develop, securities lending collateral and collateral payable increased by \$161.8 million and \$165.6 million, respectively, during fiscal year 2017, and increased by \$293.6 million and \$289.1 million, respectively, during fiscal year 2016. The Fund continues to pay the collateral deficiency owed to Deutsche Bank by applying realized monthly income against the outstanding liability for the security lending program until such collateral deficiency is paid in full.

Accounts and administrative expenses payable decreased by \$11.2 million during fiscal year 2017 after remaining relatively unchanged during fiscal year 2016. This was primarily the result of resolution of the judgment resulting from the Fund's transition to the securities lending program from the Northern Trust Company.

During fiscal year 2017, the Fund recognized a liability for an overpayment of required contribution by the Board of Education pertaining to fiscal year 2015. This resulted in an additional payable of \$10.4 million.

Due to Brokers (the cash due for investment purchases) increased by \$69.7 million in fiscal year 2017 and increased by \$7.4 million in fiscal year 2016 due to the timing of investment purchases at year-end.

The following is a summary of the fiduciary net position at June 30, 2017, 2016, and 2015:

	FISCAL YEAR (IN MILLIONS)		
	2017	2016	2015
Cash and cash equivalents	\$ 464.2	\$ 15.9	\$ 653.3
Receivables	363.0	71.1	80.0
Due from brokers	137.2	99.0	103.5
Investments, at fair value	10,070.5	10,096.2	10,035.5
Securities lending collateral	941.0	779.2	485.6
Capital assets, net	1.2	1.1	1.0
Total assets	11,977.1	11,062.5	11,358.9
Benefits and refunds payable	23.1	23.0	16.4
Accounts and administrative expenses payable	11.2	22.3	23.4
Employer required contribution payable	10.4	—	—
Securities lending collateral payable	940.3	774.7	485.6
Due to brokers	198.9	129.2	121.8
Total liabilities	1,183.9	949.2	647.2
Fiduciary Net Position Restricted for Pensions	\$ 10,793.2	\$ 10,113.3	\$ 10,711.7

ADDITIONS TO PLAN FIDUCIARY NET POSITION

Additions to plan fiduciary net position, which are needed to finance statutory benefit obligations, come from public sources such as state appropriations, employer and employee contributions, net earnings on investments, and miscellaneous sources.

For the year ended June 30, 2017, additions totaled \$2,167.6 million, compared to \$865.4 million for the year ended June 30, 2016.

The minimum funding requirement represents Employer contributions required by state law when the funding level drops below 90%. In fiscal years 2017 and 2016, the Employer was required to pay \$733.2 and \$688.0 million, respectively. In fiscal year 2017, the Fund recorded an additional contribution receivable in the amount of \$11.9 million related to fiscal year 2014 and an additional payable in the amount of \$10.4 million related to fiscal year 2011, which resulted in net revenue of \$1.5 million from the Employer. As of June 30, 2017 and 2016, the Employer paid \$483.2 million and \$675.1 million, respectively.

Net investment income increased primarily due to the equity market's rally in fiscal year 2017 after a volatile and underperforming year in fiscal year 2016. The money-weighted rates of return, net of investment expenses were 13.1% and 0.2% for fiscal years 2017 and 2016, respectively.

The following is a summary of additions to plan fiduciary net position for the years ended June 30, 2017, 2016, and 2015:

	FISCAL YEAR (IN MILLIONS)		
	2017	2016	2015
Employee contributions	\$ 187.5	\$ 191.9	\$ 191.2
Minimum funding requirement (Employer)	734.7	688.0	633.6
Minimum funding requirement (State)	12.2	12.1	12.9
Net investment income (loss)	1,233.0	(28.1)	381.7
Miscellaneous	0.2	1.5	0.9
Total additions	\$ 2,167.6	\$ 865.4	\$ 1,220.3

DEDUCTIONS FROM PLAN ASSETS

Pension benefits increased during fiscal year 2017 and 2016, as new pensioners were added to the pension benefit. Additionally, the automatic annual increase (AAI) of 3% was granted to existing retirees during the fiscal years.

The health insurance premium subsidies decreased by \$17.7 million during fiscal year 2017, mainly due to reimbursements from health insurance vendors, discontinuation of a health insurance plan, and fluctuations in number of retirees enrolled in health insurance benefit. In fiscal year 2016, the health insurance premium subsidies decreased by \$13.2 million, mainly due to the reduction of the premium subsidy rate from 60% to 50% and increased reimbursements from health insurance vendors.

The following is a summary of deductions from plan fiduciary net position for the years ended June 30, 2017, 2016, and 2015:

	FISCAL YEAR (IN MILLIONS)		
	2017	2016	2015
Pension benefits	\$ 1,389.4	\$ 1,346.5	\$ 1,304.5
Refunds	32.2	33.6	23.9
Death benefits	3.3	4.7	3.2
Health insurance premium subsidies	48.5	66.1	79.3
Administrative and miscellaneous expenses	14.3	12.9	11.7
Total deductions	\$ 1,487.7	\$ 1,463.8	\$ 1,422.6

FUNDING ANALYSIS

Under the funding plan established by the State of Illinois, the Employer is not required to make a minimum contribution to the Fund unless the Fund's funding level falls below 90% for a fiscal year. The Employer is then required to make a minimum contribution to the Fund in order to bring the total assets of the Fund up to 90% of the total actuarial liabilities of the Fund, by the end of a predetermined funding period.

Amendments to the statute during fiscal year 2010 changed the funding requirements for future years. Minimum contributions for fiscal years 2011, 2012, and 2013 were limited to \$187 million, \$192 million, and \$196 million, respectively. These amounts are substantially lower than the \$600 million contribution in each fiscal year prior to the amendment. Additionally, under the amended statute, the funding period was extended from 2045 to 2059. The primary Employer of the Fund, the Board of Education, was required to remit minimum required contributions of \$612 million in fiscal year 2014, \$696 million in fiscal year 2015, \$688 million in fiscal year 2016, and \$733 million in fiscal year 2017. The minimum required contribution amounts include the Board of Education's additional required contribution to offset a portion of the cost of benefit increase resulting from Public Act 90-0582. For fiscal year 2017, the additional required contribution was \$13 million. During fiscal year 2017, the Employer paid \$483 million, with the remaining \$250 million expected to be paid from the Special Pension property tax levy. Additionally, contributions of \$36 million, related to previous years, are due from the Employer as of June 30, 2017.

State law also requires state contributions and other Employer contributions to provide for benefit increases when the funding level drops below 90%. Accordingly, the State of Illinois was required to remit \$12 million for fiscal years 2017 and 2016, each. During fiscal year 2017, the State paid \$1 million, with the remaining \$11 million expected to be paid by the conclusion of the State of Illinois lapse period ending December 31, 2017.

The fiscal year 2018 Board of Education and State of Illinois required contributions are \$773 million and \$12 million, respectively. In accordance with Public Act 099-0521 and Public Act 100-0465, portions of the Board of Education's required contribution are expected to be paid from the property tax and by State of Illinois.

Based upon an actuarial valuation, the total pension liability and plan fiduciary net position are \$23.2 billion and \$10.8 billion, respectively. This resulted in net pension liability of \$12.4 billion as of June 30, 2017.

Amendments to the statute which were effective during fiscal year 2011 will have a longer-term impact on funding. Public Act 96-0889, effective January 1, 2011, created a second tier of benefits for those who first participate in the system after that date. The amendment caps the salary amount that can be used in the calculation of pensions in the future, increases the minimum retirement age, and limits post-retirement increases to pensions.

The funded ratio based on actuarial value of assets decreased to 50.10% in fiscal year 2017 from 52.51% in fiscal year 2016, for funding purposes. The decrease is primarily due to the total required contributions due from the Board of Education and State of Illinois not being received as of June 30, 2017.

As previously mentioned, the *Schedule of the Employer's Contribution* shows the amount of required contributions in accordance with Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans*. As exhibited in the schedules, the Employer has not been making required contributions sufficient to meet the increasing liability of the Fund. To partially overcome the funding shortfall, Public Act 99-0521 provides that a separate tax be levied by the Chicago Board of Education for making Employer contributions to the Fund at a rate not to exceed 0.383% beginning in fiscal year 2017. These proceeds are to be paid directly to the Fund. In addition, Public Act 100-0465 provides that the State shall contribute directly to the Fund the Employer normal cost portion of the Board of Education's required contribution and the health insurance subsidy, and increases the tax levy amount to 0.567% beginning fiscal year 2018.

REQUESTS FOR INFORMATION:

Questions about any information provided in this report should be addressed to:

Public School Teachers' Pension and Retirement Fund of Chicago

ATTN: Executive Director
203 North LaSalle Street, Suite 2600
Chicago, IL 60601-1231

STATEMENT OF FIDUCIARY NET POSITION
AS OF JUNE 30, 2017 AND 2016

	PENSION FUND	HEALTH INSURANCE FUND	TOTAL	
			2017	2016
ASSETS:				
Cash	\$ 464,086,431	\$ –	\$ 464,086,431	\$ 15,802,244
Prepaid expense	118,703	–	118,703	96,590
Receivables:				
Minimum funding requirement (Employer)	286,143,422	–	286,143,422	24,250,001
Minimum funding requirement (State)	11,170,500	–	11,170,500	–
Employee	15,659,656	–	15,659,656	8,407,998
Accrued investment income	31,013,531	–	31,013,531	29,200,065
Due from brokers	137,159,828	–	137,159,828	99,041,131
Participating teachers' accounts for contributions	4,345,850	–	4,345,850	4,363,847
Other receivables	10,046,636	4,688,003	14,734,639	4,869,656
Total receivables	495,539,423	4,688,003	500,227,426	170,132,698
Investments, at fair value:				
U.S. government and agency fixed income	1,161,296,835	–	1,161,296,835	1,204,557,907
U.S. corporate fixed income	804,984,477	–	804,984,477	792,611,191
Foreign fixed income securities	42,077,396	–	42,077,396	43,278,248
U.S. equities	3,299,443,380	–	3,299,443,380	2,904,397,922
Foreign equities	3,018,577,197	–	3,018,577,197	2,537,878,904
Public REITs	128,631,513	–	128,631,513	237,089,990
Pooled short-term investment funds	353,942,206	–	353,942,206	1,016,270,961
Real estate	738,933,811	–	738,933,811	803,248,475
Infrastructure	241,328,735	–	241,328,735	237,772,092
Private equity	281,130,643	–	281,130,643	287,138,325
Hedge funds	–	–	–	28,041,480
Margin cash	109,981	–	109,981	3,870,883
Total investments	10,070,456,174	–	10,070,456,174	10,096,156,378
Securities lending collateral	941,037,933	–	941,037,933	779,223,423
Capital assets, net of accumulated depreciation	1,176,457	–	1,176,457	1,057,706
Total assets	11,972,415,121	4,688,003	11,977,103,124	11,062,469,039
LIABILITIES:				
Benefits payable	4,536,065	4,631,741	9,167,806	12,318,929
Refunds payable	13,856,182	–	13,856,182	10,583,451
Accounts and administrative expenses payable	11,120,845	56,262	11,177,107	22,342,034
Employer required contribution payable	10,449,000	–	10,449,000	–
Securities lending collateral payable	940,349,072	–	940,349,072	774,724,709
Due to brokers	198,930,030	–	198,930,030	129,202,606
Total liabilities	1,179,241,194	4,688,003	1,183,929,197	949,171,729
Net Position Restricted for Pension Benefits	\$ 10,793,173,927	\$ –	\$ 10,793,173,927	\$ 10,113,297,310

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

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR FISCAL YEAR ENDED JUNE 30, 2017 AND 2016

	PENSION FUND	HEALTH INSURANCE FUND	2017	TOTAL 2016
ADDITIONS:				
Contributions:				
Employee	\$ 187,538,787	\$ –	\$ 187,538,787	\$ 191,882,430
Minimum funding requirement (Employer)	734,654,000	–	734,654,000	622,965,000
Minimum funding requirement (State)	12,186,000	–	12,186,000	12,105,000
Allocation to health insurance fund	(49,000,701)	49,000,701	–	65,000,000
Total contributions	885,378,086	49,000,701	934,378,787	891,952,430
Investment Income:				
Net appreciation (depreciation) in fair value	1,027,032,210	–	1,027,032,210	(238,462,924)
Interest	70,805,204	–	70,805,204	72,312,231
Dividends	166,279,885	–	166,279,885	167,076,106
Miscellaneous	503,577	–	503,577	2,350,533
Securities lending income, net	4,501,068	–	4,501,068	4,498,713
Less investment expense:				
Investment advisory and custodial fees	(36,118,005)	–	(36,118,005)	(35,761,822)
Net Investment Income (Loss)	1,233,003,939	–	1,233,003,939	(27,987,163)
Miscellaneous	214,119	–	214,119	1,463,050
Total Additions	2,118,596,144	49,000,701	2,167,596,845	865,428,317
DEDUCTIONS:				
Pension benefits	1,389,448,172	–	1,389,448,172	1,346,533,282
Refunds	31,428,981	–	31,428,981	32,134,384
2.2 Legislative refunds	780,389	–	780,389	1,441,215
Refund of insurance premiums	–	48,451,055	48,451,055	66,104,598
Death benefits	3,280,642	–	3,280,642	4,717,517
Total Benefits Payments	1,424,938,184	48,451,055	1,473,389,239	1,450,930,996
Administrative and miscellaneous expenses	13,781,343	549,646	14,330,989	12,867,490
Total Deductions	1,438,719,527	49,000,701	1,487,720,228	1,463,798,486
Net increase (decrease)	679,876,617	–	679,876,617	(598,370,169)
Net Position Restricted for Pension Benefits				
Beginning of Year	10,093,067,588	20,229,722	10,113,297,310	10,711,667,479
Transfer of residual assets to Pension Plan	20,229,722	(20,229,722)	–	–
End of Year	\$ 10,793,173,927	\$ –	\$ 10,793,173,927	\$ 10,113,297,310

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

NOTES TO FINANCIAL STATEMENTS

JUNE 30, 2017 AND 2016

(1) DESCRIPTION OF PENSION AND HEALTH INSURANCE PLANS

(A) PENSION PLAN

The Public School Teachers' Pension and Retirement Fund of Chicago (the Fund) is the administrator of a multiple employer cost-sharing defined benefit public employee retirement system. The state legislature established the Fund in 1895 to provide retirement, survivor, and disability benefits for certain certified teachers and employees of the Chicago Public and Charter Schools, as well as Fund employees. The Fund is administered in accordance with Illinois Compile Statutes (ILCS) Chapter 40, Act 5, Articles 1, 17, and 20. The Fund is governed by a 12-member Board of Trustees (six elected by the teacher contributors, three elected by the annuitants, one elected by the principal and administrator contributors, and two appointed by the primary employer, the Chicago Board of Education). The Board of Trustees is authorized by state law to make investments, pay benefits, hire staff and consultants, and carry out all necessary functions in compliance with the Illinois Pension Code. As of June 30, 2017, the Fund had 75 participating employers consisting of the primary employer, Chicago Public Schools, 71 charter schools, the Illinois Federation of Teachers, the Chicago Teachers' Union, and the Fund itself. The State of Illinois is a nonemployer contributing entity.

As of June 30, 2017 and 2016, the Fund membership consisted of the following:

	2017	2016
Retirees and beneficiaries currently receiving benefits	28,439	28,298
Terminated members entitled to benefits but not yet receiving them	6,062	5,715
Current members:		
Vested	17,800	18,557
Nonvested	11,055	10,986
	63,356	63,556

The State of Illinois Public Act (P.A.) 96-0889 created a second tier of benefits for teachers who first become participants in the Fund, or other public pension funds in the State of Illinois, after January 1, 2011. Plan provisions for the two tiers are described below:

Tier I

Eligibility

A member with at least 20 years of service and who has attained 60 years of age is entitled to an unreduced pension. A member with at least 20 years of service and who has attained 55 years of age is entitled to a reduced pension. A member with at least 5 but less than 20 years of service is entitled to a pension upon attainment of age 62. In the case of retirement prior to age 60 with less than 33.95 years of service, the retirement pension is reduced one-half of 1% for each month that the member is under age 60.

Benefit

A retirement pension is determined by either (1) applying specified percentages which vary with years of service to the average of the four highest consecutive years of salary earned or (2) applying a flat 2.2% to the average of the four highest consecutive years of salary earned in the 10 years preceding retirement. P.A. 90-852 increased the retirement annuity formula to 2.2% of final average salary for each year of service earned after June 30, 1998. Employees who retired with CTPF as their final retirement system and have 30 years of cumulative service credit will be upgraded to the 2.2% formula without any additional cost. Employees who retired with less than 30 years of cumulative service credit may upgrade to the 2.2% formula for years prior to July 1, 1998, by making certain additional contributions to the Fund. To qualify for the 2.2% upgrade, employees must have been employed at the time the law became effective or earned at least one year of service after the effective date. Beginning July 1, 1998, employee contributions increase from 8% to 9% of salary to account for the increased benefit.

Survivor & Death Benefits

A survivor pension may be payable upon the death of a contributor or retired member of the Fund. For a retired member, the survivor's pension is 50% of the member's last pension payment. If the member was not retired at the time of death, the benefit is the greater of 50% of earned pension or an amount based on a percentage of the average of the four highest years of salary in the last 10 years of service. A single-sum death benefit is also payable upon the death of a contributor or retired member of the Fund, if certain qualifications are met.

Disability Pension

A disability pension is payable in the event of permanent disability with certain qualifications and service requirements. A disability pension (non-duty related) is payable to a member with 10 or more years of service. A non-duty disability benefit is determined by either (1) applying specified percentages which vary with years of service to the final average salary earned (4 highest consecutive years) or (2) applying a flat 2.2% to the average salary earned for each year of service. A duty disability benefit is provided upon the total incapacity for further teaching as a result of an injury sustained while in teaching service. The duty disability benefit is equal to 75% of final salary or the salary at time of injury/accident, and is payable until the attainment of age 65.

Annual Increase

- Annuitants who retired after 1959 receive an annual 3% increase in the retirement pension beginning January 1 following the member's 61st birthday or the first anniversary of retirement, whichever is later.
- Survivor annuitants receive an annual 3% increase to the survivor pension beginning the January 1st immediately following the effective date of the benefit. If the member was not retired upon death, the increase is granted on the January 1st following the first anniversary of the member's death.
- A 3% increase is paid on non-duty disability pensions only after the first anniversary of the pension or the pensioner's 61st birthday, whichever is later. A member receiving duty disability benefits is not eligible for an automatic annual increase.

TIER II

Eligibility

The Tier II benefit structure is applicable to persons who first became a member or a participant under any reciprocal retirement system or pension fund established under the Illinois Pension Code on or after January 1, 2011. A member with at least 10 years of service and who has attained 67 years of age is entitled to an unreduced pension. A member with at least 10 years of service and who has attained 62 years of age is entitled to a reduced pension. In the case of retirement prior to age 67, the retirement pension is reduced one-half of 1% for each month that the member is under age 67.

Benefit

A retirement pension is determined by applying a flat 2.2% to the average of the eight highest consecutive years of salary earned in the 10 years preceding retirement. In accordance with Public Acts 96-0889, 96-1490, 96-1495, 98-0622, and 98-641, the Department of Insurance (Department) is to annually determine certain annuity limitations for use in benefit determination by pension funds operating under the Illinois Pension Code. For calendar year 2017, the Department determined that the maximum earnings, salary, or wages that can be used in calculating pension is approximately \$112,408.

Survivor & Death Benefits

A survivor pension is payable upon the death of a contributor or retired member of the Fund. The survivor's pension for an eligible survivor of a retired Tier II member is 66 2/3% of the retirement annuity at the date of death. In the case of a Tier II member who was not retired at the time of death, the survivor's pension is 66 2/3% of the earned annuity without a reduction for age. A single-sum death benefit is also payable upon the death of a contributor or retired member of the Fund, with certain qualifications.

Disability Pension

A disability pension is payable in the event of permanent disability with certain qualifications and service requirements. A non-duty disability pension is payable after 10 or more years of service, and is determined by applying a flat 2.2% to the average of the eight highest consecutive years of salary earned within the last ten years. A duty disability benefit, equal to 75% of final salary or the salary at time of injury/accident, may be payable when the teacher becomes wholly and presumably incapacitated for duty as a result of an injury sustained while on duty.

Annual Increase

- Members who retire receive an automatic annual increase, equal to the lesser of 3% of the annual pension or one-half the increase in the Consumer Price Index for all Urban Consumers, for the preceding year. The automatic annual increase is paid beginning January 1 following the member's 67th birthday or the first anniversary of retirement, whichever occurs later.
- An automatic annual increase, equal to the lesser of 3% of the annual pension or one-half the annual increase in the Consumer Price Index for all Urban Consumers of the original survivor's pension amount is paid: 1) on each January 1 occurring on or after the commencement of the survivor's pension, if the deceased member died while receiving a retirement pension, or 2) on each January 1 after the first anniversary of the commencement of the survivor's pension, if the deceased member dies before retirement.
- An automatic annual increase, equal to the lesser of 3% of the annual pension or one-half the increase in the Consumer Price Index for all Urban Consumers of the original pension amount, is paid on disability pensions after the first anniversary of the pension or the pensioner's 67th birthday, whichever is later. A member receiving duty disability benefits is not eligible for an automatic annual increase.

(B) HEALTH INSURANCE PLAN

The Fund administers a health insurance program that includes three external health insurance providers. A recipient of a retirement pension, survivor pension, or disability pension may be eligible to participate in a health insurance program and premium rebate sponsored by the Fund, provided the Fund is the member's final pension system prior to retirement. The purpose of the program is to help defray the retired member's premium cost for health insurance. The member is responsible for paying the cost of the insurance and may purchase insurance from the Fund's providers or other outside providers.

Each year, the Board of Trustees establishes a rebate percentage that is used to defray a portion of the cost of the insurance. The rebate percentages for fiscal year 2017 was 50%. In accordance with Chapter 40, Act 5, Article 17, Section 17-142.1 of the ILCS, the total health insurance benefits provided in any one year may not exceed \$65,000,000 plus any previous years' amounts authorized but not expended. Previous years' amounts authorized but not expended at June 30, 2017 and 2016 are \$36,229,021 and \$20,229,722, respectively.

The Fund has total discretion over the program, and no specific employee or employer contributions are made to pay the healthcare subsidy although the Fund allocates a certain amount from the employer pension contribution to OPEB on an annual basis equal to the related healthcare expenses.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(A) REPORTING ENTITY

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

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

Based upon the required criteria, the Fund has no component units and is not a component unit of any other entity.

(B) BASIS OF ACCOUNTING

The Fund's financial statements are prepared using the accrual basis of accounting, following standards promulgated by the GASB. Revenues are recognized in the accounting period in which they are earned and expenses are recognized in the period incurred. Employer contributions are recognized when due and the employer has a formal legal obligation to provide the contribution. Employee contributions are recognized upon receipt of contribution data for the Plan members. Benefits and refunds are recognized as deductions when due and payable, in accordance with the terms of the plan.

(C) CASH AND INVESTMENTS

Cash includes amounts in demand deposits and uninvested funds held by the Fund's investment managers.

Investments are governed by Chapter 40, Act 5, Article 17 of the ILCS. These statutes authorize the Fund to invest in accordance with the prudent person rule, which states that fiduciaries will exercise the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity with such matters would use in the conduct of an enterprise of a like character with like aims.

Investments are reported at fair value. Fair value for equity securities is determined by using the closing price listed on the national securities exchanges as of June 30. Fair value for fixed income securities are determined principally by using quoted market prices provided by independent pricing services. The financial statements include investments valued at \$1,668,419,420 (15.5% of fund net position) at June 30, 2017, and at \$1,580,348,623 (15.6% of fund net position) at June 30, 2016, whose fair values have been estimated by management in the absence of readily determinable market values. For commingled funds, the net asset value is determined and certified by the commingled fund manager as of June 30. Alternative investments, which include private equity, real estate, and infrastructure, are valued based on amounts established by the fund managers or general partners which are subject to annual audit. The fair value of the derivative instruments that are not exchange traded is determined by external pricing services using various pricing methods which are based upon the type of the derivative instrument. Purchases and sales of securities are reflected on the trade data. Dividend income is recorded on the ex-dividend date. Interest income is recorded as earned on an accrual basis.

(D) CAPITAL ASSETS

Capital assets are reported at cost. Depreciation is computed using the straight-line method based upon estimated useful lives of 50 years for building and improvements, 10 years for the benefit payment system, and 3 to 5 years for furniture and equipment.

(E) ADMINISTRATIVE EXPENSES

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

(F) RECLASSIFICATIONS

Certain 2016 amounts have been reclassified to conform with the 2017 presentation.

(G) RISKS AND UNCERTAINTIES

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

(H) USE OF ESTIMATES

In preparing financial statements in conformity with U.S. generally accepted accounting principles, the Fund makes estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates and assumptions.

(I) NEW ACCOUNTING PRONOUNCEMENTS ADOPTED

During fiscal year 2017, the Fund considered the adoption of GASB Statement No. 74, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pension* – an amendment of GASB Statement No. 43. GASB 74 addresses reporting by postemployment benefit plans other than pensions (OPEB) that administer defined benefit OPEB benefits on behalf of governments. Because a qualifying health insurance trust does not exist, the impact of GASB 74 on the Fund's financial reporting was minimal.

During fiscal year 2016, the Fund adopted GASB Statement No. 72, *Fair Value Measurement and Application*. GASB 72 requires the Fund to use valuation techniques which are appropriate under the circumstances and are a market approach, a cost approach, or an income approach. GASB 72 establishes a hierarchy of inputs used to measure fair value consisting of three levels:

- Level 1 inputs are quoted prices in active markets for identical assets or liabilities.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability.

Investments that are measured at fair value per share (or its equivalent) are disclosed separately. GASB 72 also contains note disclosure requirements regarding the hierarchy of valuation inputs and valuation techniques that were used for the fair value measurements. There was no material impact to the Fund's financial statements as a result of the implementation of GASB 72.

(J) CPS FINANCIAL STATUS

The Chicago Public School District (CPS) continues to face structural budget challenges, with its major revenue sources flat or declining at the state and federal level, and property taxes capped. Due in large part to the structural deficit and increasing obligations, CPS' credit rating has been downgraded. Based on these facts there continues to be uncertainty regarding CPS' ability to meet all future obligations, including contributions to the Fund.

In an attempt to ease the burden on CPS related to its obligations towards the Fund, the State of Illinois General Assembly passed PA 99-0521. Starting in fiscal year 2017, PA 99-0521 allows CPS to levy a property tax dedicated to the Fund at a tax rate of 0.383%. The revenues from the levy supplemented CPS' required contributions for fiscal year 2017.

Additionally, Public Act 100-0465 was passed in August 2017, which allows for the property tax levy capped rate of 0.383% to be increased to 0.567%. Additionally, the State of Illinois is required to pay the normal cost portion of the CPS' required contribution and the health insurance subsidy costs beginning in fiscal year 2018.

(K) HEALTH INSURANCE FUND

No direct contributions are currently being made to the Fund for OPEB. Each year, in accordance with Illinois State law, the Fund makes transfers from the pension fund into the Health Insurance fund equal to the amount of OPEB expenses for that year. Per Section 17 -147.1, the OPEB payments in any year may not exceed \$65 million plus any amount that was authorized to be paid in the preceding year but was not spent (carryover).

A review of the substance of the underlying transactions of the Fund and related Pension Code resulted in a conclusion by the Fund that the assets in the Health Insurance neither are in an OPEB qualifying trust as defined by GASB 74, nor are those amounts restricted legally or otherwise required to be used solely to pay OPEB benefits. While the Health Insurance fund assets could be used to pay OPEB, there is no limitation on their use solely for OPEB purposes. Therefore, since the Health Insurance fund assets are not restricted for OPEB, they are not considered assets available to offset the OPEB liability. However, because those amounts do result from restricted contributions to the Fund for pension, those residual assets are restricted for pension benefits. In fiscal year 2017, the residual assets of \$20.2 million in the Health Insurance fund have been transferred to the pension fund to better reflect the character of these funds; these amounts are properly shown as available to offset the total pension liability under GASB 67.

(3) RECEIVABLES AND PAYABLES

Required contributions from the Board of Education and State of Illinois are included in the receivables as of June 30, 2017, and June 30, 2016.

As of June 30, 2017, the employer receivable included the required contribution due from the Board of Education of \$249,990,422 related to the fiscal year 2017 required contribution, which is to be paid from the special property tax levy. The remaining \$36,153,000 due to the Fund from the employer pertain to contributions for fiscal years 2016, 2015, and 2014. Additionally, the State of Illinois owed the Fund \$11,170,500 as of June 30, 2017. A total of \$5,077,500 was paid prior to the end of the lapse period, December 31, 2017, resulting in an outstanding balance of \$6,093,000 for fiscal year 2017.

As a result of litigation settled on March 9, 2015, the Board of Education in fiscal year 2011 overpaid the Fund by \$10,449,000. This amount was recognized as an offsetting payable to the employer receivable in fiscal year 2017.

As of June 30, 2016, intergovernmental receivables included a required contribution due from the Chicago Board of Education in the amount of \$24,250,000.

Employee receivables included retirement contributions deducted from employees' compensation by the employer during the year to be remitted to the Fund, and contributions to be made by employees to upgrade to the 2.2 pension formula. The employer owed \$13,398,381 and \$6,048,439 on behalf of the employees, at June 30, 2017, and 2016, respectively. Employees owed the Fund \$2,243,101 and \$2,345,519 for the 2.2 pension formula upgrade at June 30, 2017 and 2016, respectively. As of June 30, 2017, and 2016, there were other miscellaneous contributions of \$18,174 and \$14,060, respectively.

(4) INVESTMENT POLICIES, ASSET ALLOCATION, AND MONEY-WEIGHTED RATE OF RETURN

INVESTMENT POLICY

The Board is responsible for prudent investment and expenditure of the Fund's assets. The Board of Trustees has the authority to establish and amend investment policy decisions.

ASSET ALLOCATION

The pension plan's policy with respect to the allocation of invested assets is established and may be amended by the Fund's Board of Trustees. The following table represents the Board's adopted asset allocation policy as of June 30, 2017 and 2016:

ASSET CLASS	TARGET ALLOCATION	
	2017	2016
Equity	61.0%	61.0%
Fixed Income	23.0	23.0
Infrastructure	2.0	2.0
Private Equity	5.0	5.0
Real Estate	9.0	9.0
Grand Total	100.0%	100.0%

MONEY-WEIGHTED RATE OF RETURN

For the years ended June 30, 2017 and 2016, the annual money-weighted rate of return on plan investments, net of investment expense, were 13.12% and 0.2%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

(5) DEPOSITS AND INVESTMENTS

CUSTODIAL CREDIT RISK - DEPOSITS

Custodial credit risk for deposits is the risk that, in the event of a financial institution failure, the Fund's deposits may not be returned. All noninvestment-related bank balances at year-end are insured or collateralized by securities recorded in the Fund's name and held by the Fund's agent, its master custodian (BNY Mellon). Cash held in the investment-related bank account is neither insured nor collateralized for amounts in excess of \$250,000. There is no deposit policy for custodial credit risk.

CASH BALANCES AT JUNE 30:	2017	2016
Bank balance	\$ 461,493,548	\$ 15,592,157
Amount exposed to custodial credit risk	463,836,431	15,092,157

INVESTMENTS

The following table presents a summary of the Fund's investments at fair values at June 30, 2017 and 2016:

INVESTMENTS	FAIR VALUE	
	2017	2016
U.S. Government and Agency Fixed Income	\$ 1,123,679,446	\$ 1,147,114,576
U.S. Corporate Fixed income	804,984,477	792,611,191
Foreign Fixed Income Securities	42,077,396	43,278,248
Commingled Common Stock	214,901,529	231,154,589
Commingled Emerging Markets	149,634,248	140,388,329
Commingled Public REITs	–	70,810,125
Commingled Corporate Bonds	37,617,389	57,443,331
Commingled Hedge Fund	–	28,041,480
Commingled Infrastructure	92,139,297	97,012,015
Commingled Real Estate	566,278,725	588,728,345
U.S. Equities	3,084,541,851	2,673,243,334
Foreign Equities	2,868,942,950	2,397,490,575
Public REITs	123,284,684	141,788,855
Foreign Public REITs	5,346,829	24,491,010
Pooled Short-Term Investment Funds	353,942,206	1,016,270,961
U.S Real Estate	147,155,364	175,241,692
Foreign Real Estate	25,499,721	39,278,438
U.S Infrastructure	82,646,917	74,955,401
Foreign Infrastructure	66,542,521	65,804,675
Private Equity	281,130,643	287,138,325
Margin Cash	109,981	3,870,883
Total Investments	\$ 10,070,456,174	\$ 10,096,156,378

(A) CUSTODIAL CREDIT RISK - INVESTMENTS

The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the Fund will not be able to recover the value of investments or collateral securities that are in the possession of an outside party. The Fund does not have a formal investment policy which limits its exposure to custodial credit risk. As of June 30, 2017 and 2016, the following investments were uninsured and unregistered, with securities held by the counterparty or by its trust department or agent but not in the Fund's name.

CUSTODIAL CREDIT RISK	JUNE 30, 2017	JUNE 30, 2016
Margin Cash	\$109,981	\$3,870,883

(B) CREDIT RISK

Credit risk is the risk that the Fund will not recover its investments due to the inability of the counterparty to fulfill its obligation. The Fund does not have a formal investment policy which limits its exposure to credit risk. The following table presents the quality ratings of debt securities held by the Fund as of June 30, 2017:

S&P CREDIT RATINGS	COMMERCIAL MORTGAGE BACKED	COMMINGLED FIXED INCOME	CORPORATE BONDS	GOVERNMENT AGENCIES	GOVERNMENT BONDS	GOVERNMENT MORTGAGE BACKED	MUNICIPAL BONDS
AAA	\$ 5,075,715	\$ -	\$ 52,474,216	\$ 1,236,001	\$ 290,805	\$ -	\$ 2,472,488
AA	4,144,771	-	67,076,779	3,323,823	770,695,269	226,026,329	11,220,532
A	1,918,832	-	227,570,441	13,542,353	-	-	2,698,629
BBB	2,805,117	-	372,923,705	15,131,488	1,055,496	-	1,397,649
BB	17,565	-	34,835,594	8,298,697	-	-	-
B	-	-	6,786,656	2,238,869	-	-	-
CCC	1,520,394	-	6,797	-	-	-	-
CC	613,054	-	-	-	-	-	-
D	32,132	-	340,517	-	-	-	-
Not Rated	30,634,636	37,617,389	19,365,162	2,798,498	17,005,723	60,687,617	688,700
U.S. Govt Agency	-	-	-	1,790,270	-	-	-
	\$ 46,762,216	\$ 37,617,389	\$ 781,379,867	\$ 48,359,999	\$ 789,047,293	\$ 286,713,946	\$ 18,477,998

For comparative purposes, the following table presents the quality ratings of debt securities held by the Fund as of June 30, 2016:

S&P CREDIT RATINGS	COMMERCIAL MORTGAGE BACKED	COMMINGLED FIXED INCOME	CORPORATE BONDS	GOVERNMENT AGENCIES	GOVERNMENT BONDS	GOVERNMENT MORTGAGE BACKED	MUNICIPAL BONDS
AAA	\$ 1,932,504	\$ -	\$ 232,642,879	\$ 14,875,361	\$ -	\$ -	\$ 4,000,486
AA	6,255,734	-	70,169,067	6,137,070	785,799,367	260,051,515	14,573,862
A	5,682,338	-	35,521,486	1,386,904	242,673	-	4,196,930
BBB	100,900	-	6,144,293	-	-	-	-
BB	33,702	-	33,911,426	6,311,963	-	-	-
B	4,440,590	-	351,630,585	16,131,324	165,383	-	829,198
CCC	694,552	-	6,350	-	-	-	-
CC	2,532,755	-	-	-	-	-	-
D	220,061	-	27,750	-	-	-	-
Not Rated	32,877,162	57,443,331	7,787,057	5,677,846	10,081,135	33,661,427	706,511
U.S. Govt Agency	-	-	-	2,468,003	-	-	-
	\$ 54,770,298	\$ 57,443,331	\$ 737,840,893	\$ 52,988,471	\$ 796,288,558	\$ 293,712,942	\$ 24,306,987

(C) CONCENTRATION OF CREDIT RISK

There are no investments in any issuer that represent 5% or more of fiduciary net position as of June 30, 2017 or 2016.

(D) INTEREST RATE RISK

Interest rate risk is the risk that the fair value of the Fund's investments will decrease as a result of an increase in interest rates. The following table presents the weighted average maturity of debt securities held by the Fund as of June 30, 2017 and 2016:

INVESTMENT TYPE	FAIR VALUE	EFFECTIVE DURATION (YEARS)	FAIR VALUE	EFFECTIVE DURATION (YEARS)
	JUNE 30, 2017		JUNE 30, 2016	
Commercial Mortgage Backed	\$ 46,762,216	0.07	\$ 54,770,298	0.07
Commingled Fixed Income Funds	37,617,389	–	57,443,331	–
Corporate Bonds	781,379,867	2.61	737,840,893	2.61
Government Agencies	48,359,999	0.15	52,988,471	0.19
Government Bonds	789,047,293	2.92	796,288,558	2.93
Government Mortgage Backed	286,713,946	0.46	293,712,942	0.27
Municipal Bonds	18,477,998	0.08	24,306,987	0.11
Total	\$ 2,008,358,708		\$ 2,017,351,480	

The Fund does not have a formal investment policy that limits investment maturities as a means of managing its exposure to potential fair value losses arising from future changes in interest rates

(E) 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 Fund does not have a formal investment policy which limits its exposure to foreign currency risk. The following table presents the foreign currency risk by type of investment as of June 30, 2017 and 2016:

CURRENCY	BASE MARKET VALUE	PERCENTAGE	BASE MARKET VALUE	PERCENTAGE
Foreign Equities:	JUNE 30, 2017		JUNE 30, 2016	
Australian Dollar	\$ 27,025,012	0.94 %	\$ 46,743,403	1.95 %
Brazil Real	25,071,940	0.87	20,245,139	0.84
British Pound Sterling	518,186,020	18.06	417,028,319	17.39
Canadian Dollar	84,517,664	2.95	78,622,726	3.28
Chilean Peso	267,275	0.01	263,569	0.01
Colombian Peso	2,243,625	0.08	2,634,653	0.11
Czech Koruna	9,905,909	0.35	8,074,662	0.34
Danish Krone	26,252,045	0.92	31,397,415	1.31
Egyptian Pound	–	–	59,727	0.00
Euro	715,604,734	24.94	543,095,693	22.65
Hong Kong Dollar	144,773,775	5.05	69,722,779	2.91
Hungarian Forint	6,626,890	0.23	2,880,632	0.12
Indian Rupee	49,042,500	1.71	33,666,584	1.40
Indonesian Rupiah	20,992,483	0.73	16,747,292	0.70
Israeli Shekel	3,684,966	0.13	6,698,690	0.28
Japanese Yen	380,003,080	13.25	309,924,114	12.93
Malaysian Ringgit	1,899,522	0.07	1,980,699	0.08
Mexican Peso	23,559,096	0.82	20,995,255	0.88
New Taiwan Dollar	69,083,385	2.41	45,992,700	1.92
New Zealand Dollar	–	–	1,680,170	0.07
Nigerian Naira	157,022	0.01	130,654	0.01
Norwegian Krone	33,985,962	1.18	24,492,491	1.02
Pakistan Rupee	221,107	0.01	212,200	0.01
Philippines Peso	490,064	0.02	58,926	0.00
Polish Zloty	504,037	0.02	773,517	0.03
Qatari Riyal	114,135	0.00	345,195	0.01
Russian Ruble	5,841	0.00	–	–

(E) FOREIGN CURRENCY RISK | (CONTINUED)

CURRENCY	BASE MARKET VALUE	PERCENTAGE	BASE MARKET VALUE	PERCENTAGE
	JUNE 30, 2017		JUNE 30, 2016	
Singapore Dollar	\$ 18,996,643	0.66 %	\$ 17,692,433	0.74 %
South African Rand	17,175,574	0.60	23,238,063	0.97
South Korean Won	68,573,944	2.39	53,043,532	2.21
Swedish Krona	63,173,756	2.20	63,005,195	2.63
Swiss Franc	142,558,696	4.97	146,554,858	6.11
Thai Baht	11,319,071	0.39	10,457,377	0.44
Turkish Lira	11,744,628	0.41	16,154,356	0.67
U.S. Dollar	391,023,601	13.61	382,776,867	15.97
U.A.E. Dirham	158,948	0.01	100,690	0.01
Total	\$ 2,868,942,950	100.00 %	\$ 2,397,490,575	100.00 %
Foreign Fixed Income:				
Australian Dollar	\$ 156,399	0.37 %	\$ 2,060,769	4.76 %
Brazil Real	4,763,194	11.32	2,893,670	6.69
British Pound Sterling	2,311,796	5.49	2,571,836	5.94
Canadian Dollar	252,286	0.60	205,406	0.47
Danish Krone	38,519	0.09	37,267	0.09
Euro	3,879,280	9.22	2,428,198	5.61
Japanese Yen	331,230	0.79	364,611	0.84
Mexican Peso	7,334,916	17.43	7,402,083	17.10
New Zealand Dollar	–	–	3,092,578	7.15
Norwegian Krone	–	–	131,274	0.30
Polish Zloty	–	–	29,690	0.07
Turkish Lira	–	–	63,255	0.15
U.S. Dollar	23,009,776	54.69	21,997,611	50.83
Total	\$ 42,077,396	100.00 %	\$ 43,278,248	100.00 %

(E) FOREIGN CURRENCY RISK | (CONTINUED)

CURRENCY	BASE MARKET VALUE	PERCENTAGE	BASE MARKET VALUE	PERCENTAGE
Foreign Public REITs:	JUNE 30, 2017		JUNE 30, 2016	
British Pound Sterling	\$ 4,374,336	81.81 %	\$ 4,704,258	19.21 %
Euro	736,961	13.78	7,605,787	31.06
Hong Kong Dollar	–	–	3,809,093	15.55
Japanese Yen	–	–	6,981,466	28.50
Singapore Dollar	235,532	4.41	212,541	0.87
South African Rand	–	–	601,800	2.46
Turkish Lira	–	–	488,521	1.99
U.S. Dollar	–	–	87,544	0.36
Total	\$ 5,346,829	100.00 %	\$ 24,491,010	100.00 %
Foreign Infrastructure:				
Euro	66,542,521	100.00	65,804,675	100.00
Total	\$ 66,542,521	100.00 %	\$ 65,804,675	100.00 %
Foreign Real Estate:				
Euro	9,142,467	35.85	14,750,435	37.55
Japanese Yen	7,978,955	31.29	15,422,523	39.26
U.S. Dollar	8,378,299	32.86	9,105,480	23.19
Total	\$ 25,499,721	100.00 %	\$ 39,278,438	100.00 %

(F) SECURITIES LENDING

As permitted by state statutes and under the provisions of a securities lending authorization agreement, the Fund lends securities to broker-dealers and banks for collateral that will be returned for the same securities in the future. Deutsche Bank AG manages the Fund's securities lending program and receives cash or government securities as collateral. Deutsche Bank AG does not have the ability to pledge or sell collateral securities unless the borrower defaults. Borrowers are required to deliver collateral for each loan equal to not less than 102% of the market value of the loaned securities.

As of June 30, 2017 and 2016, the collateral provided was 102.27% and 102.31% of the market value of the loaned securities, respectively.

The Fund did not impose any restrictions during the fiscal year on the amount of loans made on its behalf by Deutsche Bank AG. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year. Moreover, there were no losses during the fiscal year resulting from a default of the borrowers or Deutsche Bank AG.

The Fund and the borrowers maintain the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested in indemnified repurchase agreements or maintained in segregated accounts in the name of the Chicago Teachers' Pension Fund. The average duration of this investment pool as of June 30, 2017, and 2016 was 49.3 days and 44.2 days, respectively. Because the loans are terminable on demand, their duration did not generally match the duration of the investments made with cash collateral. As of June 30, 2017 and 2016, the Fund had no credit risk exposure to borrowers. The collateral held (at cost) and the fair market values of underlying securities on loan for the Fund as of June 30, 2017, were \$940,349,072 and \$919,452,261, respectively. For comparative purposes, the collateral held (at cost) and the fair market values of underlying securities on loan for the Fund as of June 30, 2016, were \$774,274,709 and \$758,076,152, respectively.

The following table represents the fair market value balances relating to the securities lending transactions as of June 30, 2017 and 2016:

CATEGORY	FAIR MARKET VALUE OF UNDERLYING SECURITIES LENT AS OF:	
	JUNE 30, 2017	JUNE 30, 2016
U.S. Agency	\$ 3,971,267	\$ 12,041,898
U.S. Equity	547,690,288	504,554,890
U.S. Government	276,294,554	191,404,679
Corporate Bond	89,761,325	44,204,115
International Equity	1,734,827	5,870,570
Total	\$ 919,452,261	\$ 758,076,152

The fair market value of collateral of the securities lending program at June 30, 2017 was \$941,037,933, compared to \$779,223,423 at June 30, 2016. The investments were in repurchase agreements. All of these securities had a duration of less than one year. There is no custodial credit risk or interest rate risk associated with the collateral pool.

The credit ratings of the securities lending collateral pool held at June 30, 2017 and 2016 as rated by S&P are as follows:

S&P CREDIT RATING	COLLATERAL AMOUNT AS OF:	
	JUNE 30, 2017	JUNE 30, 2016
A-1+	\$ 12,000,000	\$ 85,000,000
A-1	695,000,000	570,000,000
BBB	20,000,000	83,000,000
Not Rated	214,037,933	41,223,423
Total	\$ 941,037,933	\$ 779,223,423

(6) DERIVATIVES

The Fund accounts for its derivative instruments in accordance with GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*. A derivative instrument is an instrument or contract whose value is derived from that of other financial instruments such as stocks, bonds and commodities, interest rates or a market index. The Fund's derivatives are considered investment derivative instruments. The following table summarizes the derivatives held within the Fund's investment portfolio as of June 30, 2017 and 2016:

DERIVATIVE TYPE	NOTIONAL AMOUNTS		FAIR VALUE	
	2017	2016	2017	2016
A. Foreign currency contracts purchased	\$ –	\$ –	\$ (118,566,711)	\$ (133,130,326)
Foreign currency contracts sold	–	–	119,248,264	132,123,278
B. Futures:				
Long equity	10,858,340	8,303,020	(38,332)	31,018
Long fixed income	211,299,250	164,251,157	(325,043)	3,337,865
Short fixed income	(213,049,375)	(256,784,533)	556,028	(3,324,684)
C. Options:				
Purchased	–	–	218,284	31,096
Written	–	–	(79,609)	(30,000)
D. Rights/Warrants	–	–	15,683	24,641
E. Swaps:				
Credit Default Swaps	–	–	(229,160)	(93,582)
Interest Rate Swaps	–	–	1,042,124	(2,719,361)
Total	\$ 9,108,215	\$ (84,230,356)	\$ 1,841,528	\$ (3,750,055)

(A) FORWARD CURRENCY FORWARD CONTRACTS

Forward currency contracts are two-sided contracts in the form of either forward purchases or forward sales. The Fund's use of these securities is limited to small positions in the Fund's portfolio to hedge fluctuations in foreign currency. The fair value of forward currency contracts outstanding as of June 30, 2017 and 2016, is as follows:

CURRENCY	FAIR VALUE	
	2017	2016
Foreign currency exchange sales		
Australian Dollar	\$ (203,333)	\$ (6,007)
Brazil Real	(200,233)	(2,872,403)
British Pound Sterling	(3,080,084)	(3,836,866)
Canadian Dollar	(1,201,740)	(174,463)
Chinese Yuan Renminbi	(10,312,802)	(5,837,826)
Euro	(7,435,137)	(25,916,186)
Hong Kong Dollar	(52,531)	(163,449)
Indonesian Rupiah	–	(2,802)
Japanese Yen	(41,026,820)	(38,285,656)

(A) FORWARD CURRENCY FORWARD CONTRACTS | (CONTINUED)

CURRENCY	FAIR VALUE	
	2017	2016
Foreign currency exchange sales		
Mexican Peso	\$ (3,557,824)	\$ (3,120,833)
New Taiwan Dollar	(4,317,526)	(236,493)
New Zealand Dollar	–	(106,516)
Norwegian Krone	–	(66,316)
Polish Zloty	–	(105,260)
Singapore Dollar	–	(4,257,275)
South African Rand	(336,046)	–
South Korean Won	–	(105,407)
Swedish Krona	(298,546)	–
Swiss Franc	–	(3,012,973)
U.S. Dollar	(46,544,089)	(45,023,595)
Total	\$ (118,566,711)	\$ (133,130,326)
Foreign currency exchange purchases		
Australian Dollar	\$ 5,450,406	\$ 446,230
Brazilian Real	3,570,404	1,579,691
British Pound Sterling	6,712,814	11,385,301
Chinese Yuan Reniminbi	2,721,467	1,824,227
Canadian Dollar	4,274,601	2,299
Danish Krone	1,114,494	81,918
Euro	5,749,122	17,924,110
Hong Kong Dollar	61,782	–
Indonesian Rupiah	3,138,353	–
Japanese Yen	7,336,917	5,189,549
Mexican Peso	3,945,607	1,146,430
New Zealand Dollar	248,825	–
Norwegian Krone	477,378	–
Singapore Dollar	837,474	4,813,451
South Korean Won	76,883	189,344
Swedish Krona	1,884,896	533,021
Swiss Franc	1,303,106	132,098
U.S. Dollar	70,343,735	86,875,609
Total	\$ 119,248,264	\$ 132,123,278

(B) OPTIONS

Options represent a financial derivative that represents a contract sold by one party to another party. The contract offers the buyer the right, but not the obligation, to buy or sell a security or other financial assets at an agreed-upon price during a certain period of time or a specific date. The Fund's use of options investment vehicle is limited to small positions in the Fund's portfolio due to the sophistication and risky nature of options.

(C) FUTURES CONTRACTS

Financial futures are agreements to purchase or sell a specific amount of an asset at a specified delivery or maturity date for an agreed-upon price. The Fund's managers use financial futures to improve yield, to adjust the duration of the fixed income portfolio, and to replicate an index.

(D) STOCK RIGHTS AND WARRANTS

A stock right is the right to the holder as a current shareholder in a company to buy additional shares at a discount over the current market price. Warrants are instruments which when purchased are priced above the current market, and allow the holder to purchase shares in a company at a specified future point in time. As a holder of warrants, the Fund bears the risk that the share price will drop below the cost of the warrant.

(E) SWAPS

Swaps are agreements to exchange currency or assets. The Fund invests in swaps to manage exposure to credit, currency, inflation, and interest rate risks. Credit default swap and synthetic default swap agreements involve one party making a stream of payments (the buyer of protection) to another party (the seller of protection) in exchange for the right to receive a specified return in the event of a default or other credit event for the referenced entity, obligation, or index.

(F) CHANGES IN FAIR VALUE

The following table summarizes the changes in fair value, which were recognized as investment income in the Fund's statement of changes in fiduciary net position at June 30, 2017 and 2016:

DERIVATIVE TYPE	CHANGES IN FAIR VALUE	
	2017	2016
Foreign Currency Contracts	\$ 574,379	\$ 107,174
Options	(5,776)	144,451
Rights and Warrants	199,178	(183,495)
Swaps	3,797,273	(2,984,307)
Total	\$ 4,565,054	\$ (2,916,177)

(G) CREDIT RISK

Credit risk is the risk that the Fund will not recover its investments due to the inability of the counterparty to fulfill its obligation. It is the Fund's policy to enter into netting arrangements whenever it has more than one derivative instrument transaction with a counterparty. Under the terms of these arrangements, should one party become insolvent or otherwise default on its obligations, close-out netting provisions permit the nondefaulting party to accelerate and terminate all outstanding transactions and net the transactions' fair values so that a single sum will be owed by, or owed to, the nondefaulting party.

(H) INTEREST RATE RISK

The Fund manages its exposure to fair value losses from interest rate risk for the derivatives portfolio using the effective duration contribution method on the portfolio as a whole. Duration is a weighted average of the maturity of all the income streams from the portfolio of the fixed income instruments.

The following is the effective duration of the Fund's fixed income derivatives at June 30, 2017 and 2016:

DERIVATIVE TYPE	FAIR VALUE	EFFECTIVE DURATION (YEARS)	FAIR VALUE	EFFECTIVE DURATION (YEARS)
	2017		2016	
Futures fixed income (long and short, net)	\$ 230,985	0.27	\$ 13,181	(0.25)
Options	138,675	(0.03)	1,096	(0.06)
Total	\$ 369,660		\$ 14,277	

(7) CONTRIBUTIONS AND RESERVES

The funding policy of the Fund provides for employer contributions, which, when added to contributions received from employee members and earnings on investments, will be sufficient to meet the actuarially determined obligations of the Fund. On an annual basis, an actuarial valuation is performed in order to determine the amount of required contributions on behalf of the Fund. The ILCS (Public Act 89-15) provides for an actuarially determined funding plan intended to maintain the assets of the Fund at a level equal to 90% of the liabilities of the Fund. The Chicago Board of Education (Employer) is required by law to make contributions to the Fund only to the extent that the Fund's actuarially determined funding level drops below 90% by the end of the fiscal year. The Employer is then required to make contributions to the Fund in order to ensure the actuarial value of assets is 90% of the actuarial value of liabilities by 2059. In years where the funding rate exceeds 90%, no employer contribution is required.

In fiscal years 2017 and 2016, the Employer and the State were required to make contributions of \$745.4 million and \$700.1 million, respectively. These figures represent the annual required contributions per Article 17 and are not representative of the actuarially determined contributions. Accordingly, the Employer and State paid \$484.2 million and \$688.1 million in fiscal years 2017 and 2016, respectively, with remaining amounts being recorded as receivables as of those dates. Public Act 99-0521, enacted on June 30, 2016, provided that a separate tax be levied by the Chicago Board of Education for the purposes of making an employer contribution to the Fund at a rate not to exceed 0.383%. As a result, \$250 million of the fiscal year 2017 required contribution is expected to be paid from the Special Property Tax Levy, which represents the amount unpaid at June 30, 2017, related to the fiscal year 2017 statutory required contribution.

As of June 30, 2016, the Employer owed \$24.3 million and there were no amounts due from the State.

During the fiscal years ended June 30, 2017, and 2016, the Fund did not receive state funding for the health insurance plan. As a result, the Fund allocated approximately \$49 million and \$66 million of the employer contribution to the Health Insurance Fund, respectively, for each year to pay health benefits to Fund retirees.

Although the statutory contribution requirements were met in fiscal years 2017 and 2016, the statutory funding method generates a contribution requirement that is less than a reasonable actuarially determined contribution. The ability of the Fund to reach 90% funding by 2059 is heavily dependent on the State and the Board of Education contributing the statutorily required contributions each year until 2059.

(A) MEMBER CONTRIBUTIONS

Member contributions, established by the ILCS, are 9% of the total regular salary rate, of which 1% applies to survivors and childrens pension benefits. For employees hired prior to January 1, 2017, CPS contributes 7% of the 9% required member contributions. For employees hired after January 1, 2017, there is no employer pick-up. The non-CPS employers also pick up a portion of the required employee contribution. Fund employees also participate as members in the Fund and are included in the total current members. Contributions made by the Fund for Fund employees totaled \$446,888 and \$368,131 for the years ended June 30, 2017 and 2016, respectively, which is 100% of the employee contributions required to be made by the Fund.

(B) NONEMPLOYER CONTRIBUTIONS

As noted earlier in Note 7, the State of Illinois makes an annual contribution to the Fund to supplement any employer contribution. Federal funds, which are included in the employer minimum funding requirement, are actuarially-based amounts contributed to the Fund for the accruing pension cost of teachers whose salaries are paid from special trusts or federal funds.

(8) NET PENSION LIABILITY OF PARTICIPATING EMPLOYER

The components of the net pension liability at June 30, 2017 and 2016 were as follows:

	2017	2016
Total pension liability	\$ 23,175,590,999	21,124,697,012
Plan fiduciary net position	10,793,173,927	10,113,297,310
Employer's net pension liability	\$ 12,382,417,072	11,011,399,702
Plan fiduciary net position as a percentage of the total pension liability	46.57%	47.87%

ACTUARIAL ASSUMPTIONS

The total pension liability was determined by actuarial valuations as of June 30, 2017 and 2016, using the following actuarial assumptions, applied to all periods included in the measurement:

	PENSION PLAN	
	2017	2016
Actuarial Cost Method	Projected Unit Credit	Projected Unit Credit
Cost of Living Adjustments	3% compound for Tier I members; the lesser of 3% or ½ of CPI, simple, for Tier II Participants	3% compound for Tier I members; the lesser of 3% or ½ of CPI, simple, for Tier II Participants
Inflation	General inflation rate, 2.5% Wage inflation rate, 3.25%	General inflation rate, 2.75% Wage inflation rate, 3.50%
Investment Rate of Return	7.25%, net of investment expense	7.75%, net of investment expense
Salary Increases	4.00% to 15.50%, varying by age	4.25% to 15.75%, varying by age

For health participants, mortality rates were based on the RP-2000 Health mortality table, sex distinct, set back two years with generational mortality improvement from 2004 using Scale AA. This assumption provides a margin for future mortality improvements. No adjustment is made for post-disabled mortality. For disabled participants, mortality rates were based on the RP-2000 Disabled mortality table, sex distinct, set back three years.

Most of the actuarial assumptions used for the June 30, 2017 actuarial valuation are based on an experience review for the five-year period ending July 1, 2007, through June 30, 2012, performed by the prior actuary (Segal Consulting). Beginning with the June 30, 2017, actuarial valuation, the investment return assumption, general inflation assumption and wage inflation assumption were reduced from 7.75% to 7.25%, 2.75% to 2.50% and 3.50% to 3.25%, respectively. The general inflation assumption also serves as the basis for the determination of annual increases in pension and pensionable salary cap for Tier II members. As a result of the change in the general inflation assumption, the assumption regarding future increases in pension and pensionable salary cap was reduced from 1.357% to 1.25% per year for current and future Tier II members.

The actuarial assumptions used in the June 30, 2016, valuation was based on the results of an experience study for the period of July 1, 2007, through June 30, 2012.

The long-term expected rate of return on pension plan investments was determined under a building-block method by using the current risk free rate and historical risk premium for each major asset class to develop the best-estimate ranges of expected future real rates of return (net of pension plan investment expense and inflation) for each major asset class. Best estimates of geometrically determined real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2017, and 2016, are summarized in the following table:

	LONG-TERM EXPECTED REAL RATE OF RETURN	
	2017	2016
Equities	4.6%	5.3%
Fixed Income	1.0%	0.8%
Real Estate	3.5%	3.8%
Private Equity	5.1%	6.0%
Hedge Funds	2.8%	3.0%
Commodities	0.4%	0.5%
Cash Equivalents	0.0%	0.0%

SINGLE DISCOUNT RATE

The discount rate used to measure the total pension liability was 7.07% and 7.75%, for fiscal years 2017 and 2016, respectively.

For fiscal year 2017, a Single Discount Rate of 7.07% was used to measure the total pension liability. This Single Discount Rate was based on an expected rate of return on pension plan investments of 7.25%, cash flows (employee contributions, employer contributions, benefits and administrative expenses) based on the results of the funding actuarial valuation using an expected rate of return on pension plan investments of 7.25% and a municipal bond rate of 3.56%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to statutory contribution rates under the Fund's funding policy. Based on these assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance the benefit payments through the year 2076. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2076, and the municipal bond rate was applied to all benefit payments after that date.

For fiscal year 2016, the Single Discount Rate used to measure the total pension liability was 7.75%. The projection of cash flow used to determine this Single Discount Rate assumed that plan member contributions would be made at the current contribution rate and that employer contributions would be made at rates equal to statutory contribution rates under the Fund's funding policy. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The impact of the change in the Single Discount Rate from 7.75% to 7.07% was an increase in the total pension liability of approximately \$1.6 billion. The change in the discount rate was primarily driven by the decrease in the long-term assumed rate of return from 7.75% to 7.25%.

SENSITIVITY OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following presents the net pension liability as of June 30, 2017 and 2016, calculated using a Single Discount Rate of 7.07% for fiscal year 2017 and 7.75% for fiscal year 2016. The table below also presents what the net pension liability would be if it were calculated using a Single Discount Rate for fiscal years 2017 and 2016 that is one percentage point lower (6.07% for 2017 and 6.75% for 2016) or one percentage point higher (8.07% for 2017 and 8.75% for 2016) than the current rate:

NET PENSION LIABILITY	1% DECREASE (6.07%)	CURRENT DISCOUNT RATE (7.07%)	1% INCREASE (8.07%)
June 30, 2017	\$ 15,199,983,250	\$ 12,382,417,072	\$ 10,033,130,141
NET PENSION LIABILITY	1% DECREASE (6.75%)	CURRENT DISCOUNT RATE (7.75%)	1% INCREASE (8.75%)
June 30, 2016	\$ 13,703,875,767	\$ 11,011,399,702	\$ 8,784,801,549

As of June 30, 2017 and 2016, the Fund was not required to maintain any legally required reserves.

(9) FAIR VALUE MEASUREMENT

The Fund categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the assets. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

The Plan has the following recurring fair value measurements as of June 30, 2017:

INVESTMENT BY FAIR VALUE LEVEL	FAIR VALUE MEASUREMENT				INVESTMENTS NOT MEASURED AT FAIR VALUE
	June 30, 2017	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)	
Commercial Paper	\$ 38,143,628	\$ 1,504,927	\$ 27,599,291	\$ –	\$ 9,039,410
Currency	–	–	–	–	–
Equity					
Commingled Funds	364,535,776	311,037,391	–	53,498,385	–
Common Stock	5,935,786,416	5,935,784,519	–	1,897	–
Preferred Stock	17,698,385	13,172,477	4,525,908	–	–
Total Equity	\$ 6,318,020,577	\$ 6,259,994,387	\$ 4,525,908	\$ 53,500,282	\$ –
Fixed Income					
Commingled	37,617,389	–	–	37,617,389	–
Corporate Bonds	781,241,192	–	781,241,192	–	–
Futures	138,675	138,675	–	–	–
Government Agency Bonds	48,359,999	713,268	47,646,731	–	–
Government Bonds	745,962,337	676,427,613	69,534,724	–	–
Index Linked Gov't Bonds	43,727,778	36,982,241	6,745,537	–	–
Mortgage Backed Securities	332,833,340	–	332,833,340	–	–
Municipal Bonds	18,477,998	–	18,477,998	–	–
Total Fixed Income	\$ 2,008,358,708	\$ 714,261,797	\$ 1,256,479,522	\$ 37,617,389	\$ –
Real State Investment Trust - REITs	128,631,513	128,631,513	–	–	–
Short Term Bills & Notes	315,908,559	–	315,908,559	–	–
Total Investments by Fair Value Level	\$ 8,809,062,985	\$ 7,104,392,624	\$ 1,604,513,280	\$ 91,117,671	\$ 9,039,410
Collateral from Securities Lending	Not Applicable* 941,037,933	–	–	–	–

INVESTMENT BY FAIR VALUE LEVEL	FAIR VALUE MEASUREMENT			
	June 30, 2017	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)
Investment measured at the Net Asset Value (NAV)				
Commingled				
Infrastructure	\$ 92,139,297			
Real Estate	566,278,726			
Total Commingled	\$ 658,418,023			
Private Equity	281,130,643			
Infrastructure	149,189,438			
Real Estate	172,655,085			
Total Net Asset Value	\$ 1,261,393,189			
Investment Derivative Instruments				
Options	\$ 138,675	\$ 138,675	\$ –	\$ –
Swaps	812,965	–	812,965	–
Rights and Warrants	15,683	15,683	–	–
Total Derivatives	\$ 967,323	\$ 154,358	\$ 812,965	\$ –
Total Investments	\$ 11,011,494,107			

*The category not applicable consists of cash, interest income, and tri-party repos, which are not subject to leveling.

INVESTMENTS AT FAIR VALUE

Commercial paper, equity, and fixed income securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors. Commercial paper, currency, equity, and fixed income securities classified in Level 2 of the fair value hierarchy are valued using matrix pricing techniques maintained by the various pricing vendors. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Equity and fixed income securities classified in Level 3 are securities whose stated market price is unobservable by the market place. Many of these securities are priced by the issuers of industry groups. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by the Funds custodian bank.

Real Estate Investment Trusts (REITs) and rights and warrants securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors. Collateral from securities lending and short-term bills and notes investments classified in Level 2 of the fair value hierarchy are valued using matrix pricing techniques maintained by the various pricing vendors. Matrix pricing is used to value securities based on securities' relationship to benchmark quoted prices.

INVESTMENTS AT NET ASSET VALUE | AS OF JUNE 30, 2017

The Fund holds shares of interests in investment companies where the fair value of the investments are measured on a recurring basis using net asset value per share. At the year ended June 30, 2017, the fair value, unfunded commitments, and redemption values of those investments is as follows:

	FAIR VALUE	UNFUNDED COMMITMENTS	REDEMPTION FREQUENCY (IF CURRENTLY ELIGIBLE)	REDEMPTION NOTICE PERIOD
Commingled				
Infrastructure	\$ 92,139,297	\$ –	N/A	N/A
Real Estate	566,278,726	–	N/A	N/A
Total Commingled	\$ 658,418,023			
Infrastructure	149,189,438	54,558,462	As Needed	7 - 10 DAYS
Private Equity	281,130,643	234,304,251	As Needed	7 - 10 DAYS
Real Estate	172,655,085	66,555,508	As Needed	7 - 10 DAYS
Total Net Asset Value	\$ 1,261,393,189			

Commingled funds (infrastructure and real estate), infrastructure, private equity, and real estate funds are valued at net asset value and are classified as Level 3 assets and, unlike more traditional investments, generally do not have readily attainable market values and take the form of limited partnerships. The Fund values these investments at fair value, on a recurring basis, based on the partnership's audited financial statements. If the June 30 statements are available, those values are used preferentially. However, some partnerships have fiscal years ending at other than June 30. If June 30 valuations are not available, the value is adjusted from the most recently available valuation, taking into account subsequent calls and distributions, adjustments for unrealized appreciation/depreciation, and other income and fees.

The Fund's investment strategies are as follows:

All infrastructure investments are currently within a fund-of-funds structure and adhere to the partnership agreement. The overall financial objective of the Fund's infrastructure portfolios is to meet the performance standard on a net of fee basis over longer time periods. Private equity investments are made primarily through closed-end private equity funds. Adequate diversification by private equity subclass (venture capital, buyout, mezzanine, distressed debt, special situation, and non-U.S.) is maintained. Private real estate investments are made through both closed-end and open-ended real estate funds. Adequate diversification by real estate subtypes (core, non-core/enhanced return, non-core/high return) is maintained.

FAIR VALUE MEASUREMENT | AS OF JUNE 30, 2016

For comparative purposes, the following table presents the recurring fair value measurements as of June 30, 2016:

INVESTMENT BY FAIR VALUE LEVEL	FAIR VALUE MEASUREMENT				
	June 30, 2017	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)	INVESTMENTS NOT MEASURED AT FAIR VALUE
Commercial Paper	\$ 11,114,384	\$ 1,368,082	\$ 6,532,339	\$ -	\$ 3,213,963
Currency	7,082,121	-	31,096	-	7,051,025
Equity					
Commingled Funds	314,508,643	271,400,678	-	43,107,965	-
Common Stock	5,064,038,700	5,063,733,274	-	305,426	-
Preferred Stock	6,695,209	746,963	5,948,246	-	-
Total Equity	\$ 5,385,242,552	\$ 5,335,880,915	\$ 5,948,246	\$ 43,413,391	\$ -
Fixed Income					
Commingled	57,443,331	-	-	57,443,331	-
Corporate Bonds	759,987,023	-	759,987,023	-	-
Futures	(30,000)	(30,000)	-	-	-
Government Agency Bonds	52,988,471	755,328	52,233,143	-	-
Government Bonds	760,517,315	695,147,545	65,369,770	-	-
Index Linked Gov't Bonds	35,771,245	30,970,945	4,800,300	-	-
Mortgage Backed Securities	349,462,975	-	349,462,975	-	-
Municipal Bonds	24,306,987	-	24,306,987	-	-
Total Fixed Income	\$ 2,040,447,347	\$ 726,843,818	\$ 1,256,160,198	\$ 57,443,331	\$ -
Real State Investment Trust - REITs	237,089,990	166,279,865	-	70,810,125	-
Short Term Bills & Notes	1,001,945,340	-	1,777,938	1,000,167,401	-
Total Investments by Fair Value Level	\$ 8,682,921,733	\$ 6,230,372,680	\$ 1,270,449,817	\$ 1,171,834,248	\$ 10,264,988
Collateral from Securities Lending	Not Applicable* 779,223,423	-	-	-	-

INVESTMENT BY FAIR VALUE LEVEL	FAIR VALUE MEASUREMENT			
	June 30, 2017	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)
Investment measured at the Net Asset Value (NAV)				
Commingled				
Hedge Equity	\$ 57,034,274			
Hedge Fund	28,041,480			
Infrastructure	97,012,015			
Real Estate	588,728,346			
Total Commingled	\$ 770,816,115			
Private Equity	287,138,325			
Infrastructure	140,760,076			
Real Estate	214,520,129			
Total Net Asset Value	\$ 1,413,234,645			
Investment Derivative Instruments				
Options	\$ (30,000)	\$ (30,000)	\$ –	\$ –
Swaps	(2,812,943)	–	(2,812,943)	–
Futures	31,018	31,018	–	–
Rights and Warrants	24,640	24,640	–	–
Total Derivatives	\$ (2,787,285)	\$ 25,658	\$ (2,812,943)	\$ –
Total Investments	\$ 10,875,379,801			

The category not applicable consists of cash, interest income, and tri-party repos, which are not subject to leveling.

INVESTMENTS AT FAIR VALUE

Commercial paper, equity, and fixed income securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors. Commercial paper, currency equity, and fixed income securities classified in Level 2 of the fair value hierarchy are valued using matrix pricing techniques maintained by the various pricing vendors. Matrix pricing is used to value securities based on securities' relationship to benchmark quoted prices. Equity and fixed income securities classified in Level 3 are securities whose stated market price is unobservable by the market place. Many of these securities are priced by the issuers of industry groups. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank.

REITs and rights and warrants securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors. Collateral from securities lending and short-term bills and notes investments classified in Level 2 of the fair value hierarchy are valued using matrix pricing techniques maintained by the various pricing vendors. Matrix pricing is used to value securities based on securities' relationship to benchmark quoted prices. REITs securities classified in Level 3 are securities whose stated market price is unobservable by the market place. Many of these securities are priced by the issuers of industry groups. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by the Fund's custodian bank.

INVESTMENTS AT NET ASSET VALUE | AS OF JUNE 30, 2016

The Fund holds shares of interests in investment companies where the fair values of investments are measured on a recurring basis using net asset value per share. At the year ended June 30, 2016, the fair value, unfunded commitments, and redemption values of those investments is as follows:

INVESTMENT MEASURED AT THE NET ASSET VALUE (NAV)	FAIR VALUE	UNFUNDED COMMITMENTS	REDEMPTION FREQUENCY (IF CURRENTLY ELIGIBLE)	REDEMPTION NOTICE PERIOD
Commingled				
Hedge Equity	\$ 57,034,274	\$ –	N/A	N/A
Hedge Fund	28,041,480	–	N/A	N/A
Infrastructure	97,012,015	–	N/A	N/A
Real Estate	588,728,346	–	N/A	N/A
Total Commingled	\$ 770,816,115			
Infrastructure	140,760,076	8,823,970	As Needed	7 - 10 DAYS
Private Equity	287,138,325	218,952,371	As Needed	7 - 10 DAYS
Real Estate	214,520,129	35,398,296	As Needed	7 - 10 DAYS
Total Net Asset Value	\$ 1,413,234,645			

Commingled funds (hedge equity, hedge fund, infrastructure, and real estate), infrastructure, private equity, and real estate funds are valued at net asset value and are classified as Level 3 assets and, unlike more traditional investments, generally do not have readily attainable market values and take the form of limited partnerships. The Fund values these investments at fair value, on a recurring basis, based on the partnership's audited financial statements. If the June 30 statements are available, those values are used preferentially. However, some partnerships have fiscal years ending at other than June 30. If June 30 valuations are not available, the value is adjusted from the most recently available valuation, taking into account subsequent calls and distributions, adjusted for unrealized appreciation/depreciation, and other income and fees.

The Fund's investment strategies are as follows:

All infrastructure investments are currently within a fund-of-funds structure and adhere to the partnership agreement. The overall financial objective of the Fund's infrastructure portfolios is to meet the performance standard on a net of fee basis over longer time periods. Private equity investments are made primarily through closed-end private equity funds. Adequate diversification by private equity subclass (venture capital, buyout, mezzanine, distressed debt, special situation, and non-U.S.) is maintained. Private real estate investments are made through both closed-end and open-ended real estate funds. Adequate diversification by real estate subtypes (core, non-core/enhanced return, non-core/high return) is maintained. All hedge fund investments are currently within a fund-of-funds structure and adhere to the partnership agreement. The portfolio will maintain adequate diversification by both fund type and provider.

DERIVATIVES

Options, futures, and rights and warrants derivatives securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active market issued by pricing vendors. Swaps, rights, and warrants derivative securities classified in Level 2 of the fair value hierarchy are valued using matrix pricing techniques maintained by the various pricing vendors.

(10) INSURANCE COVERAGE

The Fund is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Fund has minimized the risk of loss through private insurance carriers with deductibles for coverage ranging up to \$1,000 per occurrence. The amount of settlements has not exceeded insurance coverage in any of the previous three fiscal years.

(11) LITIGATION

There are several pending lawsuits in which the Fund is involved. Management believes that the potential claims against the Fund would not materially affect the financial position of the Fund.

(12) OPERATING LEASES

The Fund's office lease provides that the lessee pay its proportionate share of the operating costs, plus a base rental amount. Included in this lease are provisions for 32 monthly periods of "free rent." In conformity with accounting requirements, the Fund will recognize office rent expense on a straight-line basis over the 16-year lease term. As an inducement, the lessor agreed to provide the Fund an allowance of \$1,971,610 to be used for leasehold improvements, fixed asset purchases, or monthly rental payments. If the allowance is used for leasehold improvements or fixed asset purchases, the Fund must submit the paid invoices to the lessor for reimbursement. If the Fund chooses to use the allowance for a monthly rental payment, the Fund must inform the lessor of this intent. In addition, in fiscal year 2016 the Fund expanded the office space by 3,456 square feet.

The minimum future rental lease payments through June 30, 2021, are as follows:

YEAR ENDED JUNE 30:	AMOUNT
2018	\$ 733,187
2019	749,301
2020	765,415
2021	678,155
Total minimum future rental payments	\$ 2,926,058

Rent expense was \$640,177 and \$613,432 in fiscal years 2017 and 2016, respectively.

(13) SUBSEQUENT EVENTS

Pursuant to Public Act 100-0465, the State increased the Chicago Teachers' Pension Fund's (CTPF's) funding by paying CTPF's normal cost and retiree health insurance costs, going forward (40 ILCS 5/17-127(d)(2)). This is in addition to the State's previous funding equal to 0.544% of the Fund's total teacher payroll (40 ILCS 5/17-127(c)). Public Act 100-0465 also provided a continuing appropriation for both streams of state funding and raised the property tax ceiling from 0.383% to 0.567% (40 ILCS 15/1.1(h)).

(14) FUTURE ACCOUNTING PRONOUNCEMENTS

In June 2017, the Governmental Accounting Standards Board issued GASB Statement No. 87, Leases. The objective of GASB Statement 87 (Statement) is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases. This Statement increases the usefulness of financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. The provisions of this Statement will be effective for the Fund for the year ended June 30, 2021.

Management has not yet completed its assessment of this Statement; however, it is not expected to have a material effect on the overall financial statement presentation.

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN EMPLOYER'S NET PENSION LIABILITY
PENSION PLAN

SCHEDULE 1

	2017	2016	2015	2014
Total pension liability				
Service cost	\$ 269,100,663	\$ 325,992,943	\$ 318,734,274	\$ 332,188,481
Interest	1,603,833,232	1,576,876,771	1,547,663,416	1,509,307,860
Differences between expected and actual experience	48,391,475	(106,563,600)	(138,512,940)	(14,177,102)
Change of assumptions	1,554,506,801	–	–	–
Benefit payments, including refunds of employee contributions	(1,424,938,184)	(1,384,826,398)	(1,331,567,406)	(1,306,341,856)
Net change in total pension liability	2,050,893,987	411,479,716	396,317,344	520,977,383
Total pension liability – beginning	21,124,697,012	20,713,217,296	20,316,899,952	19,795,922,569
Total pension liability – ending (a)	\$ 23,175,590,999	\$ 21,124,697,012	\$ 20,713,217,296	\$ 20,316,899,952
Plan fiduciary net position				
Contributions – employer	\$ 746,840,000*	\$ 700,070,000*	\$ 643,667,000	\$ 585,416,141
Contributions – employee	187,538,787	191,882,430	191,233,298	187,846,065
Net investment income	1,233,003,939	(27,987,163)	381,688,430	1,685,079,840
Benefit payments, including refunds of employee contributions	(1,424,938,184)	(1,384,826,398)	(1,331,567,406)	(1,306,341,856)
Net transfer for OPEB	(49,000,701)*	(66,104,598)*	–	–
Administrative expense	(13,781,343)	(12,867,490)	(11,705,562)	(10,494,139)
Other	214,119	1,463,050	943,946	–
Net change in plan fiduciary net position	679,876,617	(598,370,169)	(125,740,294)	1,141,506,051
Plan fiduciary net position – beginning	10,113,297,310	10,689,954,320	10,815,694,614	9,674,188,563
Transfer of remaining OPEB assets**	–	21,713,159	–	–
Plan fiduciary net position – ending (b)	\$ 10,793,173,927	\$ 10,113,297,310	\$ 10,689,954,320	\$ 10,815,694,614
Employer's net pension liability – ending (a) – (b)	\$ 12,382,417,072	\$ 11,011,399,702	\$ 10,023,262,976	\$ 9,501,205,338

The information above is required beginning fiscal year 2014. Information for the next 6 years will be presented in future fiscal years.

* Prior to 2016, \$65 million allocation by CTPF from the total pension contribution amount by CPS to pay OPEB was being treated as a direct OPEB contribution.

Beginning in 2016, that \$65 million allocation is being displayed within this schedule first as a pension contribution and then as part of the subsequent transfer to OPEB.

**Prior to FY 2016, residual assets within the Health Insurance Fund were treated as restricted solely to pay OPEB. In FY 2016, a change was made with respect to treatment of residual assets within the Health Insurance Fund.

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

The following assumption changes were implemented during the fiscal year ended June 30, 2017:

CHANGES IN ASSUMPTIONS:	<p>The discount rate used to calculate the June 30, 2017, total pension liability was 7.07%.</p> <p>The discount rate used to calculate the total pension liability as of June 30, 2016, was 7.75%.</p>
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REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY PENSION PLAN

SCHEDULE 2

	2017	2016	2015	2014
Total pension liability	\$ 23,175,590,999	\$ 21,124,697,012	\$ 20,713,217,296	\$ 20,316,899,952
Plan fiduciary net position	10,793,173,927	10,113,297,310	10,689,954,320	10,815,694,614
Employer's net pension liability	\$ 12,382,417,072	\$ 11,011,399,702	\$ 10,023,262,976	\$ 9,501,205,338
Plan fiduciary net position as a percentage of the total pension liability	46.57%	47.87%	51.61%	53.23%
Covered-employee payroll	\$ 2,030,175,116	\$ 2,281,268,890	\$ 2,273,551,432	\$ 2,233,280,995
Employer's net pension liability as a percentage of covered-employee payroll	609.92%	482.69%	440.86%	425.44%

The information above is required beginning fiscal year 2014. Information for the next 6 years will be presented in future fiscal years.

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF THE EMPLOYER'S CONTRIBUTION
PENSION PLAN

SCHEDULE 3

YEAR ENDED JUNE 30	ACTUARIALLY DETERMINED CONTRIBUTION	CONTRIBUTION IN RELATION TO THE ACTUARIALLY DETERMINED CONTRIBUTIONS	CONTRIBUTION DEFICIENCY (EXCESS)	COVERED ACTUAL EMPLOYEE PAYROLL	CONTRIBUTION AS A PERCENTAGE OF COVERED EMPLOYEE PAYROLL
2008	\$ 290,072,885	\$ 164,270,412	\$ 125,802,473	\$ 1,914,558,916	8.58%
2009	292,145,359	198,069,327	94,076,032	1,996,194,224	9.92%
2010	355,846,125	290,759,950	65,086,175	2,107,934,080	13.79%
2011	430,091,545	133,140,994	296,950,551	2,090,131,858	6.37%
2012	510,101,466	138,729,011	371,372,455	2,224,903,121	6.24%
2013	585,444,539	142,654,000	442,790,539	2,239,347,051	6.37%
2014	719,781,746	597,319,141	122,462,605	2,233,280,995	26.75%
2015	728,488,520	643,667,000	84,821,520	2,273,551,432	28.31%
2016	749,796,517	700,070,000*	49,726,517	2,281,268,890	30.69%
2017	754,764,093	745,386,000*	9,378,093	2,030,175,116	36.72%

*Prior to 2016, \$65 million allocation by CTPF from the total pension contribution amount by CPS to pay OPEB was being treated as a direct OPEB contribution. In 2016, that \$65 million allocation is being shown within this schedule first as a pension contribution and then as part of the subsequent transfer to OPEB.

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF EMPLOYER'S CONTRACTUALLY REQUIRED CONTRIBUTION

PENSION PLAN

SCHEDULE 4

YEAR ENDED JUNE 30	CONTRACTUALLY REQUIRED CONTRIBUTION	CONTRIBUTIONS IN RELATION TO THE CONTRACTUALLY DETERMINED CONTRIBUTIONS	CONTRIBUTION DEFICIENCY (EXCESS)	COVERED ACTUAL EMPLOYEE PAYROLL	CONTRIBUTIONS AS A PERCENTAGE OF COVERED EMPLOYEE PAYROLL
2008	\$ 141,673,000	\$ 164,270,412	\$ (22,597,412)	\$ 1,914,558,916	8.58%
2009	198,002,000	198,069,327	(67,327)	1,996,194,224	9.92%
2010	323,237,000	290,759,950	32,477,050	2,107,934,080	13.79%
2011	209,141,000	133,140,994	76,000,006	2,090,131,858	6.37%
2012	214,178,000	138,729,011	75,448,989	2,224,903,121	6.24%
2013	218,585,000	142,654,000	75,931,000	2,239,347,051	6.37%
2014	624,603,000	597,319,141	27,283,859	2,233,280,995	26.75%
2015	708,667,000	643,667,000	65,000,000	2,273,551,432	28.31%
2016	700,070,000	700,070,000	—	2,281,268,890	30.69%
2017	745,386,000	745,386,000*	—	2,030,175,116	36.72%

*The fiscal year 2017 actual payment of \$484,225,078 was received by June 30, 2017. The remaining \$261,160,922 consisted of receivables of \$249,990,422 and \$11,170,500 from the Board of Education and the State of Illinois, respectively. The Board of Education's remaining contributions of \$249,990,422 were received in August, 2017 due to the timing of payments received as a result of the property tax levy. The State of Illinois continues to make payments toward the fiscal year 2017 receivable. A total of \$5,077,500 was paid prior to the end of the lapse period, December 31, 2017, resulting in an outstanding balance of \$6,093,000 for fiscal year 2017.

SCHEDULE OF MONEY-WEIGHTED RATE OF RETURN

PENSION PLAN

SCHEDULE 5

YEAR ENDED JUNE 30	ANNUAL MONEY-WEIGHTED RATE OF RETURN, NET OF INVESTMENT EXPENSE
2014	18.01%
2015	3.20%
2016	0.20%
2017	13.12%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

ACTUARIAL METHODS AND ASSUMPTIONS PENSION PLAN

Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. Contributions for fiscal years ended June 30, 2017 and 2016 were determined based on the actuarial valuations as of June 30, 2015 and 2014. The most recent valuation is as of June 30, 2017. The following table represents the actuarial methods and assumptions per the most recent funding valuations for the Pension Plan which are used to determine the actuarially determined contributions.

	2017	2016	2015	2014
	PENSION PLAN	PENSION PLAN	PENSION PLAN	PENSION PLAN
Valuation date	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014
Contribution determined for	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
Actuarial cost method	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit
Amortization method	Level percent of payroll	Level percent of payroll	Level percent of payroll	Level percent of payroll
Amortization approach	Closed	Closed	Closed	Closed
Amortization period	30 years (26 years remaining)	30 years (27 years remaining)	30 years (28 years remaining)	30 years (29 years remaining)
Asset valuation method	4-year smoothed market	4-year smoothed market	4-year smoothed market	4-year smoothed market
Actuarial assumptions:				
Investment rate of return	7.25%, net of investment expense	7.75%, net of investment expense	7.75%, net of investment expense	7.75%, net of investment expense
Projected salary increases	4.00% to 15.50%, varying by age	4.25% to 15.75%, varying by age	4.25% to 15.75%, varying by age	4.25% to 15.75%, varying by age
Inflation rate	General inflation rate, 2.5% Wage inflation rate, 3.25%	General inflation rate, 2.75% Wage inflation rate, 3.50%	General inflation rate, 2.75% Wage inflation rate, 3.50%	General inflation rate, 2.75% Wage inflation rate, 3.50%
	Post-retirement benefit increase	Post-retirement benefit increase	Post-retirement benefit increase	Post-retirement benefit increase
2015				
2016				
2017				
2018				
2019	3% compound (Tier I); lesser of 3% or	3% compound (Tier I); lesser of 3% or	3% compound (Tier I); lesser of 3% or	3% compound (Tier I); lesser of 3% or
2020	½ of CPI simple	½ of CPI simple	½ of CPI simple	½ of CPI simple
2021	(Tier II)	(Tier II)	(Tier II)	(Tier II)
2022				
2023				
2024				
2025 & Later				

OTHER SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF ADMINISTRATIVE AND MISCELLANEOUS EXPENSES
 FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

SCHEDULE 6

	2017	2016*
Bad Debt Expense	\$ —	\$ 605,960
Depreciation	162,959	326,335
Disaster Recovery	57,467	63,727
Education and Training	153,406	161,569
Equipment	132,558	117,192
Membership and Subscription Dues	36,314	24,722
Personnel	8,717,635	7,802,676
Professional Services	3,731,431	2,314,232
Property	1,061,905	1,023,724
Supplemental	95,228	75,653
Supplies	87,932	107,229
Utilities	69,388	63,956
Miscellaneous	24,766	180,515
TOTAL	\$ 14,330,989	\$ 12,867,490

*Fiscal year 2016 totals have been reclassified to conform to the updated format for fiscal year 2017.

OTHER SUPPLEMENTARY INFORMATION (UNAUDITED)

SCHEDULE OF MANAGER FEES

FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

SCHEDULE 7

	2017	2016
Manager Fees	\$ 34,060,720	\$ 34,012,906
Consultant Fees	1,863,474	1,434,498
Banking and Foreign Exchange Fees	193,811	314,418
Total	\$ 36,118,005	\$ 35,761,822

See accompanying independent auditors' report.

OTHER SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CONSULTANT PAYMENTS
FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

SCHEDULE 8

	2017	2016
Baker & McKenzie, LLP	\$ 88,672	\$ –
Bogfire, Inc.	3,900	15,633
BNY Mellon	–	833,395
Bradley Consulting Group, Inc.	392,209	449,981
Callan Associates, Inc.	613,538	495,229
ComGraphics, Inc.	169,756	168,780
Data Consultants	28,876	94,828
Election Service Corporation	4,431	128,487
Fleishman-Hillard, Inc.	–	68,229
Foster Pepper, PLLC	207,723	96,253
Governmental Consulting	65,000	55,000
Grant Thornton	1,242,753	–
Imaging Office Systems	40,809	30,650
Impact Networking, LLC	30,771	23,294
Jacobs, Burns Orlove & Hernandez	334,956	148,471
KPMG Limited	8,091	–
Mercer, LLC	–	20,313
Michelle Holleman	21,105	106,755
Mitchell & Titus, LLP	29,000	155,000
North Shore Printers, Inc.	45,181	67,481
Plante & Moran, PLLC	163,370	–
Republic Bank of Chicago	–	30,653
Rider Dickerson	126,290	138,456
Segal Company	148,611	144,936
Sikich, LLP	12,022	6,708
Step toe & Johnson, LLP	66,297	53,569
Sword & Shield Enterprise Security	83,989	37,093
Townsend	–	85,561
Vision Mai, LLC	74,262	72,100
Total	\$ 4,001,612	\$ 3,526,855

See accompanying independent auditor's report.



INVESTMENTS

This section includes a synopsis of the Fund's investment authority, summary tables of investment data, and a digest of the current year's investment activity and performance.



BNY MELLON

Asset Servicing

Michael J. Beggy
Vice President

August 22, 2017

To the Board of Trustees and the Executive Director,

BNY Mellon as custodian of the assets of The Public School Teachers' Pension and Retirement Fund of Chicago (the "client") has agreed to perform certain obligations under the Master Custody Agreement dated November 25, 2014. In order to perform its obligations, BNY Mellon has established an "Account" which holds client property in safekeeping of the Custodian (or other custodian banks or clearing operations). BNY Mellon has provided recordkeeping of certain property of the client and completed the annual accounting certification for the year July 1, 2016 through June 30, 2017.

In addition, in accordance with the terms of the Master Custody Agreement, BNY Mellon also provides the following services as Custodian (the terms of Master Custody Agreement dictate which services require a specific direction from Authorized Person of the client prior to the provision of such service):

- Hold any Securities in registered form in the name of the Custodian or one of its nominees.
- Settle purchases and sales of Securities and process other transactions, including free receipts and deliveries.
- Take actions necessary to settle transactions in connection with futures or options contracts, short selling programs, foreign exchange or foreign exchange contracts, swaps and other derivative investments.
- Deliver Securities in the Account if an Authorized Person advises the Custodian that the Board has entered into a separate securities lending agreement, provided that the Board executes the agreements as Custodian may require.
- Invest available cash in any collective investment fund selected by the Board or deposit available cash in interest bearing accounts in the banking department of the Custodian or an affiliated banking organization.
- Utilize Subcustodians and Depositories in connection with its performance of the Agreement.
- Receive and collect income and other payments due to the Account.
- Make distributions or transfers out of an Account pursuant to Authorized Instructions.
- Carry out any exchanges of Securities or other corporate actions not requiring discretionary decisions.
- Credit the Account with the proceeds from the sale, redemption or other disposition of Securities or interest, dividends or other distributions payable on Securities.
- Facilitate access by the Board or its designee to ballots or online systems to assist in the voting of proxies received for eligible positions of Securities held in the Account.
- Report the value of the Account as agreed upon by the client and custodian.

Sincerely,

Michael J. Beggy
Service Director

Asset Servicing
Room 410 ~ One Mellon Center ~ Pittsburgh, PA 15258-0001

The Bank of New York Mellon



August 25th, 2017

Board of Trustees
Public School Teachers' Pension and Retirement Fund of Chicago
203 North LaSalle, Suite 2600
Chicago, IL 60601-1210

Dear Trustees:

Callan Associates, Inc. is pleased to present the Public School Teachers' Pension and Retirement Fund of Chicago's ("Fund") results for fiscal year ended June 30, 2017. During the fiscal year ended June 30, 2017, markets continued their positive performance with many asset classes showing positive returns. Domestic equities continued positive performance, with the broad market returning 18.5%, with smaller capitalization companies leading versus larger companies. Growth sectors fueled this performance with select names in the information technology sector seeing significant increases. International markets outperformed domestic markets with a return of 20.4% due to improving fundamentals overseas as well as the weaker dollar. Emerging markets have seen growth particularly in China, while oil-driven markets have struggled as prices have decreased while supply has not changed dramatically. Domestic fixed income ended the fiscal year slightly negative, down 0.3%, as the Fed raised rates over the time period due to positive economic developments. Real estate and infrastructure continued to add appreciation and stable income to investors as well.

As of June 30, 2017, the Fund's market value totaled \$10.5 billion, which includes a cash contribution of \$464 million that was received on June 30, 2017. The market value of \$10.5 billion was an increase from assets as of June 30, 2016. During the past twelve month period:

- Domestic equity markets advanced over the trailing 12 months. The Russell 3000 Index, an index of domestic stocks covering all capitalizations, increased 18.5%.
- Developed international equity markets reversed from last year and increased 20.2% in the trailing 12 months, as measured by the MSCI EAFE (Europe, Australasia, Far East) Index. Similarly, emerging markets posted a gain of 23.8%, as measured by the MSCI Emerging Markets Index.
- The domestic fixed income market produced a return of -0.3% during the year, as measured by the Bloomberg Aggregate Bond Index.
- Private real estate as measured by the NCREIF Fund Index Diversified Core Equity returned 6.9% on a net of fees basis.

Within this environment the Fund returned 13.3% net-of-fees (13.6% gross-of-fees) during the 12 month period ended June 30, 2017, outperforming its benchmark by 0.24%. Over the trailing three-year period the Fund outperformed its benchmark by 23 basis points net-of-fees with an annualized return of 5.47%, and by 43 basis points over the trailing five-year period with an annualized net-of-fee return of 9.36%. Since inception, the Fund has returned 8.34% net-of-fees outperforming its benchmark by 31 basis points annually.

The Fund's domestic equity managers gained 18.76% on a net-of fee basis during the fiscal year, outperforming the benchmark return of 18.51%. The Fund's international equity managers registered a positive return of 19.37% net-of-fees over the same period, but underperformed the passive benchmark by 106 basis points. The fixed income composite returned 0.78% net-of-fees compared to the benchmark return of -0.31% over the trailing 12 months. The Fund's core plus fixed income managers, LM Capital and WAMCO added value relative the benchmark.

The Fund's private real estate managers posted returns of 6.0% on a net of fee basis compared to the private real estate benchmark return of 6.9%. Both core and non-core segments of the portfolio were additive to returns. During the fiscal year, the infrastructure portfolio gained 6.1% on a net of fee basis compared to the absolute return benchmark of 8%. Private equity contributed 15.32% to the Fund over the trailing fiscal year.

Manager changes over the past year are summarized below:

<u>New Manager</u>	<u>Asset Class</u>	<u>Inception Date</u>
Brookfield Infrastructure	Infrastructure	September 15
RLJ Equity Fund	Private Equity	March 16
<u>Terminated Manager</u>	<u>Asset Class</u>	<u>Termination Date</u>
None		

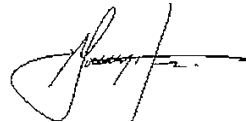
The Public School Teachers' Pension & Retirement Fund of Chicago maintains an appropriately diversified strategy, designed to maximize return with an acceptable risk level. Callan supports the Fund's ongoing efforts to enhance investment and its continued due diligence activities. Callan is working on the continued enhancement of the Fund's investment strategy.

All performance returns for the Public School Teachers' Pension & Retirement Fund of Chicago presented in this report have been calculated by Callan Associates, Inc. using a time weighted rate of return calculation for accounts with daily pricing and using a modified BAI calculation for accounts without daily pricing.

Sincerely,



Brianne Weymouth, CAIA



Angel Haddad

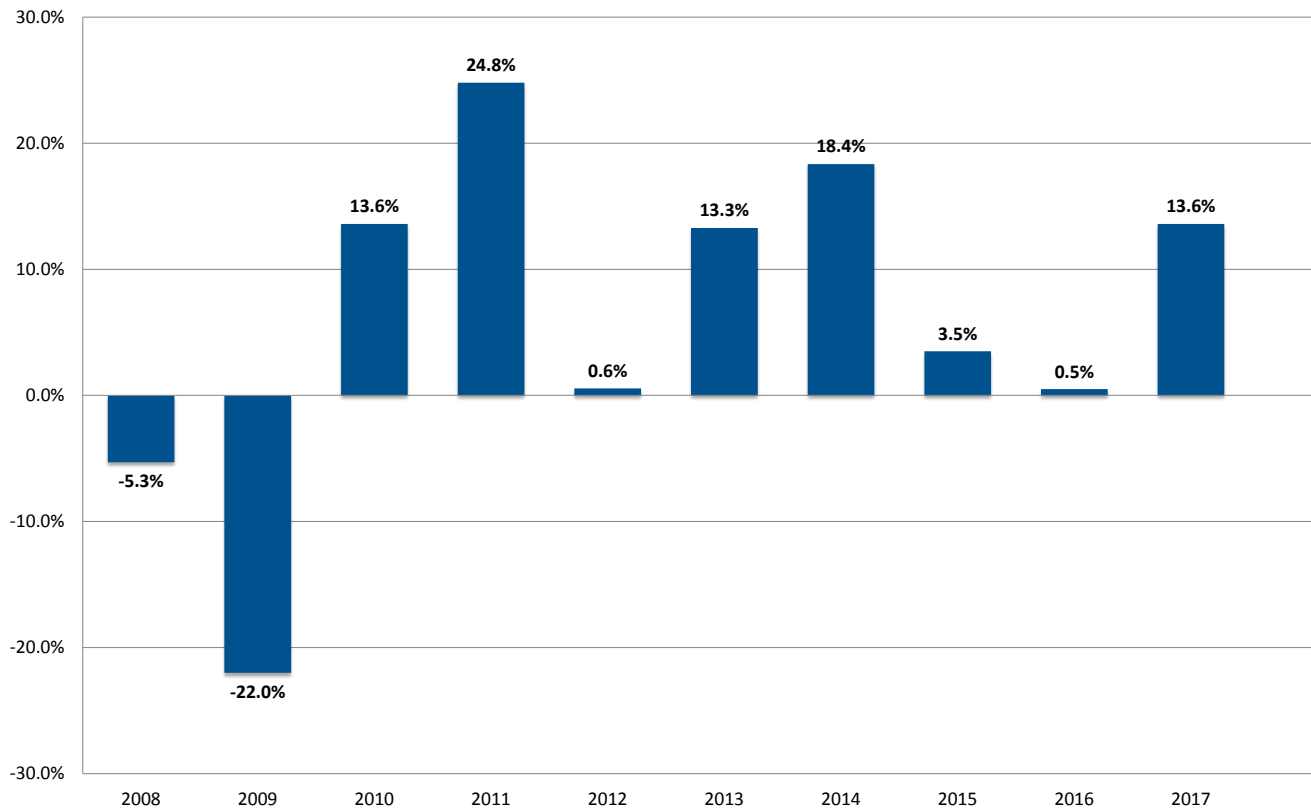
INVESTMENT MANAGERS

AS OF JUNE 30, 2017

Adams Street Partners, LLC
Adelante Capital Management, LLC
Ariel Capital Management, LLC
Attucks Asset Management, LLC
Blackstone Group
BMO Global Asset Management
Capri Capital Partners, LLC
CB Richard Ellis Investors, LLC
CenterSquare Investment Management, Inc.
Channing Capital Management, LLC
CityView
Clarion Partners, LLC
Deutsche Asset & Wealth Management
Dimensional Fund Advisors, LTD
Earnest Partners, LLC
Europa Capital Partners, LLP
Fortress Investment Group, LLC
Franklin Templeton Real Estate Advisors, LLC
Fremont Realty Capital, LP
Garcia, Hamilton & Associates, LP
Greystar Equity Partners VII, LP
HarbourVest Partners, LLC
Hispania Capital Partners, LLC
Holland Capital Management, LP
Hudson Realty Capital, LLC
Industry Capital Advisors, LLC
ICV Capital Partners, LLC
Intercontinental Real Estate Corp.
J.P. Morgan Fleming Asset Management, Inc.
LaSalle Investment Management, Inc.
Lazard Asset Management, LLC
Leading Edge Investment Advisors, LLC
LM Capital Group, LLC
Macquarie Group
Mesirow Financial, Inc.
Morgan Stanley Investment Management, Inc.
Muller and Monroe Asset Management, LLC
Newport Capital Partners Holdings, LLC
Palladium Equity Partners, LLC
Pantheon Ventures, LLP
Pharos Capital Group, LLC
Pluscios Management, LLC
Progress Investment Management, LLC
Prudential Investment Management, Inc.
Pugh Capital Management, Inc.
RhumbLine Advisers, LP
Strategic Global Advisors, LLC
Syncom Venture Partners, LLC
Taplin, Canida and Habacht, Inc.
TCB-Broadway, LLC
The Northern Trust Company
UBS Realty Investors, LLC
Urban America Advisors, LP
Waddell & Reed Asset Management Group
Walton Street Capital, LLC
Western Asset Management Co.
William Blair & Company, LLC
Zevenbergen Capital Investments, LLC

TOTAL ANNUAL FUND RATE OF RETURN*

AS OF JUNE 30, 2008-2017



*Time-weighted rate of return.

SCHEDULE OF INVESTMENT RESULTS

	AS OF JUNE 30					ANNUALIZED RETURNS		
	2013	2014	2015	2016	2017	3 YEAR	5 YEAR	10 YEAR
Total Fund	13.3%	18.4%	3.5%	0.5%	13.6%	5.7%	9.7%	5.2%
Large Cap	21.7%	26.4%	7.6%	1.1%	18.9%	8.9%	14.7%	7.4%
Russell 1000 Index	21.2%	25.4%	7.4%	2.9%	18.1%	9.2%	14.7%	7.4%
S&P 500	20.6%	24.6%	7.4%	4.0%	17.9%	9.6%	14.6%	7.2%
Mid Cap Equity	–	–	–	–	–	–	–	–
S&P Mid Cap	–	–	–	–	–	–	–	–
Small Cap Equity	20.9%	26.6%	6.8%	(7.7%)	21.2%	6.1%	12.8%	6.7%
Russell 2000 Index	24.2%	23.6%	6.5%	(6.7%)	24.6%	7.4%	13.7%	6.9%
International Equity	17.4%	22.6%	(1.8%)	(8.4%)	19.8%	2.5%	9.2%	3.3%
MSCI ACWI ex US Index	14.1%	22.3%	(4.9%)	(10.2%)	20.5%	0.8%	7.2%	1.1%
Fixed Income	0.4%	5.5%	1.5%	6.3%	0.9%	2.9%	2.9%	5.0%
Bloomberg Aggregated Index	(0.7%)	4.4%	1.9%	6.0%	(0.3%)	2.5%	2.2%	4.5%
REITs	12.8%	14.2%	2.6%	12.1%	–	–	–	–
Custom REITs Index**	13.1%	14.2%	0.4%	12.6%	–	–	–	–
Real Estate (Private)	11.0%	15.8%	14.6%	14.0%	6.7%	12.1%	11.6%	4.0%
Custom Private RE Index***	12.2%	11.0%	10.1%	11.8%	–	–	–	–
NFI-ODCE Value Weight Net Only	12.2%	12.7%	14.4%	11.8%	6.9%	10.3%	10.8%	4.3%
Private Equity*	5.3%	20.2%	11.3%	5.1%	15.8%	10.6%	11.4%	8.6%
N/A	–	–	–	–	–	–	–	–
Infrastructure	12.3%	9.4%	(5.3%)	9.6%	6.8%	3.0%	5.4%	–
Absolute Benchmark	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	–
Hedge Funds	11.3%	5.1%	3.2%	(8.9%)	–	–	–	–
T-Bills +5%	5.1%	5.1%	5.0%	5.2%	–	–	–	–

* Returns for Private Equity are based on the custodial statements.

** Custom REIT Index is calculated based on a weighted average of the NAREIT domestic and NAREIT global indices to accurately reflect the changes in CTPF strategy.

*** Custom Private Real Estate Index is the NCREIF Property Index up to 3Q11 and the NFI-ODCE Index thereafter.

Note: Returns are calculated based upon a time-weighted rate of return.

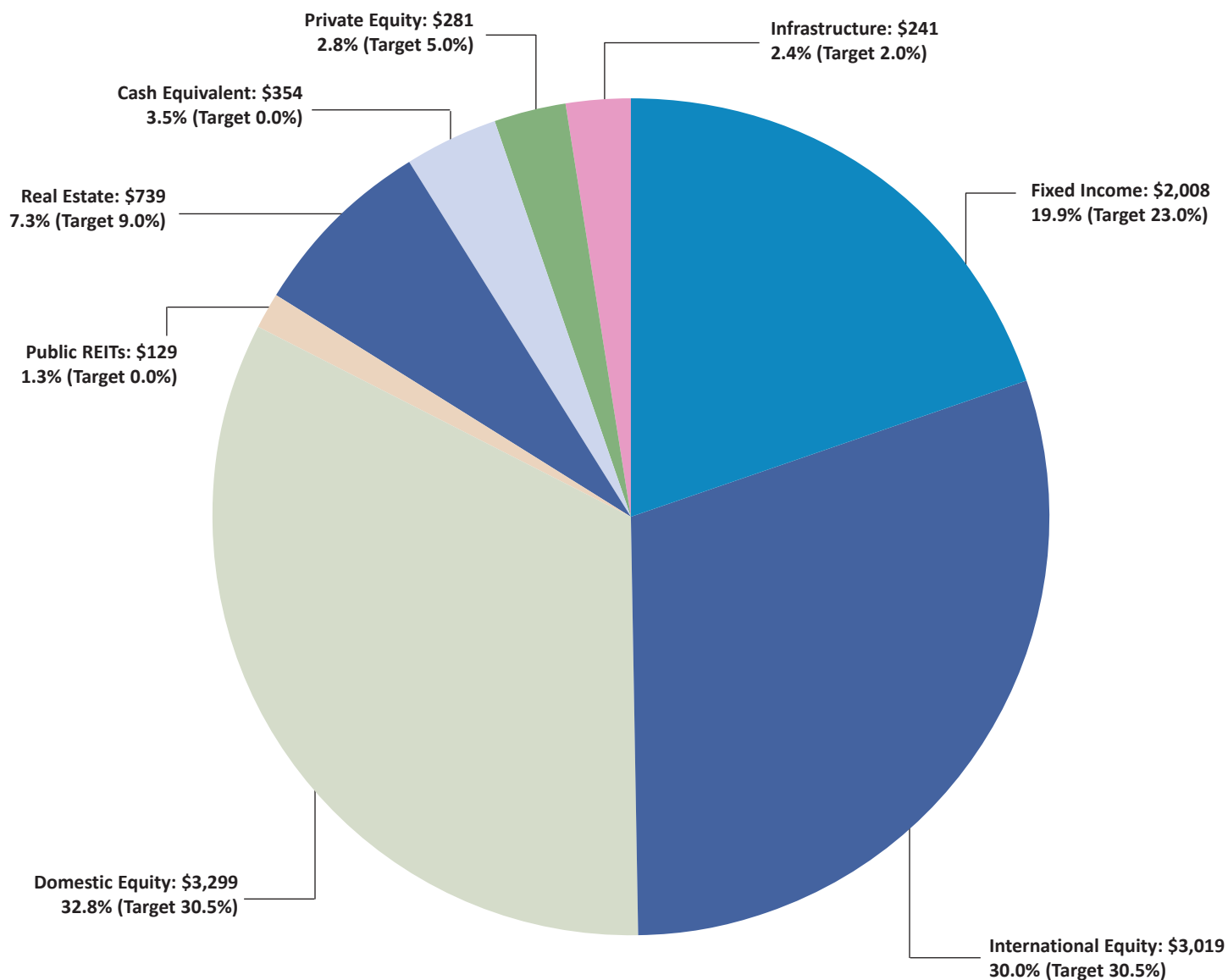
INVESTMENT PORTFOLIO SUMMARY

IN MILLIONS OF DOLLARS

	JUNE 30, 2016 FAIR VALUE	PURCHASES	SALES (FAIR VALUE)	FAIR VALUE ADJUSTMENTS	JUNE 30, 2017 FAIR VALUE	PERCENT OF TOTAL
Fixed Income	\$ 2,040.4	\$ 181.1	\$ (165.3)	\$ (47.8)	\$ 2,008.4	19.9%
Equity	5,442.3	225.9	(150.7)	800.5	6,318.0	62.8%
Public REITs	237.1	–	–	(108.5)	128.6	1.3%
Real Estate	803.2	0.4	(1.0)	(63.7)	738.9	7.3%
Hedge Fund	28.0	–	–	(28.0)	–	0.0%
Infrastructure	238.0	–	–	3.2	241.2	2.4%
Private Equity	287.1	5.0	–	(11.0)	281.1	2.8%
Cash & Cash Equivalent	1,020.5	292.1	(311.4)	(646.9)	354.3	3.5%
Total Portfolio	\$ 10,096.6	\$ 704.5	\$ (628.4)	\$ (102.2)	\$ 10,070.5	100.0%

ASSET ALLOCATION SUMMARY AS OF JUNE 30, 2017

IN MILLIONS OF DOLLARS*

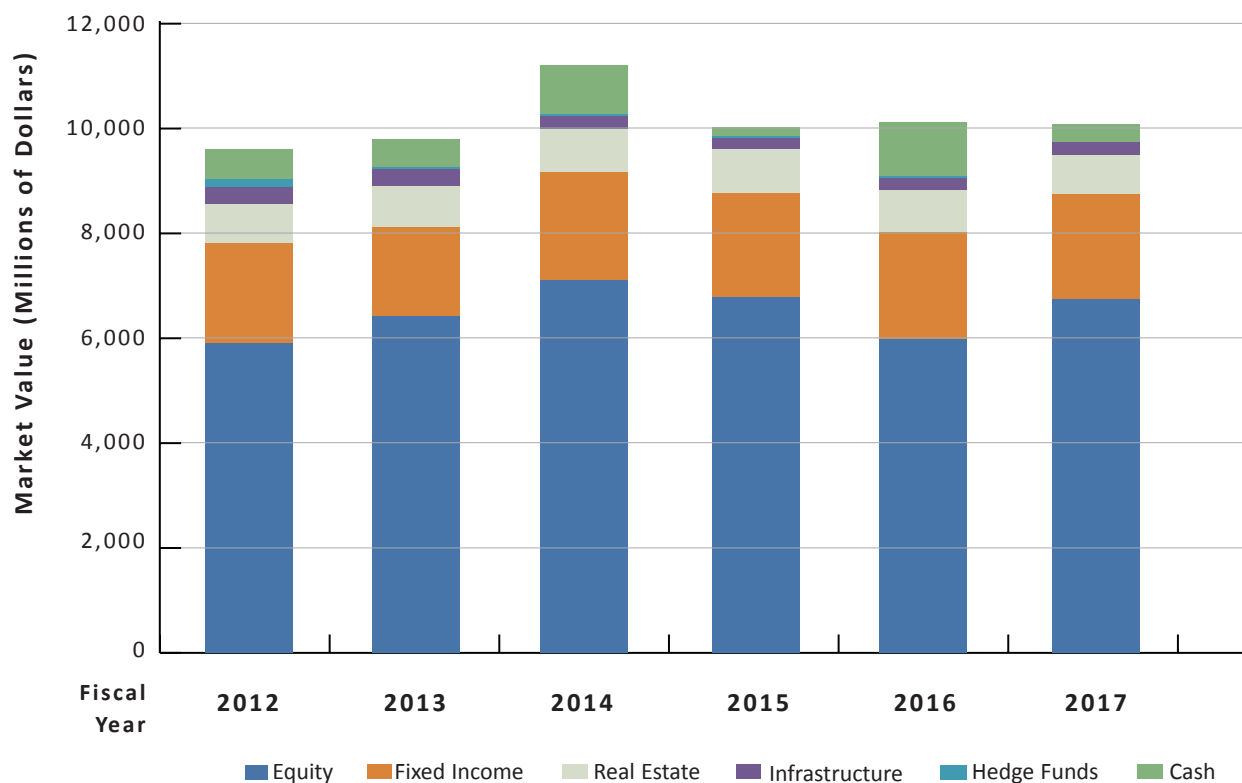


* Note: Percentage indicates actual category weight as a percentage of the entire portfolio.

HISTORICAL ASSET ALLOCATION BY PERCENTAGE OF TOTAL PORTFOLIO

	2012		2013		2014		2015		2016		2017	
	ACTUAL	POLICY	ACTUAL	POLICY	ACTUAL	POLICY	ACTUAL	POLICY	ACTUAL	POLICY	ACTUAL	POLICY
Equity:												
Domestic	33.7	31.3	33.0	31.3	32.0	31.3	33.3	30.0	28.8	30.5	32.8	30.5
International	22.2	31.2	27.0	31.2	27.0	31.2	27.1	30.0	25.1	30.5	30.0	30.5
Public REITs	2.7	2.5	2.8	2.5	1.8	2.5	2.5	2.0	2.3	–	1.3	–
Private Equity	2.9	3.0	2.8	3.0	2.7	3.0	3.1	3.0	2.8	5.0	2.8	5.0
Total Equity	61.5	68.0	65.6	68.0	63.5	68.0	66.0	65.0	59.0	66.0	66.9	66.0
Fixed Income	19.9	19.5	17.3	19.5	18.3	19.5	19.6	21.0	20.2	23.0	19.9	23.0
Real Estate	7.9	6.5	7.9	6.5	7.4	6.5	8.5	7.0	8.0	9.0	7.3	9.0
Infrastructure	3.2	2.0	3.4	2.0	2.2	2.0	2.0	3.0	2.4	2.0	2.4	2.0
Hedge Funds	1.8	2.0	0.3	2.0	0.3	2.0	0.3	2.0	0.3	–	–	–
Cash & Equiv.	5.7	2.0	5.5	2.0	8.3	2.0	3.6	2.0	10.1	–	3.5	–
Total Portfolio	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

HISTORICAL ASSET ALLOCATION BY DOLLAR AMOUNT



DOMESTIC EQUITY SUMMARY

AS OF JUNE 30, 2017

ECONOMIC SECTOR HOLDINGS

ECONOMIC SECTOR	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL	S&P 500 INDEX
Consumer Discretionary	8,076,707	\$ 480,402,279	14.6%	12.3%
Consumer Staples	3,489,510	219,208,275	6.6%	9.0%
Energy	4,233,680	179,405,139	5.4%	6.0%
Financial Services	12,019,995	611,319,908	18.5%	14.5%
Health Care	6,305,363	415,003,500	12.6%	14.5%
Materials & Processing	2,413,573	113,052,649	3.4%	2.8%
Miscellaneous	12,581,988	219,557,678	6.7%	10.3%
Producer Durables	5,540,078	344,314,950	10.4%	5.0%
Technology	8,416,083	576,123,874	17.5%	22.3%
Utilities	3,136,136	141,055,128	4.3%	3.3%
Grand Total	66,213,113	\$ 3,299,443,380	100.0%	100.0%

TOP 10 DOMESTIC EQUITY HOLDINGS

DESCRIPTION	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL
DFA Intl Small Cap Value PT	8,335,557	\$ 181,131,661	5.5%
Apple, Inc.	617,830	88,979,877	2.7%
Microsoft Corp.	973,469	67,101,218	2.0%
Amazon.com Inc.	57,372	55,536,096	1.7%
Facebook, Inc.	346,199	52,269,125	1.6%
Johnson & Johnson	294,523	38,962,448	1.2%
Wells Fargo & Co.	765,992	38,642,055	1.2%
Alphabet Inc-Cl C	40,556	36,854,454	1.1%
Bank of America Corp.	1,888,659	35,159,517	1.1%
J. P. Morgan Chase & Co.	412,376	37,691,166	1.1%
Total Top 10 Domestic Equity	13,732,533	\$ 632,327,617	19.2%
Grand Total	66,213,113	\$ 3,299,443,380	100.0%

A complete list of the portfolio holdings is available at the pension fund office.

INTERNATIONAL EQUITY SUMMARY

AS OF JUNE 30, 2017

COUNTRY	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL	ACWI EX US
South Africa	2,859,024	\$ 18,041,406	0.6%	0.8%
Other	5,136,714	679,230	0.0%	0.1%
Total Africa	7,995,738	\$ 18,720,636	0.6%	0.9%
Brazil	6,554,653	51,174,082	1.6%	2.0%
Canada	4,565,181	98,583,868	3.3%	3.2%
Chile	267,685	384,784	0.0%	0.1%
Colombia	5,056,487	13,800,741	0.5%	0.4%
Mexico	4,942,473	26,227,057	0.9%	0.9%
Other	47,410	6,138,821	0.2%	4.3%
Total Americas	21,433,889	\$ 196,309,353	6.5%	10.9%
Australia	4,215,381	31,844,646	1.1%	1.7%
China	43,222,567	130,116,921	4.3%	5.4%
Hong Kong	19,315,207	65,555,644	2.2%	2.4%
India	5,592,470	75,260,160	2.5%	2.7%
Japan	16,647,332	381,655,650	12.6%	12.4%
Singapore	1,964,759	40,720,512	1.3%	0.7%
South Korea	447,323	71,567,460	2.4%	2.8%
Taiwan	27,123,992	79,795,312	2.6%	2.7%
Other	64,966,865	209,978,148	7.0%	2.8%
Total Asia/Pacific Basin	183,495,896	\$ 1,086,494,453	36.0%	33.6%
Belgium	327,036	25,782,135	0.9%	0.9%
France	3,349,163	272,226,355	9.0%	8.7%
Germany	2,539,806	148,090,916	4.9%	5.0%
Ireland	15,142,168	129,311,254	4.3%	2.8%
Netherlands	3,549,329	118,543,500	3.9%	3.5%
Norway	3,378,036	41,677,322	1.4%	1.3%
Spain	1,721,084	46,928,798	1.6%	1.6%
Sweden	3,668,024	63,173,756	2.1%	2.2%
Switzerland	3,991,651	181,916,355	6.0%	5.8%
United Kingdom	42,853,047	529,514,378	17.5%	16.9%
Other	7,173,341	159,887,986	5.3%	5.9%
Total Europe	87,692,685	\$ 1,717,052,755	56.9%	54.6%
Grand Total	300,618,208	\$ 3,018,577,197	100.0%	100.0%

A complete list of the portfolio holdings is available at the pension fund office.

TOP 10 INTERNATIONAL EQUITY HOLDINGS
AS OF JUNE 30, 2017

DESCRIPTION	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL
Lazard Emerging Market Equity	7,216,985	\$ 129,905,730	4.2%
Novartis AG	642,665	53,577,982	1.8%
British American Tobacco, PLC	605,077	41,137,396	1.4%
SAP SE	378,899	39,524,680	1.3%
Glaxosmithkline, PLC	1,749,507	37,496,109	1.2%
Roche Holding AG	136,277	34,750,528	1.2%
Prudential, PLC	1,419,723	32,475,467	1.1%
Reckitt Benckiser Group, PLC	316,450	31,996,344	1.1%
Shire, PLC	542,675	31,201,925	1.0%
Samsung Electronics Co., LTD	14,944	31,046,521	1.0%
Total Top 10 International Equity	13,023,202	\$ 463,112,682	15.3%
Grand Total	300,618,208	\$ 3,018,577,197	100.0%

A complete list of the portfolio holdings is available at the pension fund office.

FIXED INCOME SUMMARY

AS OF JUNE 30, 2017

FIXED INCOME HOLDINGS

ASSET CATEGORY	PAR VALUE	MARKET VALUE	PERCENT OF TOTAL	BARCLAYS AGGREGATE BOND INDEX
Treasury	\$ 704,441,892	\$ 713,409,855	35.5%	43.5%
Mortgage Backed Securities	268,525,153	286,713,946	14.3%	17.1%
Corporate Bonds	694,888,305	753,931,874	37.5%	38.3%
Government Agency	283,782,070	123,997,438	6.2%	0.1%
Non Gov't Backed CMOs/Asset Backed	26,566,074	26,496,353	1.4%	0.1%
Commercial Mortgage-Backed	46,994,088	46,762,216	2.3%	0.1%
Municipal Bonds	15,785,562	18,477,998	0.9%	0.9%
Other	1,549,170	38,569,028	1.9%	(0.1)%
Grand Total	\$ 2,042,532,314	\$ 2,008,358,708	100.0%	100.0%

A complete listing of the portfolio holdings is available at the pension fund office.

PUBLIC REITS SUMMARY

AS OF JUNE 30, 2017

PUBLIC REITS SUMMARY

PROPERTY TYPE	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL	NAREIT PROPERTY INDEX ALLOCATION
Retail REITs	353,780	\$ 13,276,277	10.3%	(23.9%)
Industrial & Office REITs	759,311	27,951,404	21.7%	24.9%
Residential (apartment) REITs	340,422	16,444,158	12.8%	14.2%
Health Care Facilities	266,547	9,623,317	7.5%	3.0%
Hotel & Lodging REITs	348,351	6,332,595	4.9%	19.3%
Residential (development) REITs	30,700	212,864	0.2%	14.7%
Other	1,916,905	54,790,898	42.6%	2.5%
Grand Total	4,016,016	\$ 128,631,513	100.0%	N/A

TOP 10 PUBLIC REITS HOLDINGS

HOLDING	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL
RHUMB RSL1000, LCC	1,323,894	\$ 57,828,434	45.0%
BMO Global, LCV	232,401	19,988,853	15.5%
PHOCAS SCV	624,507	14,358,114	11.2%
NTGI 500 Index, LLC	197,329	14,148,451	11.0%
NTGI Structured, SCC	646,792	12,277,061	9.5%
William Blair ISCE	278,714	3,044,791	2.4%
ATT Matarin SCC	94,809	1,645,420	1.3%
ATT Paradigm LCV	24,980	1,464,216	1.1%
William Blair IACG	209,230	1,329,544	1.0%
Strategic GBL EAFE	62,266	1,058,804	0.8%
Total Top 10 Public REITs	3,694,922	\$ 127,143,688	98.8%
Grand Total	4,016,016	\$ 128,631,513	100.0%

A complete listing of the portfolio holdings is available at the pension fund office.

PRIVATE EQUITY SUMMARY
AS OF JUNE 30, 2017

PRIVATE EQUITY HOLDINGS

DESCRIPTION	TOTAL CAPITAL CALLED	MARKET VALUE	PERCENT OF TOTAL
Adam Street Partners Multiple Funds	\$ 125,403,859	\$ 125,403,856	44.4%
Brinson Partners Multiple Fund	9,032,858	9,214,977	3.2%
Harbourvest Partners Multiple Funds	27,744,822	27,299,119	9.8%
Hispania Partners	3,153,503	3,153,503	1.1%
ICV Partners Multiple Funds	11,539,077	11,539,077	4.1%
Mesirow Capital Partners Multiple Funds	58,170,831	57,496,848	20.6%
Muller and Monroe Private Equity Fund of Funds	3,991,663	4,011,661	1.4%
Palladium Equity Partners Multiple Funds	1,912,731	10,546,288	3.7%
Pantheon Multiple Funds	10,503,501	14,345,216	5.2%
Pharos Capital Partners Multiple Funds	14,095,115	14,196,974	5.0%
RLJ Equity Partners Fund II	14,196,974	1,778,456	0.7%
Syncom Partners V	2,144,668	2,144,668	0.8%
Grand Total	\$ 281,889,602	\$ 281,130,643	100.0%

A complete listing of the portfolio holdings is available at the pension fund office.

INFRASTRUCTURE SUMMARY

AS OF JUNE 30, 2017

INFRASTRUCTURE HOLDINGS

DESCRIPTION	NUMBER OF UNITS	MARKET VALUE	PERCENT OF TOTAL
JP Morgan Infrastructure Investments Fund	90,488,445	\$ 92,139,297	38.2%
Total Commingled Funds	90,488,445	\$ 92,139,297	38.2%

DESCRIPTION	TOTAL CAPITAL CALLED	MARKET VALUE	PERCENT OF TOTAL
Brookfield Infrastructure Fund III, LP	\$ 13,089,423	\$ 12,645,005	5.3%
Macquarie Infrastructure Partners II US	–	74,204,273	30.7%
Macquarie European Infrastructure Fund III (MEIF 3)	–	62,340,160	25.8%
Total Closed - End Funds	–	\$ 149,189,438	61.8%
Grand Total	–	\$ 241,328,735	100.0%

A complete list of the portfolio holdings is available at the pension fund office.

REAL ESTATE SUMMARY

AS OF JUNE 30, 2017

REAL ESTATE HOLDINGS

DESCRIPTION	NUMBER OF SHARES	MARKET VALUE	PERCENT OF TOTAL
JP Morgan Strategic Property Fund	48,265	\$ 150,888,736	20.4%
LaSalle Property Fund	103,417,173	102,940,320	13.9%
PRISA I Real Estate Fund	2,447	139,661,688	18.9%
PRISA II Real Estate Fund	645	21,576,765	2.9%
UBS Trumbull Property Fund	149,825,704	151,211,217	20.5%
Total Commingled Funds	253,294,234	\$ 566,278,726	76.6%

DESCRIPTION	TOTAL CAPITAL CALLED	MARKET VALUE	PERCENT OF TOTAL
Capri Select Income II, LLC	\$ 51,112	\$ 51,112	0.1%
Clarion Lion Industrial Trust	48,076,562	46,496,153	6.3%
DV Urban Realty Partners I, LP	1,257,535	1,257,534	0.2%
Emerging Manager Real Estate Fund of Funds, LP	17,529,053	17,552,863	2.4%
Europa Fund III, LP	8,015,840	8,008,596	1.1%
Fortress Japan Opportunity Domestic Fund C-I, LP	896,515,474	8,051,286	1.1%
Fortress Japan Opportunity Fund II Dollar A, LP	8,378,299	7,954,541	1.1%
Fremont Strategic Property Partners II	1,739,635	1,739,635	0.2%
Greystar Equity Partners VII, LP	37,081	37,081	0.1%
Hudson Realty Capital Fund V, LP	4,032,964	4,032,963	0.5%
Industry Capital Berkeley Partners	6,811,208	6,811,209	0.9%
Intercontinental Real Estate Investment Fund III, LLC	478,300	478,300	0.1%
ML Asian RE Fund (TE), LP	855,169	855,168	0.1%
Newport Capital Partners II, LP	26,668,645	25,828,547	3.5%
Southwest Multifamily Partners, LP	15,593,556	15,734,175	2.1%
RREEF Global Opportunities Fund II, LLC	–	405,379	0.1%
Walton Street Capital Multiple Funds	27,360,542	27,360,542	3.5%
Total Closed-End Funds	\$ 1,063,400,975	\$ 172,655,084	23.4%
Grand Total		\$ 738,933,810	100.0%

A complete list of the portfolio holdings is available at the pension fund office.

MANAGER ANALYSIS

AS OF JUNE 30, 2017

ASSET CATEGORY	MARKET VALUE AS OF 6/30/2017	PERCENT OF PORTFOLIO	FY 2017 MANAGER FEES	PERCENT OF MARKET VALUE
Domestic Equity	\$ 3,299,443,380	32.8%	\$ 5,499,318	0.2%
International Equity	3,018,577,197	30.0%	12,298,033	0.4%
Public REITs	128,631,513	1.3%	20,734	0.0%
Fixed Income	2,008,358,708	19.9%	1,860,431	0.1%
Real Estate	738,933,810	7.3%	7,529,738	1.0%
Infrastructure	241,328,735	2.4%	2,819,759	1.2%
Private Equity	281,130,643	2.8%	4,032,707	1.4%
Cash and Equivalent	354,052,188	3.5%	–	0.0%
Grand Total	\$ 10,070,456,174	100.0%	\$ 34,060,720	0.3%

A complete list of the portfolio holdings is available at the pension fund office.

BROKER COMMISSION REPORT
DOMESTIC AGENCY TRADES FOR THE YEAR ENDED JUNE 30, 2017

BROKER NAME	NUMBER OF SHARES TRADED	COMMISSION AMOUNT	COMMISSION PER SHARE
Loop Capital Markets, LLC	14,105,786	\$ 263,698	\$ 0.05
North South Capital, LLC	1,600,783	61,662	0.04
Bank of America/Merrill Lynch	5,360,616	59,529	0.02
Cheevers & Company Inc.	1,954,940	58,374	0.06
Cabrera Capital Markets, LLC	946,775	30,064	0.03
RBC Capital Markets, LLC	1,017,840	29,850	0.06
Guzman & Company	2,821,000	28,210	0.01
Weeden & Co., LP	2,740,107	25,871	0.02
The Williams Capital Group, LP	1,079,464	24,264	0.02
Instinet, LLC	748,071	22,579	0.03
Investment Technology Group Inc./ ITG Inc.	2,627,301	21,013	0.04
Cantor Fitzgerald & Co.	617,539	16,838	0.03
Penserra Securities, LLC	1,467,615	14,932	0.01
Bank of New York Mellon	409,748	14,180	0.03
Vandham Securities Corp.	351,380	13,807	0.04
Barclays Capital Inc.	364,359	13,718	0.09
Citigroup Global Markets Inc./Salomon Bros.	1,349,539	13,407	0.01
J.P. Morgan Securities LLC	1,290,051	13,382	0.02
Stephens	369,359	11,725	0.03
Raymond James & Associates, Inc.	673,331	10,769	0.04
Castleoak Securities, LP	691,565	10,679	0.02
Goldman Sachs Execution & Clearing, LP	473,232	9,356	0.05
Morgan Stanley & Co., LLC	309,275	8,520	0.05
Trade Manage Capital, Inc.	774,722	7,747	0.01
Credit Suisse First Boston	421,352	7,577	0.03
M. Ramsey King Securities, Inc.	258,175	7,514	0.03
Stifel, Nicolaus & Co., Inc	157,753	6,701	0.08
Oppenheimer & Co., Inc.	205,766	6,238	0.03
Andes Capital Group, LLC	205,502	6,165	0.03
Robert W. Baird & Co., Inc.	148,335	5,950	0.09
Telsey Advisory Group LLC	342,619	5,921	0.02
Seaport Global Securities LLC	540,994	5,410	0.01
Mischler Financial Group, Inc.	244,303	5,359	0.02
Liquidnet, Inc.	329,877	5,160	0.04
Sandler, O'Neil & Partners, LP	457,229	4,572	0.01
William Blair & Company, LLC	110,059	4,502	0.04
FBR Capital Markets & Co.	440,785	4,408	0.01
Hovde Group, LLC	208,874	4,177	0.02
BNY Convergenx Execution Solutions, LLC	6,281,672	4,160	0.00
ISI Group, Inc.	187,849	3,574	0.04
Green Street Advisors, Inc.	134,762	3,436	0.03
William O'Neil + Co., Inc.	84,332	3,373	0.04
Piper Jefferay & Co.	72,181	3,123	0.04
CIS Brokerage Inc.	101,557	2,849	0.03
Keefe, Bruyette & Woods, Inc.	71,160	2,846	0.04
Other (52 Brokers)	2,443,531	50,144	0.02
Grand Total	57,593,065	\$ 937,333	\$ 0.02

BROKER COMMISSION REPORT

MWDBE DOMESTIC AGENCY TRADES FOR THE YEAR ENDED JUNE 30, 2017

BROKER NAME	NUMBER OF SHARES TRADED	COMMISSION AMOUNT	COMMISSION PER SHARE
Loop Capital Markets, LLC	14,105,786	\$ 263,698	\$ 0.05
North South Capital, LLC	1,600,783	61,662	0.04
Cheevers & Company, Inc.	1,954,940	58,374	0.06
Cabrera Capital Markets, LLC	946,775	30,064	0.03
Guzman & Company	2,821,000	28,210	0.01
The Williams Capital Group, LP	1,079,464	24,264	0.02
Penserra Securities, LLC	1,467,615	14,932	0.01
Castleoak Securities, LP	691,565	10,679	0.02
M. Ramsey King Securities, Inc.	258,175	7,514	0.03
Andes Capital Group, LLC	205,502	6,165	0.03
Telsey Advisory Group, LLC	342,619	5,921	0.02
Mischler Financial Group, Inc.	244,303	5,359	0.02
Drexel Hamilton, LLC	73,057	2,192	0.03
Podesta and Company	91,942	1,839	0.02
Sturdivant & Co., Inc	57,100	1,713	0.03
Total Directed Domestic Commission	25,940,626	\$ 522,586	\$ 0.02
Grand Total - All Brokers	57,593,065	\$ 937,333	\$ 0.02

BROKER COMMISSION REPORT

INTERNATIONAL AGENCY TRADES FOR THE YEAR ENDED JUNE 30, 2017

BROKER NAME	NUMBER OF SHARES TRADED	COMMISSION AMOUNT	COMMISSION PER SHARE
Loop Capital Markets, LLC	40,831,258	\$ 482,870	\$ 0.01
UBS Securities, LLC/UBS Warburg, LLC	36,127,894	183,739	0.01
Mischler Financial Group, Inc.	7,490,664	181,886	0.02
Cheevers & Company, Inc.	7,473,915	168,213	0.02
Bank of America/Merrill Lynch	107,636,424	139,825	0.00
Credit Suisse First Boston	15,738,165	121,903	0.01
Liquidnet, Inc.	14,550,943	99,061	0.01
Citigroup Global Markets Inc./Salomon Bros.	15,670,621	98,149	0.01
Instinet, LLC	18,870,779	78,375	0.00
Deutsche Bank Securities Inc./Alex Brown	10,583,243	71,551	0.01
J.P. Morgan Securities, LLC	5,235,328	69,754	0.01
Jefferies, LLC	14,151,558	65,720	0.00
Investment Technology Group, Inc./ ITG, Inc.	11,034,449	65,210	0.01
Morgan Stanley & Co., LLC	8,562,940	56,362	0.01
Sanford C. Bernstein & CO., LLC	11,515,889	54,010	0.00
Goldman Sachs Execution & Clearing, LP	3,103,447	48,226	0.02
Macquarie Capital (USA) Inc.	11,498,805	46,614	0.00
Credit Lyonnais Securities, LTD/CLSA	8,712,480	42,514	0.00
Mizuho Financial Group	4,773,924	40,666	0.01
The Williams Capital Group, LP	6,841,356	39,212	0.01
RBC Capital Markets, LLC	1,042,351	38,264	0.04
Berenberg Bank	1,277,703	31,677	0.02
Daiwa Securities Group, Inc.	3,829,106	30,897	0.01
Barclays Capital, Inc.	2,139,763	25,357	0.01
Exane Inc.	1,153,338	24,030	0.02
Nomura Securities International, Inc.	1,381,376	23,701	0.02
Banc of America Securities, LLC	1,950,873	22,237	0.01
Bloomberg, LP	2,188,216	21,488	0.01
BTIG, LLC	1,636,364	20,419	0.01
BNP Paribas Brokerage Services, Inc.	2,244,258	20,224	0.01
Weeden & Co., LP	2,556,240	20,212	0.01
SMBC Nikko Capital Markets, LTD	856,900	19,544	0.02
Penserra Securities, LLC	1,902,818	18,502	0.01
HSBC Bank/Midland (LDN)	2,501,548	15,331	0.01
Mitsubishi Securities (USA)	1,175,386	14,419	0.01
Capital Institutional Services, Inc. (CAPIS)	247,830	13,957	0.06
BNY Convergenx Execution Solutions, LLC	1,189,632,429	12,107	0.00
Vontobel Securities, LTD	17,292	12,085	0.70
Castleoak Securities, LP	343,483	12,022	0.03
Societe Generale Securities Corporation	4,992,488	11,484	0.00
Cabrera Capital Markets, LLC	3,293,669	10,712	0.00
Banco Santander Central Hispano, S.A.	983,808	9,585	0.01
Credit Agricole CIB/Calyon Securities	514,736	8,450	0.02
Jones Trading Institutional Services, LLC	217,643	8,412	0.04
Handelsbanken Markets Securities, Inc.	282,072	7,599	0.03
Carnegie Investment Bank AB/Carnegie Inc.	310,532	7,293	0.02
Other (84 Brokers)	18,335,041	146,892	0.01
Grand Total	1,607,411,345	\$ 2,760,760	\$ 0.00

BROKER COMMISSION REPORT

MWDBE INTERNATIONAL EQUITY TRADES FOR THE YEAR ENDED JUNE 30, 2017

BROKER NAME	NUMBER OF SHARES TRADED	COMMISSION AMOUNT	COMMISSION PER SHARE
Loop Capital Markets, LLC	40,831,258	\$ 482,870	\$ 0.01
Mischler Financial Group, Inc.	7,490,664	181,886	0.02
Cheevers & Company, Inc.	7,473,915	168,213	0.02
The Williams Capital Group, LP	6,841,356	39,212	0.01
Penserra Securities, LLC	1,902,818	18,502	0.01
Castleoak Securities, LP	343,483	12,022	0.03
Cabrera Capital Markets, LLC	3,293,669	10,712	0.00
North South Capital, LLC	175,231	4,837	0.03
M. Ramsey King Securities, Inc.	489,400	1,030	0.00
Andes Capital Group, LLC	11,360	308	0.03
Total Directed International Commission	68,853,154	\$ 919,592	\$ 0.01
Grand Total - All Brokers	1,607,411,345	\$ 2,760,760	\$ 0.00

SCHEDULE OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

	2017	2016
Cash and cash equivalents at beginning of period	\$ 1,032,073,205	\$ 1,013,197,931
Add receipts:		
Member contributions	180,305,126	201,803,016
Public revenues	759,705,382	696,864,956
Interest and dividends	240,276,268	244,264,942
Miscellaneous	—	365,777
Net investment sales	137,208,494	370,608,902
Total cash receipts	1,317,495,270	1,513,907,593
Less disbursements:		
Pension benefits	1,395,879,937	1,341,990,070
Refunds	28,156,250	30,013,141
2.2 legislative refunds	780,389	1,441,215
Refund of insurance premiums	58,313,352	68,816,022
Investment and administrative expenses	48,409,910	52,771,871
Total cash disbursements	1,531,539,838	1,495,032,319
Net increase (decrease) in cash and cash equivalents	(214,044,568)	18,875,274
Cash and cash equivalents at end of period	\$ 818,028,637	\$ 1,032,073,205

See accompanying independent auditors' report.

INVESTMENT AUTHORITY ILLINOIS PENSION CODE

SECTION 5/17-146. To Make Investments



To make investments. To invest the monies of the Fund, subject to the requirements and restrictions set forth in this Article and in **Sections 1-109, 1-109.1, 1-109.2, 1-110, 1-111, 1-114 and 1-115**. No bank or savings and loan association shall receive investment funds as permitted by this Section, unless it has complied with the requirements established pursuant to Section 6 of the Public Funds Investment Act. Those requirements shall be applicable only at the time of investment and shall not require the liquidation of any investment at any time.

The Board of Trustees shall have the authority to enter into any agreements and to execute any documents that it determines to be necessary to complete any investment transaction.

All investments shall be clearly held and accounted for to indicate ownership by the Fund. The Board of Trustees may direct the registration of securities or the holding of interests in real property in the name of the Fund or in the name of a nominee created for the express purpose of registering securities or holding interests in real property by a national or state bank or trust company authorized to conduct a trust business in the State of Illinois. The Board of Trustees may hold title to interests in real property in the name of the Fund or in the name of a title holding corporation created for the express purpose of holding title to interests in real property.

Investments shall be carried at cost or at a value determined in accordance with generally accepted accounting principles and accounting procedures approved by the Board of Trustees.

The value of investments held by the Fund in one or more commingled investment accounts shall be determined in accordance with generally accepted accounting principles.

The Board of Trustees of any Fund established under this Article may not transfer its investment authority, nor transfer the assets of the Fund to any other person or entity for the purpose of consolidating or merging its assets and management with any other pension fund or public investment authority, unless the Board of Trustees resolution authorizing such transfer is submitted for approval to the contributors and pensioners of the Fund at elections held not less than 30 days after the adoption of such resolution by the Board of Trustees, and such resolution is approved by a majority of the votes cast on the question in both the contributors election and the pensioners election.

The election procedures and qualifications governing the election of trustees shall govern the submission of resolutions for approval under this paragraph, insofar as they may be made applicable.

SECTION 5/17-146.2. TO LEND SECURITIES

To lend securities. The Board of Trustees may lend securities owned by the Fund to a borrower upon such written terms and conditions as may be mutually agreed. The agreement shall provide that during the period of the loan the Fund (or the custodian of the Fund, or agent thereof, as applicable) shall retain the right to receive or collect from the borrower all dividends, interest and distributions to which the Fund would have otherwise been entitled.

The borrower shall deposit with the Fund collateral for the loan equal to the market value of the securities at the time the loan is made, and shall increase the amount of collateral if the Board of Trustees requests an additional amount because of subsequent increased market value of the securities. The Board of Trustees may accept from the borrower cash collateral or collateral consisting of assets described in Section 1-113 of this Act.

To the extent that the Fund participates in a securities lending program established and maintained by (1) a national or State bank which is authorized to do business in the State of Illinois, or (2) an investment manager, the Board of Trustees may accept collateral consisting of an undivided interest in a pool of commingled collateral that has been established by the bank or investment manager for the purpose of pooling collateral received for the loans of securities owned by substantially all of the participants in such bank's or investment manager's securities lending program.

Nothing in Sections 1-109, 1-110 or 1-113 of this Act shall be construed to prohibit the Fund's lending of securities in accordance with this Section.

INVESTMENT AUTHORITY ILLINOIS PENSION CODE

SECTION 5/17-146. To Make Investments

SECTION 5/17-147. CUSTODY OF FUND-BONDS-LEGAL PROCEEDINGS

Custody of Fund-Bonds-Legal proceedings. The city treasurer, ex-officio, shall be the custodian of the Fund, and shall secure and safely keep it, subject to the control and direction of the Board of Trustees. He shall keep his books and accounts concerning the Fund in the manner prescribed by the Board of Trustees.

The books and accounts shall always be subject to the inspection of the Board of Trustees or any member thereof. The city treasurer shall be liable on his official bond for the proper performance of his duties and the conservation of the Fund.

Payments from the Fund shall be made upon warrants signed by the president and the secretary of the Board of Education, the president of the Board of Trustees, and countersigned by the executive director or by such person as the Board of Trustees may designate from time to time by appropriate resolution.

Neither the treasurer nor any other officer having the custody of the Fund is entitled to retain any interest accruing thereon, but such interest shall accrue and inure to the benefit of such Fund, become a part thereof, subject to the purposes of this Article.

Any legal proceedings necessary for the enforcement of the provisions of this Article shall be brought by and in the name of the Board of Trustees of the Fund.



ACTUARIAL

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, and a glossary of terms are also included.



January 2, 2018

Board of Trustees
Public School Teachers' Pension and Retirement Fund of Chicago
203 North LaSalle Street, Suite 2600
Chicago, Illinois 60601

Re: Public School Teachers' Pension and Retirement Fund of Chicago Actuarial Valuation as of June 30, 2017

Dear Members of the Board:

The results of the June 30, 2017, Annual Actuarial Valuation of the Public School Teachers' Pension and Retirement Fund of Chicago (commonly known as the Chicago Teachers' Pension Fund, "CTPF" or "Fund") are presented in this report. The purposes of the actuarial valuation are to measure the Fund's funding status and to determine the contribution requirements for the fiscal year beginning July 1, 2018, and ending June 30, 2019. Gabriel Roeder, Smith & Company ("GRS") has prepared this report exclusively for the Trustees of the Public School Teachers' Pension and Retirement Fund of Chicago; GRS is not responsible for reliance upon this report by any other party. This report may be provided to parties other than CTPF only in its entirety and only with the permission of the Trustees.

The employer's contribution requirement has been determined in accordance with Illinois State Statutes, in particular under 40 ILCS Sections 5/17-127, 5/17-127.2, and 5/17-129. Information required by Governmental Accounting Standards Board ("GASB") Statement Nos. 67, 68, 74 and 75 is provided in a separate report. This report should not be relied on for any purpose other than the purpose described.

This actuarial valuation is based on the provisions of CTPF in effect as of June 30, 2017, data on the CTPF membership and information on the asset value of the trust fund as of that date. The actuarial valuation was based upon information furnished by CTPF staff concerning Fund benefits, financial transactions, and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by CTPF.

The actuarial valuation results summarized in this report involve actuarial calculations that require assumptions about future events. Most of the actuarial assumptions used for the June 30, 2017, actuarial valuation are based on an experience review for the five-year period from July 1, 2007, through June 30, 2012, performed by the prior actuary ("Segal Consulting"). Beginning with the June 30, 2017, actuarial valuation, the investment return assumption, general inflation assumption and wage inflation assumption were reduced from 7.75 percent to 7.25 percent, 2.75 percent to 2.50 percent and 3.50 percent to 3.25 percent, respectively. The general inflation assumption also serves as the basis for the determination of annual increases in pension and pensionable salary cap for Tier 2 members. As a result of the change in the general inflation assumption, the assumption regarding future increases in pension and pensionable salary cap was reduced from 1.375 percent to 1.25 percent per year for current and future Tier 2 members.

Pursuant to Public Act 100-0465, effective August 31, 2017, the following funding changes were made beginning with the June 30, 2017, actuarial valuation:

- The Board of Education’s dedicated property tax levy capped rate of 0.383 percent was increased to 0.567 percent. Revenue generated from the tax levy will be paid directly to CTPF. This affects the contribution that is assumed to be received annually on March 1.
- Beginning with fiscal years on and after 2018, the State will pay CTPF the normal cost relating to Chicago teacher’s pensions and retiree health insurance costs. For fiscal year 2018, the State will pay \$221.3 million and in future years CTPF will provide a certified normal cost to the State on an annual basis, which will include the \$65 million health insurance subsidy. For fiscal year 2019, GRS has projected this amount to be \$226.8 million.
- Provides a continuing appropriation for all amounts contributed by the State to CTPF.

The benefit provisions for members hired on or after January 1, 2011, were changed under Public Act 96-0889. Public Act 100-0023 created a third tier of benefits for new members provided that an adoption by a resolution or ordinance occurs. Given this uncertainty, GRS has not valued the benefits provided under Public Act 100-0023. Members hired on or after this date and the assumed new hires in the projections were valued under Public Act 96-0889 benefit provisions.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of CTPF as of the actuarial valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary’s assignment, the actuary did not perform an analysis of the potential range of such future measurements in this report.

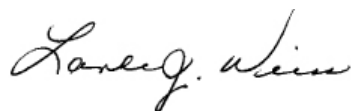
Although the statutory contribution requirements were met, in our opinion the statutory funding method generates a contribution requirement that is less than a reasonable actuarially determined contribution (“ADC”). Meeting the statutory requirement does not mean that the undersigned agree that adequate actuarial funding has been achieved. We recommend the adherence to a funding policy, such as the Board policy used to calculate the ADC under GASB Statements Nos. 67 and 68, which funds the normal cost of the plan as well as an amortization payment that seeks to pay off any unfunded accrued liability over a closed period of 30 years, beginning July 1, 2013.

The signing actuaries are independent of plan sponsor.

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

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lance J. Weiss, EA, MAAA, FCA
Senior Consultant and Team Leader



Amy Williams, ASA, MAAA, FCA
Consultant

LW/AW:rg

120 North LaSalle Street | Suite 1350 | Chicago, Illinois 60602-3495

ACTUARIAL REPORT

The law governing the Public School Teachers' Pension and Retirement Fund of Chicago (CTPF) requires the Actuary, as the technical advisor to the Board of Trustees to determine the amount of Board of Education contributions required for each fiscal year.

“The Board Shall determine the amount of Board of Education contributions required for each fiscal year on the basis of the actuarial tables and other assumptions adopted by the Board and the recommendations of the actuary, in order to meet the minimum contribution requirements of subsections (a) and (b). Annually, on or before February 28, the Board shall certify to the Board of Education the amount of the required Board of Education contribution for the coming fiscal year. The certification shall include a copy of the actuarial recommendations upon which it is based. (40 ILCS Section 5/17 - 129(c)).”

Gabriel, Roeder, Smith & Company (GRS) has been retained by the CTPF Board of Trustees to perform an actuarial valuation as of June 30, 2017. In this report, we present the results of the actuarial valuation and the appropriation requirements under Public Act 96-0889, Public Act 90-0655, Public Act 91-0357, and Public Act 100-0465 for the fiscal year ending June 30, 2019.

Effective with the fiscal year ending June 30, 2014, GASB Statement No. 67 replaced GASB Statement No. 25 for pension plan financial reporting requirements. Effective with the fiscal year ending June 30, 2015, GASB Statement No. 68 replaced GASB Statement No. 27 for employer financial reporting. Information required by GASB Statement Nos. 67, 68, 74 and 75 is provided in a separate report.

The actuarial valuation was completed based upon membership and financial data provided by the administrative staff of the CTPF. Most of the actuarial assumptions used for the June 30, 2017, actuarial valuation are based on an experience review for the five-year period from July 1, 2007, through June 30, 2012, performed by the prior actuary, Segal Consulting. Beginning with the June 30, 2017, actuarial valuation, the investment return assumption, general inflation assumption and wage inflation assumption were reduced from 7.75 percent to 7.25 percent, 2.75 percent to 2.50 percent and 3.50 percent to 3.25 percent, respectively. The general inflation assumption also serves as the basis for the determination of annual increases in pension and pensionable salary cap for Tier 2 members. As a result of the change in the general inflation assumption, the assumption regarding future increases in pension and pensionable salary cap was reduced from 1.375 percent to 1.25 percent per year for current and future Tier 2 members. The cost method used to determine the benefit liabilities for statutory funding is the Projected Unit Credit Cost Method as required by statute. For actuarial valuation purposes, as well as projection purposes, the actuarial value of assets is based on a four-year smoothing method.

Changes Since Last Valuation

The June 30, 2017, actuarial valuation represents the first actuarial valuation of the CTPF performed by GRS. As part of the transition from the prior actuary, Segal Consulting, GRS performed a replication of the June 30, 2016, actuarial valuation. The accrued liability calculated as part of the June 30, 2016, replication valuation performed by GRS was within 1.2 percent of the results of the June 30, 2016, actuarial valuation performed by Segal Consulting. This deviation is well within a reasonable range. All results prior to June 30, 2017, are taken from the prior actuary's reports. In past actuarial valuations, employer contributions were assumed to be received on June 30 (at the end of the year). In light of (1) new funding sources provided under Public Act 100-0465, (2) the Memorandum of Understanding between the Board of Trustees of CTPF and the Board of Education regarding early payments resulting from the special tax levy, and recent discussions with CTPF's staff and legal counsel, GRS was directed to change the assumption regarding the timing of future employer contributions. Effective with the June 30, 2017, actuarial valuation, future employer contributions are assumed to occur as follows:

1. Additional Board of Education Contribution (0.58 percent of pay) — June 30th (End of Fiscal Year)
2. Additional State Contribution (0.544 percent of pay) — Monthly (Middle of Year)
3. State Normal Cost Contribution — Monthly (Middle of Year)
4. Board of Education Early Payment of Special Tax Levy — March 1st, annually
 - a. 55 percent of prior year's tax levy is assumed to occur each March 1st
 - i. This amount is assumed to be \$141,625,000 for fiscal year 2018 and increased each year by three percent.
5. Remaining Board of Education Contribution — June 30th (End of Fiscal Year)

Legislative Changes

The following recently passed Public Acts impact CTPF.

Public Act 100-0023 was passed and became effective July 6, 2017. It provides a new benefit plan option (“Tier 3”) for new hires based on a hybrid plan comprised of a defined benefit and defined contribution plan. The availability of the Tier 3 benefit plan in relation to CTPF, relies on the adoption of a resolution or ordinance. Given this uncertainty, GRS has not valued the Tier 3 benefit plan as part of the June 30, 2017, actuarial valuation.

Public Act 100-0465 was passed and became effective August 31, 2017. Pursuant to Public Act 100-0465, the following funding components affect CTPF:

1. The Board of Education’s dedicated property tax levy capped rate of 0.383 percent was increased to 0.567 percent. Revenue generated from the tax levy will be paid directly to CTPF.
2. Beginning with fiscal years on and after 2018, the State will pay CTPF the normal cost relating to Chicago teacher’s pensions and retiree health insurance costs. For fiscal year 2018, the State will pay \$221.3 million and in future years CTPF will provide a certified normal cost to the State on an annual basis, which will include the \$65 million health insurance subsidy.
3. Provides a continuing appropriation for all amounts contributed by the State to CTPF.

A summary of the CTPF plan provisions is included in Section G of this report.

SECTION A: SUMMARY OF THE ACTUARIAL VALUATION

Assumptions and Methods

Most of the actuarial assumptions used for the June 30, 2017, actuarial valuation are based on an experience review for the five-year period from July 1, 2007, through June 30, 2012, performed by the prior actuary. However, based on discussions with the CTPF staff and CTPF's auditor, GRS performed a review of the economic assumptions including the investment return assumption, wage inflation assumption, and underlying price inflation, and made recommendations for assumption changes to first be implemented in the June 30, 2017, actuarial valuation. As a result, beginning with the June 30, 2017, actuarial valuation, the investment return assumptions for funding purposes, general inflation assumption and wage inflation assumption were reduced from 7.75 percent to 7.25 percent, 2.75 percent to 2.50 percent, and 3.50 percent to 3.25 percent, respectively. The general inflation assumption also serves as the basis for the determination of annual increases in pension and the pensionable salary cap for Tier 2 members. As a result of the change in the general inflation assumption, the assumption regarding future increases in pension and the pensionable salary cap was reduced from 1.375 percent to 1.25 percent per year for current and future Tier 2 members. GRS will conduct a full experience review of the actuarial assumptions after completion of the June 30, 2017, actuarial valuation.

The net change in the investment return assumption, inflation rate assumption and wage inflation assumption increased the actuarial accrued liability as of June 30, 2017, by \$1.07 billion.

Report Highlights

The employer's contribution requirement for FY 2019 is \$808.6 million. The 2016 actuarial valuation had projected the statutory contribution would increase, from \$784.4 million for FY2018 to \$809.8 million for FY 2019. The key reasons for the decrease in the employer's contribution requirement over the projected amount from the prior actuarial valuation are 1) favorable demographic experience; 2) actual fiscal year 2017 investment rate of return greater than the assumed rate of 7.75 percent; and 3) adjusting the timing of when employer contributions are received. Favorable experience offset the increase due to the change in the investment return assumption.

Over the past 10 years, CTPF experienced investment gains on a market value basis (compared to the actuarial assumption) in fiscal years 2010, 2011, 2013, 2014, and 2017. However, CTPF incurred investment losses (or shortfalls in return compared to the actuarial assumption) in fiscal years 2008, 2009, 2012, 2015, and 2016. The market return for the year ending June 30, 2017, was approximately 12.53 percent compared to a return of -0.27 percent in FY 2016. The average market value investment return over the most recent 10 years has been approximately 4.87 percent.

The funded ratio decreased from 50.0 percent as of June 30, 2016, to 49.5 percent as of June 30, 2017, based on the market value of assets, and decreased from 52.5 percent as of June 30, 2016, to 50.1 percent as of June 30, 2017, based on the actuarial value of assets. There are net deferred asset losses of \$139.9 million which will be recognized in the actuarial value of assets over the next three years.

The funded ratio and unfunded actuarial accrued liability are useful for assessing the need for and amount of future contributions other than normal cost contributions. They are not appropriate, however, for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

Experience During 2017

The Fund assets earned approximately 12.53 percent on a market value basis during FY 2017 which was greater than the investment return assumption of 7.75 percent for FY 2017. The Fund assets earned 8.26 percent on an actuarial value of assets basis during FY 2017, due to recognition of net deferred investment losses under the asset smoothing method. However, because 8.26 percent is greater than the assumed rate of investment return of 7.75 percent for FY 2017, there was an asset gain of \$98.12 million on the actuarial value of assets.

There was also a net gain of \$162.26 million from actuarial liabilities, which is comprised of a loss of approximately \$17.96 million from demographic experience, and a gain of \$180.22 million from lower than expected pay increases.

The total gain from liabilities for the Fund is calculated as follows (dollars in millions):

1. Actuarial Accrued Liability ("AAL") - Prior Year (Pensions Only)	\$	20,246.14
2. Increase in AAL Due to Change in Actuary		238.81
3. Adjusted AAL - Prior Year		20,484.95
4. Total Normal Cost - Prior Year ^a		319.08
5. Benefits and Administrative Expenses Paid in FY 2017		(1,439.27)
6. Interest on the above items, 3, 4 and 5		1,544.99
7. Expected AAL 06/30/2017 (3+4+5+6)		20,909.75
8. Impact of Change in Actuarial Assumptions and Methods		1,074.52
9. Expected AAL 06/30/2017 After Assumption Changes (7+8)		21,984.27
10. Actual AAL 06/30/2017		21,822.01
11. Actuarial (Gain)/Loss on Liabilities (10-9) (Pensions Only)	\$	(162.26)

^aTotal Normal Cost from the previous actuarial valuation includes both employee and employer portion. The employee portion is based on actual contributions.

CTPF experienced an overall actuarial gain of \$260.38 million. The total net actuarial gain is the total of the gain from assets and the net gain from liabilities. The total actuarial gain for the year is as follows (dollars in millions):

1. Actuarial (Gain)/Loss on Assets	\$	(98.12)
2. Actuarial (Gain)/Loss on Liabilities		(162.26)
3. Total Actuarial (Gain)/Loss (1+2)	\$	(260.38)

The "behavior" of the population determines the liability gain or loss for the year. There was a gain on salaries due to lower salary increases than assumed. From the last year to this year, there were losses on retirement and retiree mortality. Active mortality and disability experience was about as expected. There was a gain due to termination experience, and there was a new entrant loss. New entrant losses will occur each year but are offset by additional contributions to the assets. Deviations from other assumptions generated an actuarial gain.

See Table 4 (page 106), for detail of the gains and losses by source.

Asset Information

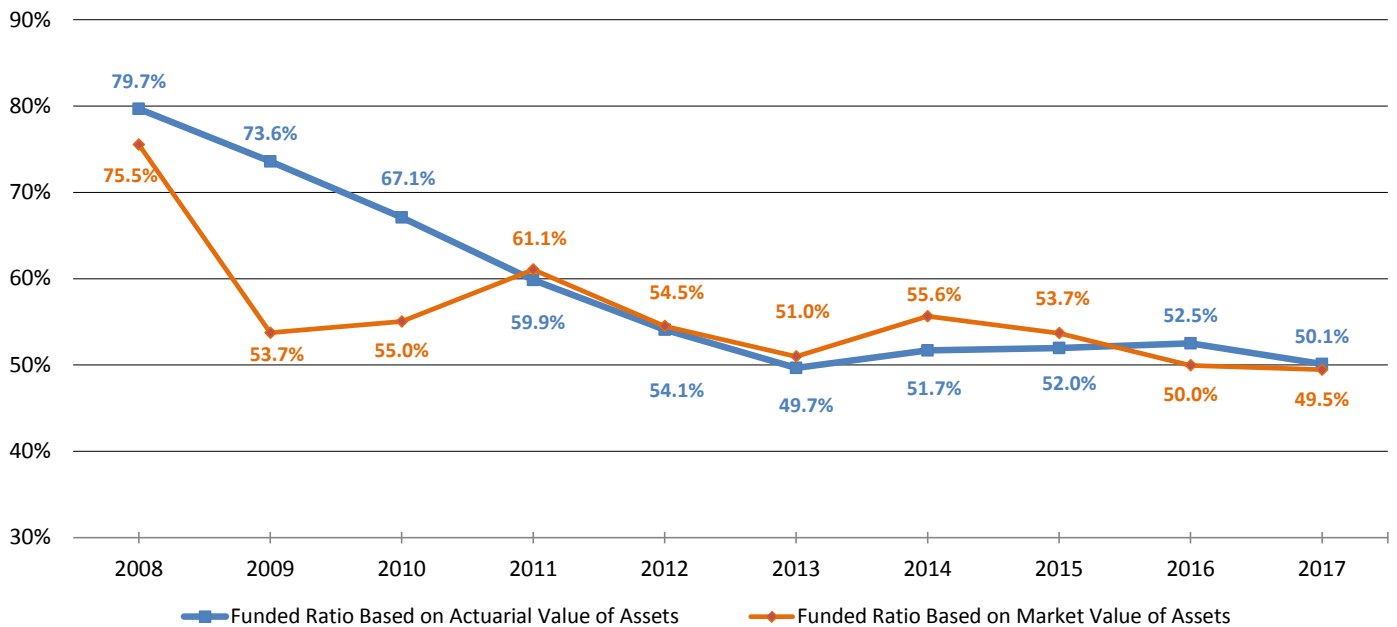
The market value of the assets of the Fund that are available for benefits increased from \$10,113.3 million as of June 30, 2016, to \$10,793.2 million as of June 30, 2017. The actuarial value of assets as of June 30, 2017, is \$10,933.0 million, which is \$139.9 million higher than the market value of assets. This difference is due to the continuing recognition of deferred investment gains and losses. Twenty-five percent of these gains and losses are recognized each year. The \$139.9 million, which is the value of net deferred losses, will be smoothed into the actuarial value of assets over the next three years. The remaining unrecognized net asset losses from FY 2015 and FY 2016 will be smoothed in over the next one and two years, respectively, and the remaining asset gain from FY 2017 will be smoothed in over the next three years. The detailed determinations of asset values utilized in this valuation and asset growth in the last year are set out in Section D.

Funding Status

The funding status of CTPF is measured by the Funded Ratio. The Funded Ratio is the ratio of the assets available for benefits compared to the actuarial accrued liability of the Fund. Thus, it reflects the portion of benefits earned to date by CTPF members, which are covered by current Fund assets.

A funding ratio of 100 percent means that all of the benefits earned to date by CTPF members are covered by assets. By monitoring changes in the funding ratio each year we can determine whether funding progress is being made. Below is a comparison of funded ratios determined on a market value basis vs. an actuarial value basis over the last 10 years:

Comparison of Historical Funded Ratios



KEY VALUATION RESULTS

ACTUARIAL VALUATION DATE:	JUNE 30, 2017	JUNE 30, 2016
REQUIRED EMPLOYER CONTRIBUTIONS FOR FISCAL YEAR ENDING:	JUNE 30, 2019	JUNE 30, 2018
Estimated Required Employer Contributions:		
Required Board of Education Contributions	\$ 556,814,000	\$ 538,944,000
Additional Board of Education Contributions (0.58 percent of pay)	12,887,000	12,466,000
Additional State Contributions (0.544 percent of pay)	12,087,000	11,692,000
State Contributions Pursuant to P.A. 100-0465 (Normal Cost) ^a	226,782,000	\$ 221,300,000
Total Required Employer Contributions	\$ 808,570,000	\$ 784,402,000
Percentage of Projected Capped Payroll	36.392%	34.108%
Actuarially Determined Contribution^b as of the Actuarial Valuation Date:		
Annual Amount	\$ 855,752,559	\$ 754,764,093
Percentage of Projected Capped Payroll for Upcoming Year	39.89%	33.89%
Membership:		
Number of		
Active Members	28,855	29,543
Members Receiving Payments	28,439	28,298
Vested Former Members Eligible for Deferred Benefits	6,062	5,715
Non-vested Former Members Eligible for Refunds Only	22,570	22,042
Total	85,926	85,598
Covered Payroll Provided by Fund	\$ 2,030,175,116	\$ 2,071,040,979
Projected Capped Payroll for Upcoming Year	\$ 2,145,171,999	\$ 2,227,208,231
Projected Capped Payroll for Upcoming Year + 1	\$ 2,221,849,230	\$ 2,299,737,511
Annualized Benefit Payments	\$ 1,403,989,272	\$ 1,361,882,556
Assets:		
Market Value of Assets (MVA)	\$ 10,793,173,927	\$ 10,113,297,310
Actuarial Value of Assets (AVA)	\$ 10,933,031,685	\$ 10,630,976,553
Return on Market Value of Assets	12.53%	(0.27%)
Return on Actuarial Value of Assets	8.26%	8.29%
Ratio – Actuarial Value of Assets to Market Value of Assets	101.30%	105.12%
Actuarial Information as of the Actuarial Valuation Date:		
Total Normal Cost Amount (Including Admin. Expenses)	\$ 349,429,055	\$ 319,079,304
Employer's Normal Cost Amount (Including Admin. Expenses)	\$ 156,363,575	\$ 131,744,031
Employer's Normal Cost Amount (Including Admin. Expenses and Health Insurance Subsidy)	\$ 221,363,575	\$ 196,744,031
Actuarial Accrued Liability (AAL)	\$ 21,822,010,297	\$ 20,246,140,298
Unfunded Actuarial Accrued Liability (UAAL)	\$ 10,888,978,612	\$ 9,615,163,745
Funded Ratio based on Actuarial Value of Assets	50.10%	52.51%
UAAL as % of Covered Payroll	536.36%	464.27%
Funded Ratio based on Market Value of Assets	49.46%	49.95%

^a State Normal Cost contribution represents the projected employer Normal Cost for FY 2019, including \$65 million for the health insurance subsidy.

^b The policy adopted by the Board calculates the Actuarially Determined Contribution (ADC) as the Normal Cost plus a 30-year level percent of payroll closed-period (beginning June 30, 2013) amortization of the Unfunded Accrued Liability. As of June 30, 2017, the remaining amortization period is 26 years. The ADC is used for financial reporting purposes only.

EMPLOYER CONTRIBUTION REQUIREMENT FOR FISCAL YEAR 2019

The funded ratio as of the June 30, 2017, actuarial valuation on an actuarial value basis is 50.1 percent. Therefore, additional contributions by the Board of Education and State will be required for fiscal year 2019. The projected payroll for fiscal year 2019 is \$2,221,849,230. Based on the projected payroll for fiscal year 2019, and the additional State and Board of Education contribution rates of 0.544 percent and 0.58 percent of payroll, respectively, the additional State and Board of Education contributions for fiscal year 2019 are as follows:

DEVELOPMENT OF ADDITIONAL CONTRIBUTIONS UNDER SECTION 17-127 AND 17-127.2 OF THE ILLINOIS PENSION CODE	FISCAL YEAR 2019
Projected Total Capped Payroll	\$ 2,221,849,230
Additional State Contributions Under Section 17-127 of Illinois Pension Code	\$ 12,087,000
(% of Projected Capped Payroll)	0.544%
Additional Board of Education Contributions Under Section 17-127.2 of the Illinois Pension Code	\$ 12,887,000
(% of Projected Capped Payroll)	0.580%

Pursuant to P.A. 100-0465, the State shall contribute for each fiscal year an amount to be determined by the Fund, equal to the employer normal cost for that fiscal year, plus the retiree health insurance reimbursement subsidy. The following table provides the development of the State contribution requirement under P.A. 100-0465:

DEVELOPMENT OF NORMAL COST STATE CONTRIBUTIONS UNDER SECTION 17-127(D)(1) OF THE ILLINOIS PENSION CODE	FISCAL YEAR 2019
Total Normal Cost	\$ 345,949,000
Projected Administrative Expenses	15,800,000
Total Normal Cost Including Administrative Expenses	\$ 361,749,000
Expected Employee Contributions	199,967,000
Employer Normal Cost	\$ 161,782,000
Health Insurance Subsidy	65,000,000
State Contributions Under Section 17-127(d)(1) of the Illinois Pension Code	\$ 226,782,000

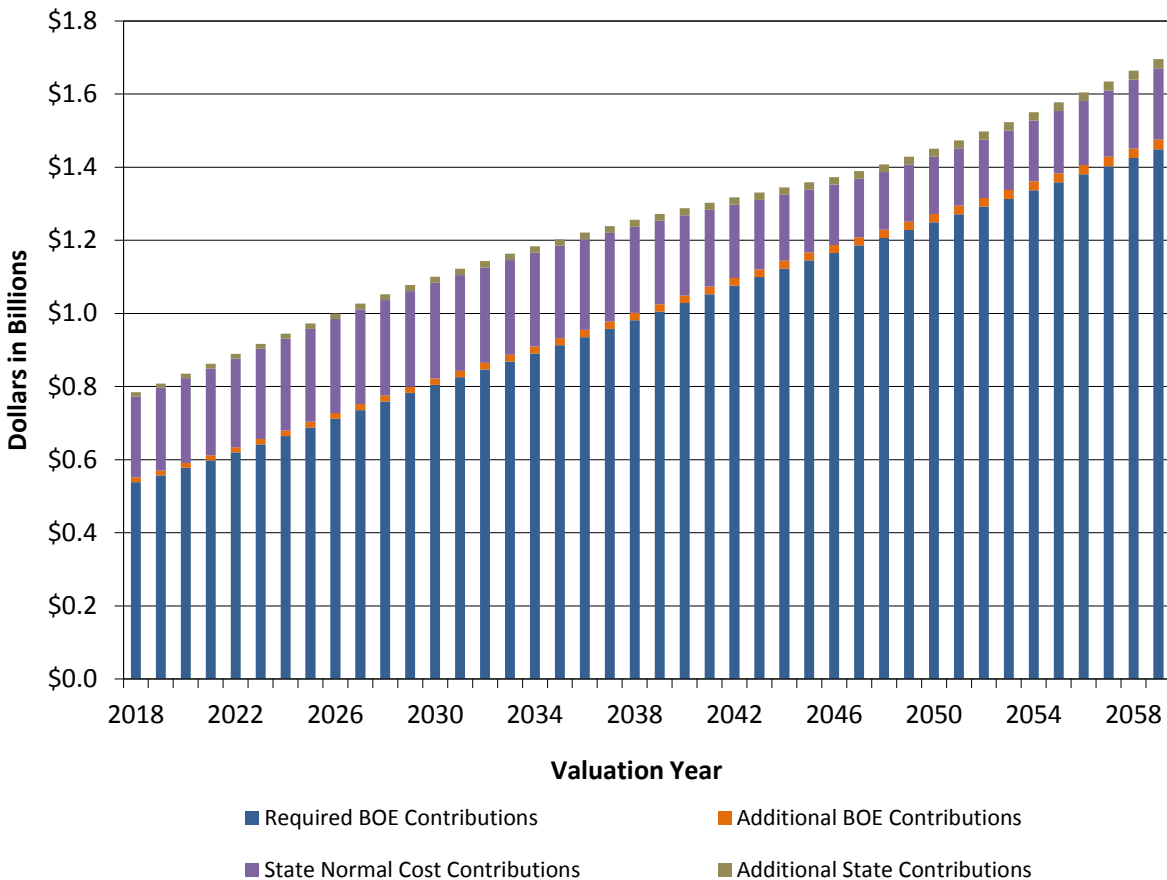
Pursuant to P.A. 96-0889, the Board of Education contribution requirement in each fiscal year shall be an amount determined by the Fund to be sufficient to bring the total assets of the Fund up to 90 percent of the total actuarial liabilities of the Fund by the end of fiscal year 2059. In making these determinations, the required Board of Education contribution shall be calculated each year as a level percentage of the applicable employee payrolls over the years remaining to and including fiscal year 2059 and shall be determined under the Projected Unit Credit actuarial cost method. Based on the funding projections provided in Section C of this report, the Board of Education's required contribution for fiscal year 2019 is equal to \$556,814,000, (net of Additional State and Board of Education Contributions).

The fiscal year ending June 30, 2018 and June 30, 2019, certified contribution requirements and projected future year required contribution amounts are shown below:

FISCAL YEAR ENDING JUNE 30	REQUIRED BOARD OF EDUCATION CONTRIBUTIONS	ADDITIONAL BOARD OF EDUCATION CONTRIBUTIONS	ADDITIONAL STATE CONTRIBUTIONS	STATE CONTRIBUTIONS PURSUANT TO P.A. 100-0465	TOTAL REQUIRED EMPLOYER CONTRIBUTIONS
2018	\$ 538,944,000	\$ 12,466,000	\$ 11,692,000	\$ 221,300,000	\$ 784,402,000
2019	556,814,000	12,887,000	12,087,000	226,782,000	808,570,000
2020	577,613,000	13,316,000	12,490,000	232,099,000	835,518,000
2021	598,467,000	13,744,000	12,891,000	237,287,000	862,389,000
2022	619,977,000	14,178,000	13,298,000	242,154,000	889,607,000
2023	641,955,000	14,617,000	13,709,000	246,829,000	917,110,000
2024	664,861,000	15,060,000	14,126,000	250,905,000	944,952,000
2025	688,307,000	15,502,000	14,540,000	254,307,000	972,656,000
2026	711,837,000	15,936,000	14,947,000	257,180,000	999,900,000
2027	735,723,000	16,364,000	15,349,000	259,329,000	1,026,765,000
2028	759,221,000	16,778,000	15,737,000	261,019,000	1,052,755,000

The following graph details the projected employer contribution requirements by Source for fiscal years 2018 through 2059.

Required Employer Contribution Sources



Method of Calculation for Appropriation Requirements

The results are based on the Projected Unit Credit actuarial cost method, the data provided and actuarial assumptions used for the June 30, 2017, actuarial valuation. In order to determine projected contribution amounts, the following additional assumptions were used:

- Total employer contributions of \$784,402,000 for fiscal year 2018, as provided by the Fund.
- Administrative expenses of \$14,330,989 for fiscal year 2017, as provided by the Fund. Administrative expenses are assumed to increase five percent annually in future years.
- New entrants whose average age is 31.78 and average pay is \$41,735 (2017 dollars).
- The active member population is assumed to remain level at 28,855 for all years of the 42-year projection. However, recent trends indicate an average decrease in active population over the last nine years of approximately 1.2 percent per year. We will review the assumption regarding the projected active member population during the next experience review.
- Projected benefits for members hired on or after January 1, 2011, are based on the new provisions established in P.A. 96-0889.
- Additional State contributions of 0.544 percent of pay are assumed to occur mid-year.
- State contributions of the employer's normal cost (includes administrative expenses and \$65 million health insurance subsidy) are assumed to occur mid-year.
- Additional Board of Education contributions of 0.58 percent of pay are assumed to occur end of year.
- 55 percent of the Board of Education's previous year's special tax levy is assumed to occur March 1st each year. This amount is equal to \$141,625,000 in fiscal year 2018 and is assumed to increase three percent per year.
- The remaining Board of Education required contribution is assumed to occur end of year.

The average increase in total uncapped payroll for the 42-year projection period is approximately 2.50 percent per year. It is important to note that benefits for new hires are based on capped payroll which is ultimately projected to grow at 1.25 percent per year. All results in this actuarial valuation assume that employer contributions will be made on capped pay.

Recommendations and Future Considerations

Measuring the statutory contribution against a policy such as the Annual Required Contribution ("ARC") helps evaluate the funding adequacy of the current statutory funding method. Thus, the Board adopted a policy to calculate the Actuarially Determined Contribution ("ADC"). Under this policy, the ADC is calculated as the Normal Cost plus a 30-year level percent of payroll closed-period amortization of the Unfunded Accrued Liability as of June 30, 2013. The remaining amortization period as of June 30, 2017, actuarial valuation is 26 years.

A key objective of the ADC is to accrue costs over the working lifetime of plan members to ensure that benefit obligations are satisfied and intergenerational equity is promoted. Although the ADC is solely an accounting provision, in certain circumstances it could represent a reasonable annual funding target and therefore is used by some plan sponsors as their "de facto" funding requirement. Given there is no requirement that the accounting provision for pension expense must equal the annual funding requirement, some plan sponsors adopt funding policies that differ from the ADC. However, a funding policy that differs significantly from the ADC approach could result in a potential "back-loading," meaning contributions are deferred into the future. Back-loading could result in an underfunding of the Fund.

The ADC for fiscal years 2017 and 2018, as well as the statutory employer contribution for fiscal years 2017 and 2018, are shown on below as a percentage of projected capped payroll. The ADC for 2017 and statutory employer contribution for 2017 and 2018 are based on the results of the June 30, 2016, actuarial valuation.

ACTUARIAL VALUATION DATE:	JUNE 30, 2017	JUNE 30, 2016
ACTUARILY DETERMINED CONTRIBUTIONS FOR FISCAL YEAR ENDING:	JUNE 30, 2018	JUNE 30, 2017
1. Actuarial Accrued Liability	\$ 21,822,010,297	\$ 20,246,140,298
2. Actuarial Value of Assets ^a	\$ 10,933,031,685	\$ 10,610,746,831
3. Unfunded Actuarial Accrued Liability (1. – 2.)	\$ 10,888,978,612	\$ 9,635,393,467
4. Employer Normal Cost (Including Administrative Expenses) ^b	\$ 156,363,575	\$ 131,744,031
5. Employer Normal Cost Adjusted to the End of the Year	\$ 161,932,582	\$ 136,753,858
6. Amount to amortize the unfunded liability over a 30-year closed-period, Beginning July 1, 2013, as a Level Percentage of Payroll	\$ 693,819,977	\$ 618,010,235
7. Actuarially Determined Contribution Requirement [5. + 6.]	\$ 855,752,559	\$ 754,764,093
8. Projected Capped Payroll For Fiscal Year	\$ 2,145,171,999	\$ 2,227,208,231
9. Actuarially Determined Contribution as a Percentage of Projected Capped Payroll	39.89%	33.89%
10. Total Required Employer Contribution ^b	\$ 719,402,000	\$ 680,386,000
11. Total Required Employer Contribution as a Percentage of Projected Capped Payroll	33.54%	30.55%
12. Total Required Employer Contribution as a Percentage of Actuarially Determined Contribution	84.07%	90.15%

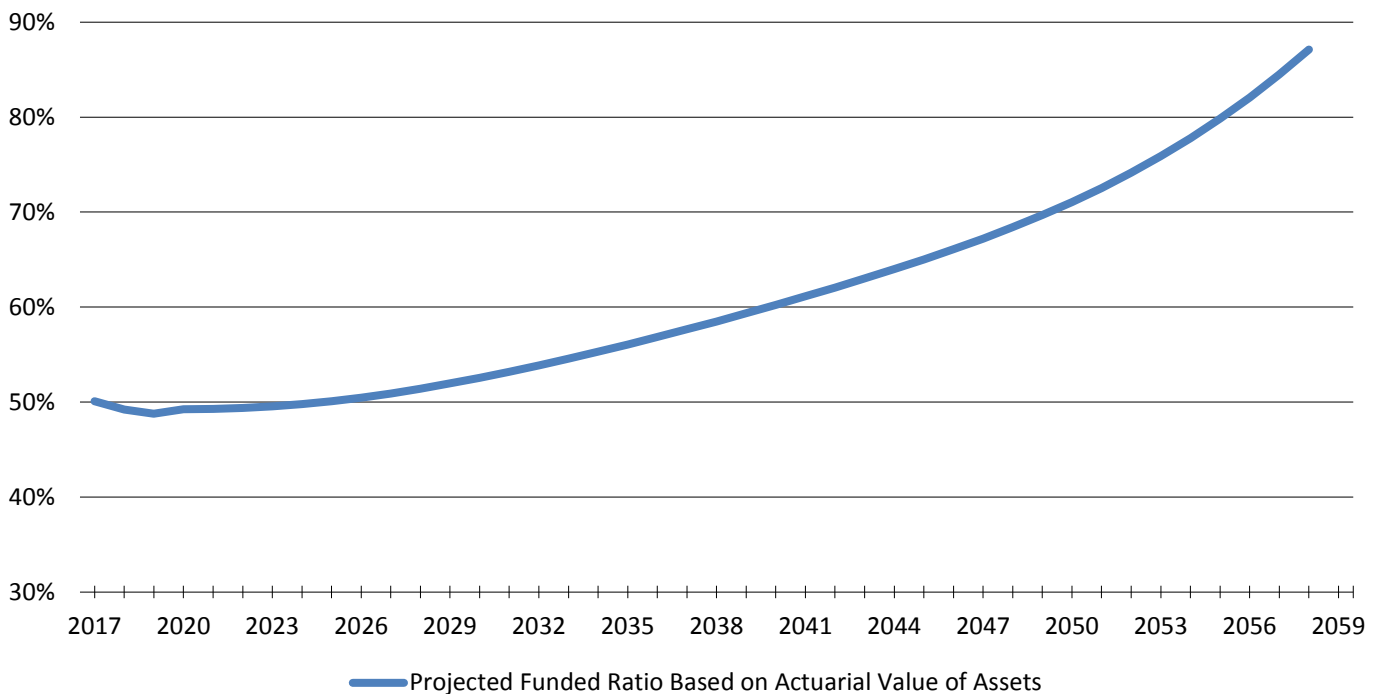
^a The actuarial value of assets for fiscal year 2018 include assets previously restricted for OPEB benefits.

^b Excludes Health Insurance Subsidy.

Recommendations and Future Considerations

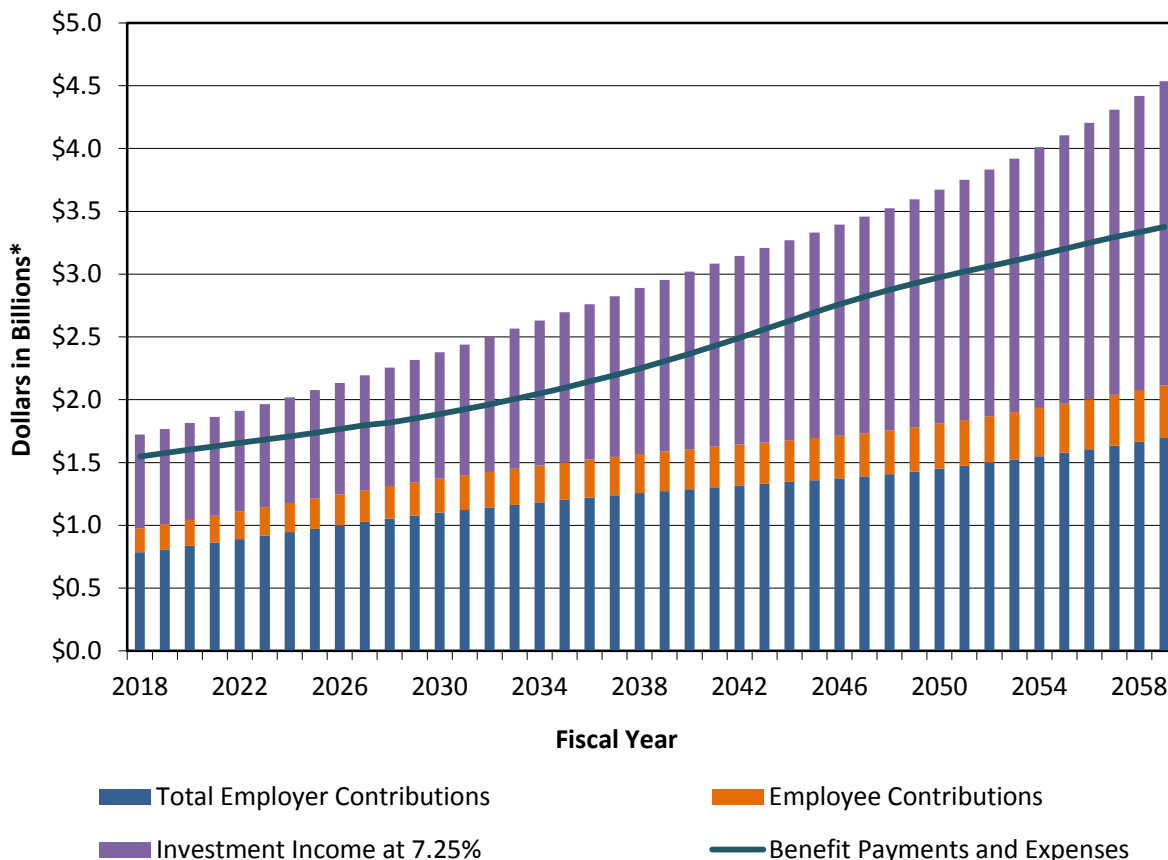
The statutory funding policy required for CTPF provides for level percent of pay funding that produces a funding target of 90 percent by 2059, assuming an open group projection. The following graph shows the projected funded ratio. A key observation is that the funded ratio does not grow markedly until after 2033. That is, a majority of the funding occurs between 2034 and 2059. This illustrates how significantly the current funding policy defers or back-loads contributions into the future.

Funded Ratio



The following graph compares the projected benefits and expenses against employer contributions, employee contributions and investment income. Beginning in 2018, benefit payments exceed employer and employee contributions. From 2018 to 2034, the percentage of investment income needed to pay ongoing benefits decreases from 76.5 percent to 49.7 percent, but then increases to 52.1 percent by 2059. This implies that a lower level of investment income is projected to be available for potential asset growth.

Comparison of Cash Flows



**Future dollar amounts are based on assumed inflationary increases.*

We are concerned about potential cash flow problems for CTPF. This is because the assets in the plan (\$10,793,173,927 on a market value basis) are not sufficient to cover current retiree liabilities (\$16,113,284,297) and the ratio of assets (Market Value) to retiree benefit payments and expenses is approximately 7.5. This means that approximately seven to eight years of retiree benefit payments can be paid from current assets; the ability to make such payments beyond that period is heavily dependent upon future employer contributions and future investment return.

The calculations in this report were prepared based on the methods required by the statutory funding policy. GRS does not endorse this funding policy because the statutory funding policy defers funding for these benefits into the future and places a higher burden on future generations of taxpayers.

We recommend the following changes:

1. Implementing a funding policy that contributes normal cost plus closed period amortization as a level percentage of capped payroll amortization of the unfunded liability. (Policy which recognizes unfunded liability at the valuation date and not projected liability in the year 2059)
2. Changing the actuarial cost method for calculating liabilities from the Projected Unit Credit to the Entry Age Normal method

Change Funding Policy to a More Actuarially Sound Funding Method

We recommend a funding policy that contributes normal cost plus closed period amortization as a level percentage of capped payroll for paying off the current unfunded accrued liability (i.e., the amortization period declines by one year with each actuarial valuation) such that the funded ratio is projected to be 100 percent funded in 30 years or sooner. A 30-year closed amortization period (at the actuarial valuation as of June 30, 2013) methodology pays off the unfunded accrued liability in full by the end of the 30-year period in 2043. The fiscal year 2018 contribution would be \$855.75 million under this funding policy. The current statutory contribution does not comply with this recommendation. Underfunding the Fund creates the risk that ultimately benefit obligations cannot be met from the trust, and will require a greater amount of funding from other City and State resources. In addition, continually underfunding the Fund also creates more of a funding need from contributions and less is available from investment return – thereby creating a more expensive plan.

Change the Actuarial Cost Method to the Entry Age Normal Cost Method

The current actuarial cost method is the Projected Unit Credit method, which is required by statute. The Projected Unit Credit method recognizes costs such that the normal cost for an individual member increases as a percentage of payroll throughout his/her career. The Entry Age Normal Cost method is the most commonly used method in the public sector. It is also the method required to be used for financial reporting under GASB Statement Nos. 67 and 68. The Entry Age Normal Cost method recognizes costs as a level percentage of payroll over a member's career. We recommend a change to the Entry Age Normal Cost method.

We recognize that the State Statute governs the funding policy of the Fund. The purpose of these comments is to highlight the difference between the statutory appropriation methodology and an actuarially sound funding policy and to highlight the risks and additional costs of continuing to underfund the Fund.

Future Considerations

Recent changes (such as the addition of a new benefit tier and delaying the 90 percent funding target year from 2045 to 2059) have had the effect of reducing the statutory contribution amounts that would have otherwise been made. However, the change in the investment return assumption and other changes to more closely align the actuarial assumptions with current market expectations have increased the contribution amounts that would otherwise have been made. Assuming the statutory contributions are received and the actuarial assumptions are met (including a 7.25 percent investment rate of return, each year through 2059) CTPF is currently projected to have contributions sufficient to increase the funded ratio from the current level of 50.1 percent to 90.0 percent by 2059.

This is a severely underfunded plan and the ability of the plan to reach 90 percent funding by 2059 is heavily dependent on the State and the Board of Education contributing the statutory contributions each and every year until 2059. Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, we are not able to assess the ability of the State and/or the Board of Education to make contributions when due.

SECTION B: ACTUARIAL DETERMINATIONS

**TABLE 1: RESULTS OF ACTUARIAL VALUATION
AS OF JUNE 30, 2017**

1. Number of Members	
a. Active	28,855
b. Inactive:	
i. Eligible for deferred vested pension benefits	6,062
ii. Eligible for return of contributions only	22,570
c. Current Benefit Recipients:	
i. Retirement annuities	24,837
ii. Survivor annuities	3,135
iii. Disability annuities	467
d. Total	85,926
2. Covered Payroll	
a. Provided by Fund as of the Actuarial Valuation Date	\$ 2,030,175,116
b. Projected Capped Payroll for Fiscal Year 2018	2,145,171,999
c. Projected Capped Payroll for Fiscal Year 2019	2,221,849,230
3. Annualized Benefit Payments Currently Being Made	
a. Retirement annuities	\$ 1,317,657,163
b. Survivor annuities	69,320,685
c. Disability annuities	17,011,424
d. Total	\$ 1,403,989,272
4. Actuarial Accrued Liability—Annuitants	
a. Current Benefit Recipients:	
i. Retirement annuities	\$ 15,310,520,660
ii. Survivor annuities	615,431,551
iii. Disability annuities	187,332,086
b. Total	\$ 16,113,284,297
5. Actuarial Accrued Liability—Inactive Members	
a. Eligible for Deferred Vested Pension Benefits	\$ 359,871,936
b. Eligible for Return of Contributions Only	98,895,362
c. Total	\$ 458,767,298

Table 1 (Continued): Results of Actuarial Valuation as of June 30, 2017

	NORMAL COST	ACTUARIAL ACCRUED LIABILITY
6. Active Members		
a. Retirement Benefits	\$ 264,101,423	\$ 4,459,677,197
b. Withdrawal	56,052,161	597,191,514
c. Death Benefits	7,556,594	107,631,691
d. Disability	6,671,339	85,458,300
e. Administrative Expenses	15,047,538	–
f. Total	\$ 349,429,055	\$ 5,249,958,702
7. Total Actuarial Accrued Liability (4. + 5. + 6.)		\$ 21,822,010,297
8. Market Value of Assets (MVA)		\$ 10,793,173,927
9. Unfunded Actuarial Accrued Liability Based on MVA (7. – 8.)		\$ 11,028,836,370
10. Funded Percentage Based on MVA (8. ÷ 7.)^a		49.46%
11. Actuarial Value of Assets (AVA)		\$ 10,933,031,685
12. Unfunded Actuarial Accrued Liability Based on AVA (7. – 11.)		\$ 10,888,978,612
13. Funded Percentage Based on AVA (11. ÷ 7.)^a		50.10%
14. Total Normal Cost	\$ 349,429,055	
15. Expected Employee Contributions	\$ 193,065,480	
16. Annual Employer Normal Cost (% of Projected Capped Payroll for Fiscal Year 2018)	\$ 156,363,575 7.29%	
17. Health Insurance Subsidy	\$ 65,000,000	
18. Annual Employer Normal Cost, including Health Insurance Reimbursement (16. + 17.) (% of Projected Capped Payroll for Fiscal Year 2018)	\$ 221,363,575 10.32%	

^a The funded status measure is appropriate for assessing the need for future contributions. The funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

TABLE 2: COMPONENTS OF ACTUARIAL ACCRUED LIABILITY AND NORMAL COST BY TIER

ACTUARIAL VALUATION RESULTS	TIER 1		TIER 2		TOTAL	
1. Count		20,271		8,584		28,855
2. Covered Payroll						
a. Provided by Fund as of the Valuation Date	\$	1,610,349,607	\$	419,825,509	\$	2,030,175,116
b. Projected Capped Payroll for Fiscal Year 2018		1,693,717,094		451,454,905		2,145,171,999
c. Projected Capped Payroll for Fiscal Year 2019		1,696,204,614		525,644,616		2,221,849,230
3. Actuarial Accrued Liability						
a. Retirement Benefits	\$	4,422,272,938	\$	37,404,259	\$	4,459,677,197
b. Withdrawal		545,053,413		52,138,101		597,191,514
c. Death Benefits		104,025,970		3,605,721		107,631,691
d. Disability		81,352,599		4,105,701		85,458,300
e. Total	\$	5,152,704,920	\$	97,253,782	\$	5,249,958,702
4. Normal Cost	Amount	% of Payroll	Amount	% of Payroll	Amount	% of Payroll
a. Retirement Benefits	\$ 253,325,612	14.96%	\$ 10,775,811	2.39%	\$ 264,101,423	12.31%
b. Withdrawal	41,777,143	2.47%	14,275,018	3.16%	56,052,161	2.61%
c. Death Benefits	6,527,217	0.39%	1,029,377	0.23%	7,556,594	0.35%
d. Disability	5,508,923	0.33%	1,162,417	0.26%	6,671,340	0.31%
e. Administrative Expenses	11,880,759	0.70%	3,166,779	0.70%	15,047,537	0.70%
f. Total	\$ 319,019,654	18.84%	\$ 30,409,401	6.74%	\$ 349,429,055	16.29%
5. Expected Employee Contributions	\$152,434,539	9.00%	\$40,630,941	9.00%	\$193,065,480	9.00%
6. Annual Employer Normal Cost	\$ 166,585,114	9.84%	\$ (10,221,540)	(2.26%)	\$ 156,363,575	7.29%

Actuarial Accrued Liability and Normal Cost are determined under the Projected Unit Credit actuarial cost method.

TABLE 3: ANALYSIS OF CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

In addition to the expected change in the unfunded accrued actuarial liability, changes in membership demographics and Fund assets have affected the actuarial valuation results. The increase in the unfunded actuarial accrued liability (UAAL) of \$1,273,814,867 was due to the following:

1. Unfunded Actuarial Accrued Liability (UAAL) at 06/30/2016	\$	9,615,163,745
2. Change in Unfunded Actuarial Accrued Liability Due to New Actuary	\$	238,810,979
3. Adjusted Unfunded Actuarial Accrued Liability	\$	9,853,974,724
4. Contributions		
a. Contributions due (Normal Cost plus interest on the UAAL)		
i. Interest on item 3.	\$	763,683,041
ii. Member contributions		187,538,787
iii. Employer normal cost (middle of year)		196,540,517
iv. Interest on ii and iii		14,605,374
v. Total due	\$	1,162,367,719
b. Contributions paid (Actual)		
i. Member contributions	\$	187,538,787
ii. Employer (end of year)		746,840,000
iii. Interest on i and ii		7,131,533
iv. Total paid	\$	941,510,320
c. Expected increase in Unfunded Actuarial Accrued Liability	\$	220,857,399
5. Expected Unfunded Actuarial Accrued Liability at 06/30/2017	\$	10,074,832,123
6. (Gains)/Losses		
a. Investment income	\$	(80,937,857)
b. Retiree health insurance cash flows		(17,178,251)
c. Salary increases		(180,217,505)
d. Demographic		17,956,258
e. Total	\$	(260,377,355)
7. Plan Provision Changes	\$	–
8. Assumption Changes	\$	1,074,523,844
9. Total Change in UAAL (from adjusted value in item 3.)	\$	1,035,003,888
10. UAAL at 06/30/2017	\$	10,888,978,612

TABLE 4: ANALYSIS OF FINANCIAL (GAINS) AND LOSSES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

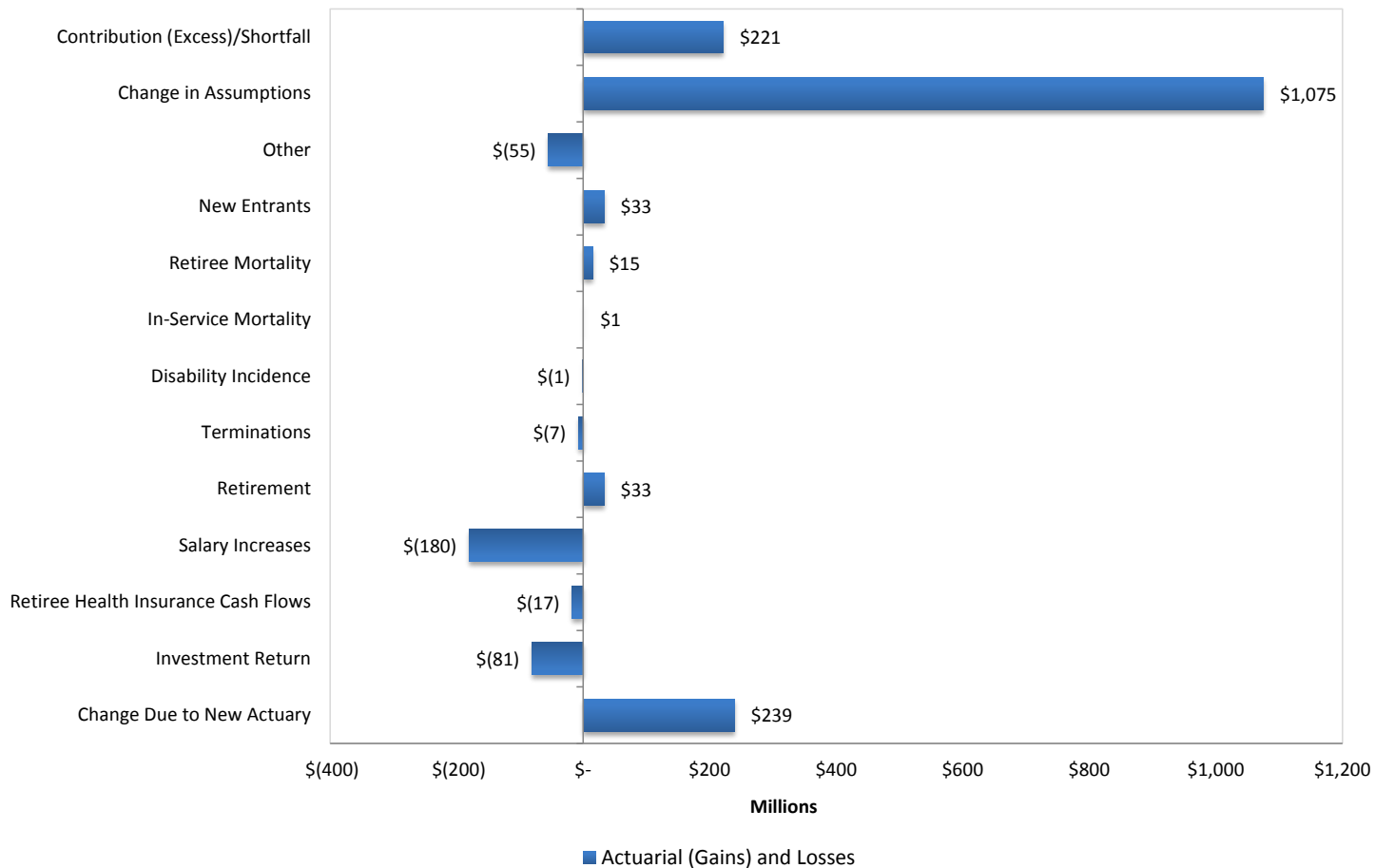
FOR FISCAL YEAR ENDING JUNE 30, 2017

ACTIVITY	(GAIN)/LOSS	% OF 06/30/2016 AAL
1. Actuarial (Gain)/Loss		
a. Retirements	\$ 32,846,858	0.16%
b. Incidence of Disability	(685,126)	0.00%
c. In-Service Mortality	657,829	0.00%
d. Retiree Mortality	14,544,206	0.07%
e. Salary Increases	(180,217,505)	(0.88%)
f. Terminations	(7,478,652)	(0.04%)
g. Investment Return	(80,937,857)	(0.40%)
h. Retiree Health Insurance Cash Flows	(17,178,251)	(0.08%)
i. New Entrant Liability	32,961,135	0.16%
j. Other	(54,889,992)	(0.27%)
k. Total Actuarial (Gain)/Loss	\$ (260,377,355)	(1.28%)
2. Plan Provision Changes	\$ –	0.00%
3. Assumption Changes	\$ 1,074,523,844	5.25%
4. Contribution (Excess)/Shortfall^a	\$ 220,857,399	1.08%
5. Total Financial (Gain)/Loss	\$ 1,035,003,888	5.05%

^a Represents the increase in the Unfunded Actuarial Accrued Liability due to actual contributions being less than the Normal Cost plus interest on the beginning of year Unfunded Actuarial Accrued Liability.

GRAPH 1: FINANCIAL (GAINS) AND LOSSES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

FOR FISCAL YEAR ENDING JUNE 30, 2017, BY SOURCE



SECTION C: ACTUARIAL PROJECTIONS

TABLE 5: BASELINE PROJECTIONS - EMPLOYER CONTRIBUTIONS DETERMINED UNDER PUBLIC ACT 90-0655, PUBLIC ACT 91-0357, PUBLIC ACT 96-0889, AND PUBLIC ACT 100-0465

INVESTMENT RETURN OF 7.25% EACH YEAR (\$ IN MILLIONS)

FISCAL YEAR	ACTUARIAL ACCRUED LIABILITY	ACTUARIAL VALUE OF ASSETS	UNFUNDED LIABILITY	FUNDED RATIO	PENSIONABLE PAYROLL	ANNUAL NORMAL COST			
						TOTAL	EMPLOYEE CONTRIBUTION	EMPLOYER NORMAL COST	PERCENT OF PAY
2018	\$ 22,230.1	\$ 10,942.3	\$ 11,287.8	49.22%	\$ 2,145.2	\$ 414.4	\$ 193.1	\$ 221.3	10.32%
2019	22,651.5	11,048.1	11,603.4	48.77%	2,221.8	426.7	200.0	226.8	10.21%
2020	23,088.0	11,365.3	11,722.7	49.23%	2,295.9	438.7	206.6	232.1	10.11%
2021	23,540.5	11,597.2	11,943.3	49.26%	2,369.7	450.6	213.3	237.3	10.01%
2022	24,010.9	11,856.0	12,154.9	49.38%	2,444.5	462.2	220.0	242.2	9.91%
2023	24,500.4	12,141.2	12,359.2	49.56%	2,520.1	473.6	226.8	246.8	9.79%
2024	25,009.1	12,452.6	12,556.5	49.79%	2,596.6	484.6	233.7	250.9	9.66%
2025	25,536.0	12,792.3	12,743.7	50.10%	2,672.7	494.9	240.5	254.3	9.51%
2026	26,081.3	13,161.1	12,920.2	50.46%	2,747.6	504.5	247.3	257.2	9.36%
2027	26,643.1	13,558.6	13,084.5	50.89%	2,821.4	513.3	253.9	259.3	9.19%
2028	27,233.7	13,997.4	13,236.3	51.40%	2,892.8	521.4	260.4	261.0	9.02%
2029	27,838.8	14,463.7	13,375.1	51.96%	2,960.8	528.2	266.5	261.8	8.84%
2030	28,456.7	14,955.7	13,501.0	52.56%	3,023.7	534.2	272.1	262.1	8.67%
2031	29,086.1	15,471.8	13,614.3	53.19%	3,083.4	539.5	277.5	262.0	8.50%
2032	29,724.7	16,011.0	13,713.7	53.86%	3,141.2	543.9	282.7	261.2	8.32%
2033	30,369.5	16,571.6	13,797.9	54.57%	3,197.9	547.3	287.8	259.5	8.11%
2034	31,017.6	17,152.5	13,865.1	55.30%	3,253.1	549.5	292.8	256.8	7.89%
2035	31,665.7	17,751.6	13,914.1	56.06%	3,305.8	550.5	297.5	253.0	7.65%
2036	32,310.2	18,366.8	13,943.4	56.85%	3,356.4	550.4	302.1	248.3	7.40%
2037	32,947.8	18,996.5	13,951.3	57.66%	3,404.9	549.1	306.4	242.6	7.13%

Normal cost includes administrative expenses and health insurance subsidy. The health insurance subsidy is assumed to be \$65 million each year.

Total expenses shown include benefit payments, refunds, administrative expenses and health insurance subsidy.

Actuarial accrued liability and assets are measured at the end of the fiscal year. Normal cost is measured at the middle of the fiscal year.

State contributions, benefit payments, refunds, administrative expenses, and employee contributions are assumed to occur during the middle of the year.

55 percent of the Board of Education's dedicated property tax levy of 0.567 percent is assumed to be paid March 1 each fiscal year. The remaining Board of Education contributions are assumed to occur at the end of the year.

Total payroll is capped for members hired after December 31, 2010, as defined in Public Act 96-0889.

TABLE 5: BASELINE PROJECTIONS - EMPLOYER CONTRIBUTIONS DETERMINED UNDER PUBLIC ACT 90-0655, PUBLIC ACT 91-0357, PUBLIC ACT 96-0889, AND PUBLIC ACT 100-0465 (CONTINUED)

INVESTMENT RETURN OF 7.25% EACH YEAR (\$ IN MILLIONS)

TOTAL EMPLOYER CONTRIBUTIONS							
FISCAL YEAR	REQUIRED EMPLOYER CONTRIBUTION	ADDITIONAL STATE CONTRIBUTIONS	STATE NORMAL COST CONTRIBUTIONS	ADDITIONAL BOARD OF EDUCATION CONTRIBUTIONS	REQUIRED BOARD OF EDUCATION CONTRIBUTIONS	PERCENT OF PAY	TOTAL EXPENSES
2018	\$ 784.4	\$ 11.7	\$ 221.3	\$ 12.5	\$ 538.9	36.57%	\$ 1,548.1
2019	808.6	12.1	226.8	12.9	556.8	36.39%	1,576.1
2020	835.5	12.5	232.1	13.3	577.6	36.39%	1,603.0
2021	862.4	12.9	237.3	13.7	598.5	36.39%	1,629.9
2022	889.6	13.3	242.2	14.2	620.0	36.39%	1,656.0
2023	917.1	13.7	246.8	14.6	642.0	36.39%	1,681.8
2024	945.0	14.1	250.9	15.1	664.9	36.39%	1,708.6
2025	972.7	14.5	254.3	15.5	688.3	36.39%	1,736.8
2026	999.9	14.9	257.2	15.9	711.8	36.39%	1,765.7
2027	1,026.8	15.3	259.3	16.4	735.7	36.39%	1,796.6
2028	1,052.8	15.7	261.0	16.8	759.2	36.39%	1,816.2
2029	1,077.5	16.1	261.8	17.2	782.4	36.39%	1,850.5
2030	1,100.4	16.4	262.1	17.5	804.3	36.39%	1,886.4
2031	1,122.1	16.8	262.0	17.9	825.4	36.39%	1,924.0
2032	1,143.2	17.1	261.2	18.2	846.7	36.39%	1,963.5
2033	1,163.8	17.4	259.5	18.5	868.3	36.39%	2,005.6
2034	1,183.8	17.7	256.8	18.9	890.5	36.39%	2,049.7
2035	1,203.1	18.0	253.0	19.2	912.9	36.39%	2,096.2
2036	1,221.5	18.3	248.3	19.5	935.4	36.39%	2,144.9
2037	1,239.1	18.5	242.6	19.7	958.2	36.39%	2,195.3

Normal cost includes administrative expenses and health insurance subsidy. The health insurance subsidy is assumed to be \$65 million each year.

Total expenses shown include benefit payments, refunds, administrative expenses and health insurance subsidy.

Actuarial accrued liability and assets are measured at the end of the fiscal year. Normal cost is measured at the middle of the fiscal year.

State contributions, benefit payments, refunds, administrative expenses, and employee contributions are assumed to occur during the middle of the year.

55 percent of the Board of Education's dedicated property tax levy of 0.567 percent is assumed to be paid March 1 each fiscal year. The remaining Board of Education contributions are assumed to occur at the end of the year.

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TABLE 5: BASELINE PROJECTIONS - EMPLOYER CONTRIBUTIONS DETERMINED UNDER PUBLIC ACT 90-0655, PUBLIC ACT 91-0357, PUBLIC ACT 96-0889, AND PUBLIC ACT 100-0465 (CONTINUED)

INVESTMENT RETURN OF 7.25% EACH YEAR (\$ IN MILLIONS)

FISCAL YEAR	ACTUARIAL ACCRUED LIABILITY	ACTUARIAL VALUE OF ASSETS	UNFUNDED LIABILITY	FUNDED RATIO	PENSIONABLE PAYROLL	ANNUAL NORMAL COST			
						TOTAL	EMPLOYEE CONTRIBUTION	EMPLOYER NORMAL COST	PERCENT OF PAY
2038	\$ 33,573.9	\$ 19,638.1	\$ 13,935.8	58.49%	\$ 3,451.5	\$ 546.5	\$ 310.6	\$ 235.8	6.83%
2039	34,182.0	20,287.3	13,894.7	59.35%	3,496.5	542.6	314.7	227.9	6.52%
2040	34,767.6	20,941.2	13,826.4	60.23%	3,539.0	538.0	318.5	219.4	6.20%
2041	35,325.5	21,596.5	13,729.0	61.14%	3,580.1	532.5	322.2	210.3	5.87%
2042	35,848.6	22,248.8	13,599.8	62.06%	3,619.6	525.9	325.8	200.1	5.53%
2043	36,333.8	22,896.4	13,437.4	63.02%	3,657.4	519.5	329.2	190.3	5.20%
2044	36,777.9	23,538.5	13,239.4	64.00%	3,695.5	513.2	332.6	180.6	4.89%
2045	37,178.2	24,174.2	13,004.0	65.02%	3,733.6	507.7	336.0	171.7	4.60%
2046	37,538.6	24,808.3	12,730.3	66.09%	3,773.3	504.6	339.6	165.0	4.37%
2047	37,862.0	25,446.7	12,415.3	67.21%	3,818.6	503.9	343.7	160.3	4.20%
2048	38,154.3	26,098.2	12,056.1	68.40%	3,869.1	505.9	348.2	157.7	4.08%
2049	38,417.9	26,769.1	11,648.8	69.68%	3,925.6	509.5	353.3	156.2	3.98%
2050	38,656.5	27,466.7	11,189.8	71.05%	3,985.5	514.9	358.7	156.2	3.92%
2051	38,870.9	28,196.1	10,674.8	72.54%	4,049.7	521.7	364.5	157.2	3.88%
2052	39,064.5	28,964.4	10,100.1	74.15%	4,116.5	529.9	370.5	159.4	3.87%
2053	39,238.4	29,776.8	9,461.6	75.89%	4,186.6	539.7	376.8	163.0	3.89%
2054	39,386.1	30,633.5	8,752.6	77.78%	4,260.6	549.4	383.5	166.0	3.90%
2055	39,506.0	31,537.0	7,969.0	79.83%	4,334.5	560.2	390.1	170.1	3.92%
2056	39,596.9	32,491.3	7,105.6	82.06%	4,411.0	572.2	397.0	175.2	3.97%
2057	39,661.5	33,505.3	6,156.2	84.48%	4,490.8	585.3	404.2	181.2	4.03%
2058	39,705.3	34,591.1	5,114.2	87.12%	4,573.8	599.7	411.6	188.0	4.11%
2059	39,723.7	35,752.4	3,971.3	90.00%	4,660.2	613.8	419.4	194.4	4.17%

Normal cost includes administrative expenses and health insurance subsidy. The health insurance subsidy is assumed to be \$65 million each year.

Total expenses shown include benefit payments, refunds, administrative expenses and health insurance subsidy.

Actuarial accrued liability and assets are measured at the end of the fiscal year. Normal cost is measured at the middle of the fiscal year.

State contributions, benefit payments, refunds, administrative expenses, and employee contributions are assumed to occur during the middle of the year.

55 percent of the Board of Education's dedicated property tax levy of 0.567 percent is assumed to be paid March 1 each fiscal year. The remaining Board of Education contributions are assumed to occur at the end of the year.

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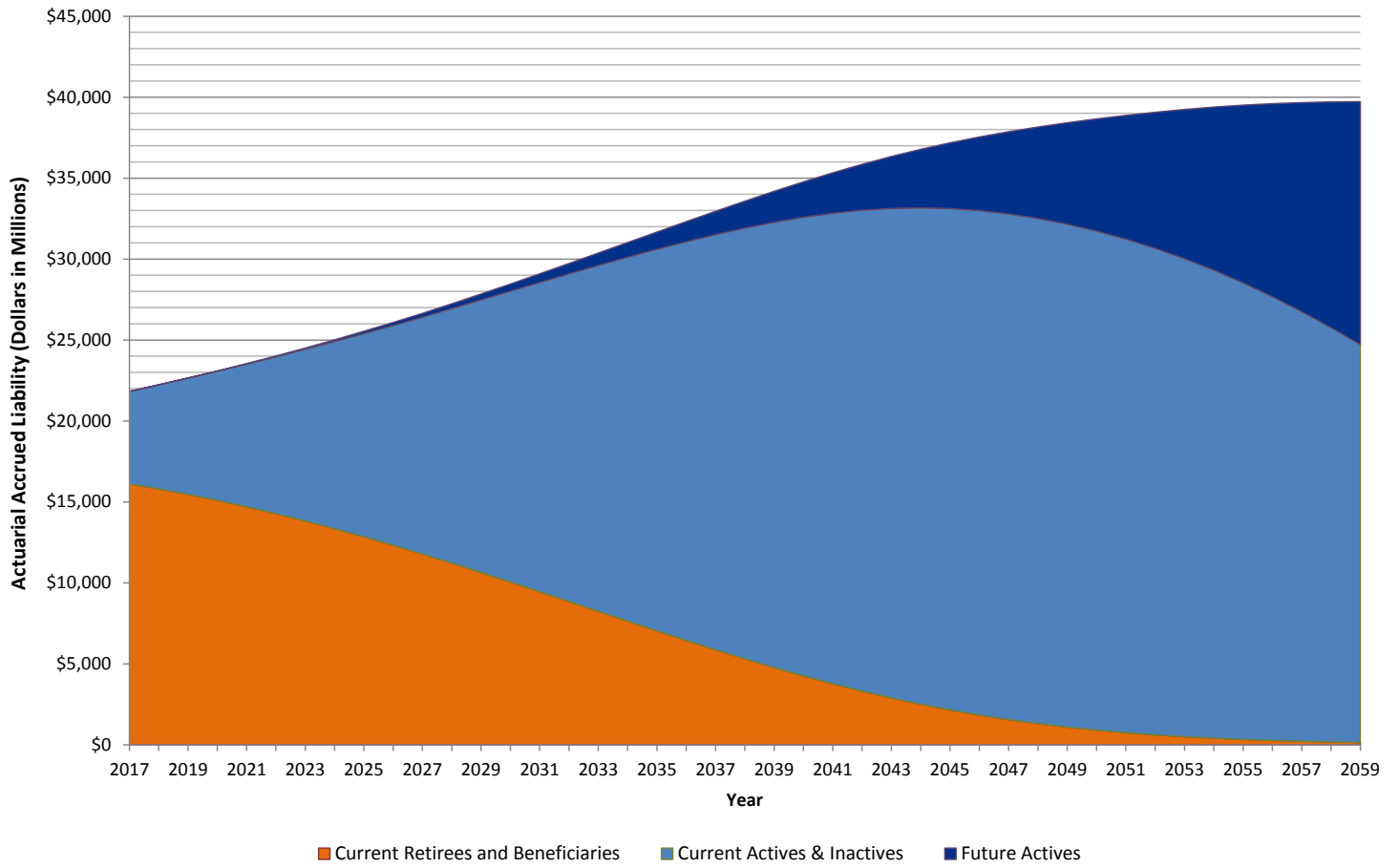
TABLE 5: BASELINE PROJECTIONS - EMPLOYER CONTRIBUTIONS DETERMINED UNDER PUBLIC ACT 90-0655, PUBLIC ACT 91-0357, PUBLIC ACT 96-0889, AND PUBLIC ACT 100-0465 (CONTINUED)

INVESTMENT RETURN OF 7.25% EACH YEAR (\$ IN MILLIONS)

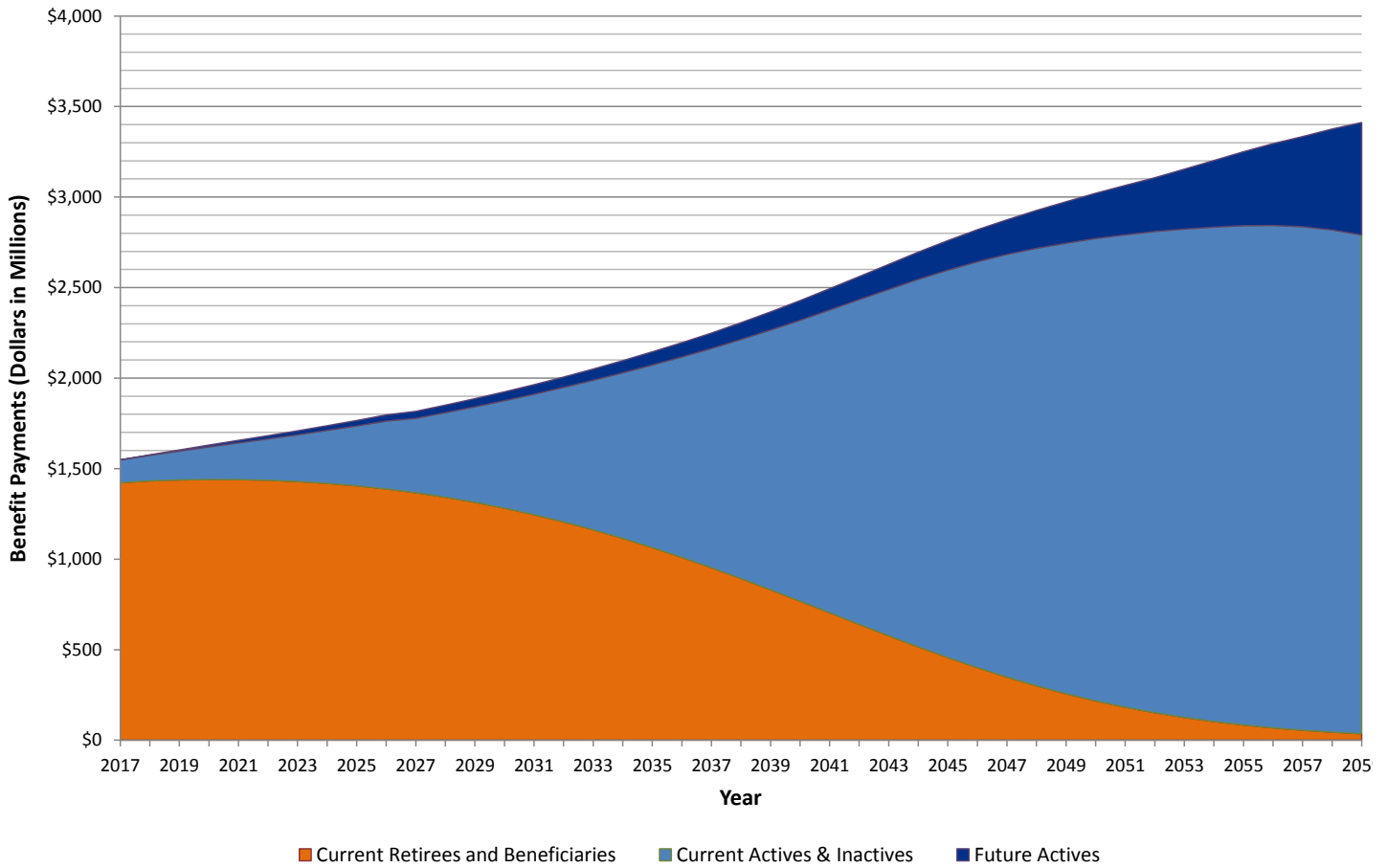
TOTAL EMPLOYER CONTRIBUTIONS							
FISCAL YEAR	REQUIRED EMPLOYER CONTRIBUTION	ADDITIONAL STATE CONTRIBUTIONS	STATE NORMAL COST CONTRIBUTIONS	ADDITIONAL BOARD OF EDUCATION CONTRIBUTIONS	REQUIRED BOARD OF EDUCATION CONTRIBUTIONS	PERCENT OF PAY	TOTAL EXPENSES
2038	\$ 1,256.1	\$ 18.8	\$ 235.8	\$ 20.0	\$ 981.4	36.39%	\$ 2,248.4
2039	1,272.5	19.0	227.9	20.3	1,005.3	36.39%	2,305.8
2040	1,287.9	19.3	219.4	20.5	1,028.7	36.39%	2,365.4
2041	1,302.9	19.5	210.3	20.8	1,052.3	36.39%	2,427.7
2042	1,317.3	19.7	200.1	21.0	1,076.4	36.39%	2,493.9
2043	1,331.0	19.9	190.3	21.2	1,099.6	36.39%	2,560.6
2044	1,344.9	20.1	180.6	21.4	1,122.7	36.39%	2,627.9
2045	1,358.7	20.3	171.7	21.7	1,145.1	36.39%	2,695.9
2046	1,373.2	20.5	165.0	21.9	1,165.7	36.39%	2,759.4
2047	1,389.6	20.8	160.3	22.1	1,186.5	36.39%	2,819.6
2048	1,408.0	21.0	157.7	22.4	1,206.9	36.39%	2,874.2
2049	1,428.6	21.4	156.2	22.8	1,228.3	36.39%	2,926.1
2050	1,450.4	21.7	156.2	23.1	1,249.4	36.39%	2,974.1
2051	1,473.8	22.0	157.2	23.5	1,271.0	36.39%	3,020.9
2052	1,498.1	22.4	159.4	23.9	1,292.3	36.39%	3,064.2
2053	1,523.6	22.8	163.0	24.3	1,313.5	36.39%	3,106.6
2054	1,550.5	23.2	166.0	24.7	1,336.6	36.39%	3,153.8
2055	1,577.4	23.6	170.1	25.1	1,358.6	36.39%	3,201.7
2056	1,605.2	24.0	175.2	25.6	1,380.5	36.39%	3,250.1
2057	1,634.3	24.4	181.2	26.0	1,402.6	36.39%	3,295.0
2058	1,664.5	24.9	188.0	26.5	1,425.1	36.39%	3,333.9
2059	1,695.9	25.4	194.4	27.0	1,449.1	36.39%	3,375.8

Normal cost includes administrative expenses and health insurance subsidy. The health insurance subsidy is assumed to be \$65 million each year. Total expenses shown include benefit payments, refunds, administrative expenses and health insurance subsidy. Actuarial accrued liability and assets are measured at the end of the fiscal year. Normal cost is measured at the middle of the fiscal year. State contributions, benefit payments, refunds, administrative expenses, and employee contributions are assumed to occur during the middle of the year. 55 percent of the Board of Education's dedicated property tax levy of 0.567 percent is assumed to be paid March 1 each fiscal year. The remaining Board of Education contributions are assumed to occur at the end of the year. Total payroll is capped for members hired after December 31, 2010, as defined in Public Act 96-0889.

GRAPH 2: PROJECTED ACTUARIAL ACCRUED LIABILITIES
ACTUARIAL VALUATION AS OF JUNE 30, 2017



GRAPH 3: PROJECTED BENEFIT PAYMENTS (INCLUDING ADMINISTRATIVE EXPENSES AND HEALTH INSURANCE SUBSIDY)
ACTUARIAL VALUATION AS OF JUNE 30, 2017



SECTION D: FUND ASSETS

TABLE 6: DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

YEAR ENDING JUNE 30	2017	2018	2019	2020
Beginning of Year:				
(1) Market Value of Assets	\$ 10,113,297,310			
(2) Actuarial Value of Assets	10,630,976,553			
End of Year				
(3) Market Value of Assets	10,793,173,927			
(4) Contributions and Disbursements				
(4a) Actual Employer & Misc. Contributions	747,054,119			
(4b) Employee Contributions	187,538,787			
(4c) Benefit Payouts & Refunds	(1,473,389,239)			
(4d) Administrative Expenses	(14,330,989)			
(4e) Net of Contributions and Disbursements	(553,127,322)			
(5) Total Investment Income				
=(3)-(1)-(4e)	1,233,003,939			
(6) Projected Rate of Return	7.75%			
(7) Projected Investment Income				
=(2)x(6)+([1+(6)] ^{.5} -1)x(4b+4c+4d)	774,458,716			
(8) Investment Income in Excess of Projected Income	458,545,223			
(9) Excess Investment Income Recognized				
This Year (4-year recognition)				
(9a) Year Ended June 30, 2017	\$ 114,636,306			
(9b) Year Ended June 30, 2016	(195,532,238)	\$ 114,636,306		
(9c) Year Ended June 30, 2015	(87,974,761)	(195,532,238)	\$ 114,636,306	
(9d) Year Ended June 30, 2014	249,594,431	(87,974,760)	(195,532,237)	114,636,305
(9e) Total Recognized Investment Gain	80,723,738	(168,870,692)	(80,895,931)	114,636,305
(10) Change in Actuarial Value of Assets				
=(4e)+(7)+(9e)	\$ 302,055,132			
End of Year:				
(3) Market Value of Assets	\$ 10,793,173,927			
(11) Actuarial Value of Assets	\$ 10,933,031,685			
(12) Difference Between Market & Actuarial Values	\$ (139,857,758)			
(13) Estimated Actuarial Value Rate of Return	8.26%			
(14) Estimated Market Value Rate of Return	12.53%			
(15) Ratio of Actuarial Value to Market Value	101.30%			

GRAPH 4: HISTORICAL ASSETS VALUES FROM JUNE 30, 2008 - 2017

COMPARISON OF HISTORICAL ASSET VALUES

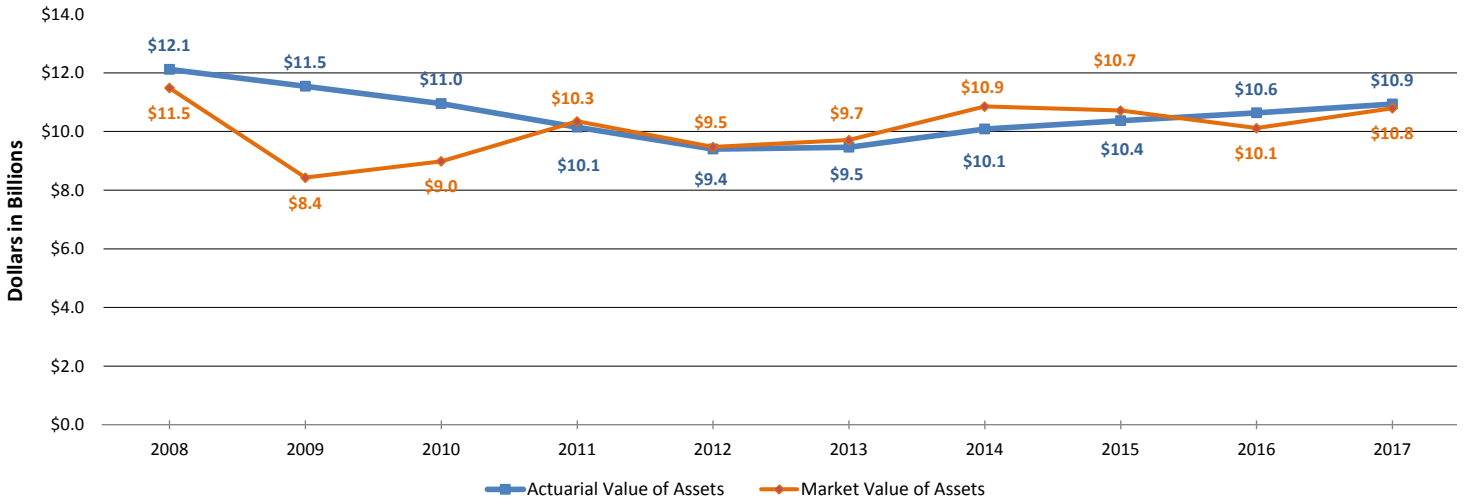
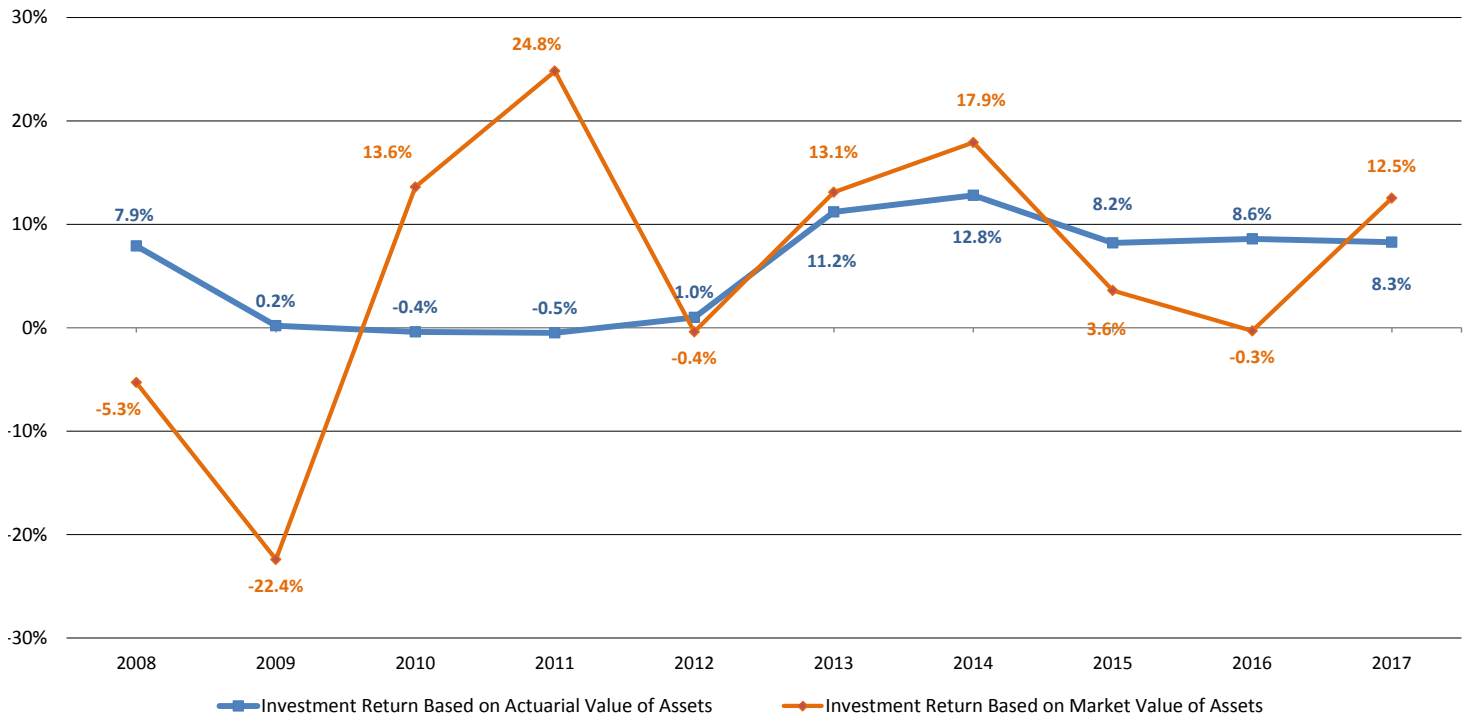


TABLE 7: HISTORICAL INVESTMENT RETURNS

YEAR ENDED JUNE 30	MARKET VALUE RETURN	ACTUARIAL VALUE RETURN
1993	14.3%	n/a
1994	0.4%	n/a
1995	18.7%	n/a
1996	16.3%	n/a
1997	19.8%	n/a
1998	18.2%	n/a
1999	10.7%	n/a
2000	9.5%	n/a
2001	(1.5%)	n/a
2002	(3.3%)	n/a
2003	4.0%	2.3%
2004	15.0%	3.2%
2005	10.8%	6.0%
2006	10.7%	9.6%
2007	17.7%	13.3%
2008	(5.3%)	7.9%
2009	(22.4%)	0.2%
2010	13.6%	(0.4%)
2011	24.8%	(0.5%)
2012	(0.4%)	1.0%
2013	13.1%	11.2%
2014	17.9%	12.8%
2015	3.6%	8.2%
2016	(0.3%)	8.6%
2017	12.5%	8.3%
Average Returns		
Last 10 Years:	4.9%	5.6%
Last 25 Years:	8.2%	n/a

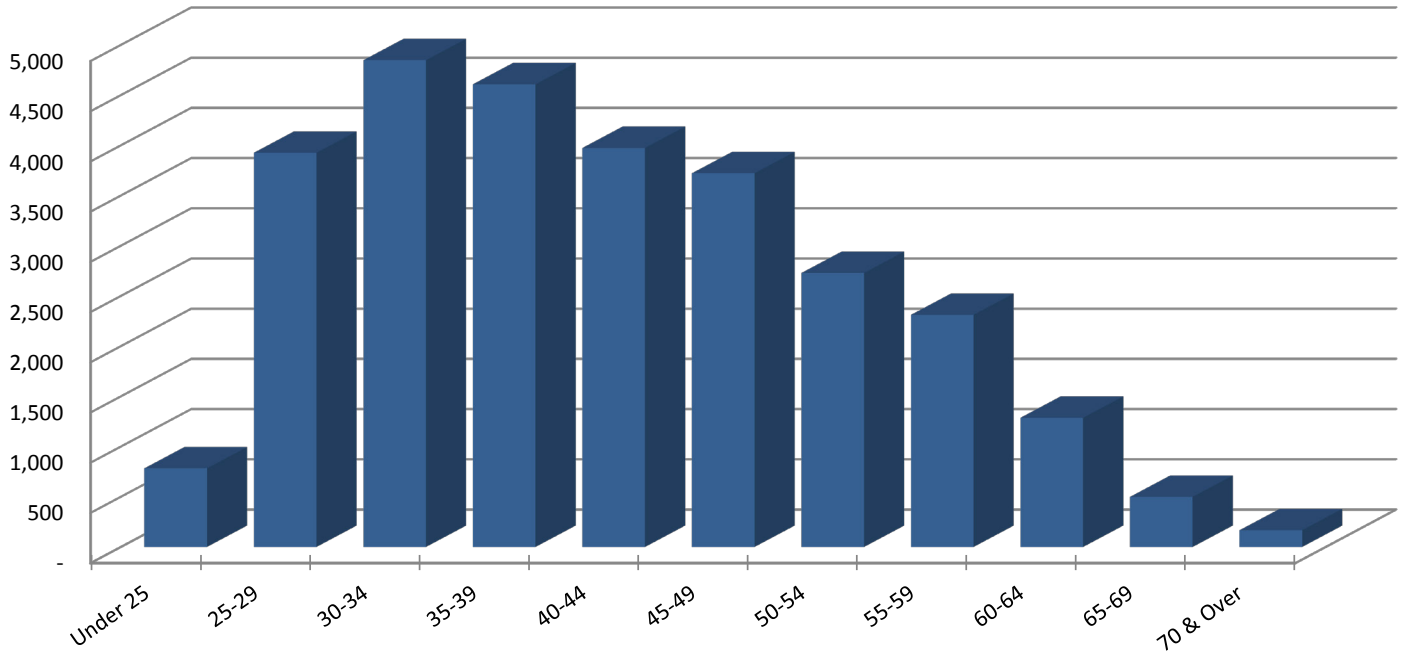
GRAPH 5: COMPARISON OF HISTORICAL INVESTMENT RETURNS



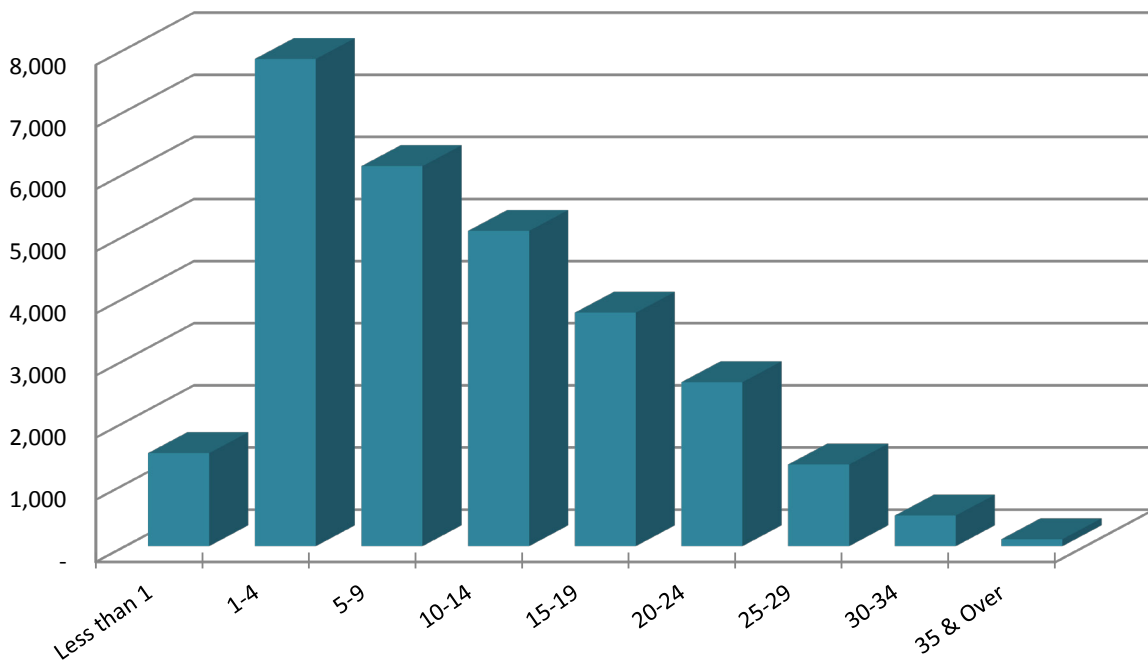
SECTION E: PARTICIPANT DATA

GRAPH 6: ACTIVE MEMBERS CLASSIFIED BY AGE AND SERVICE

Distribution of Active Members by Age

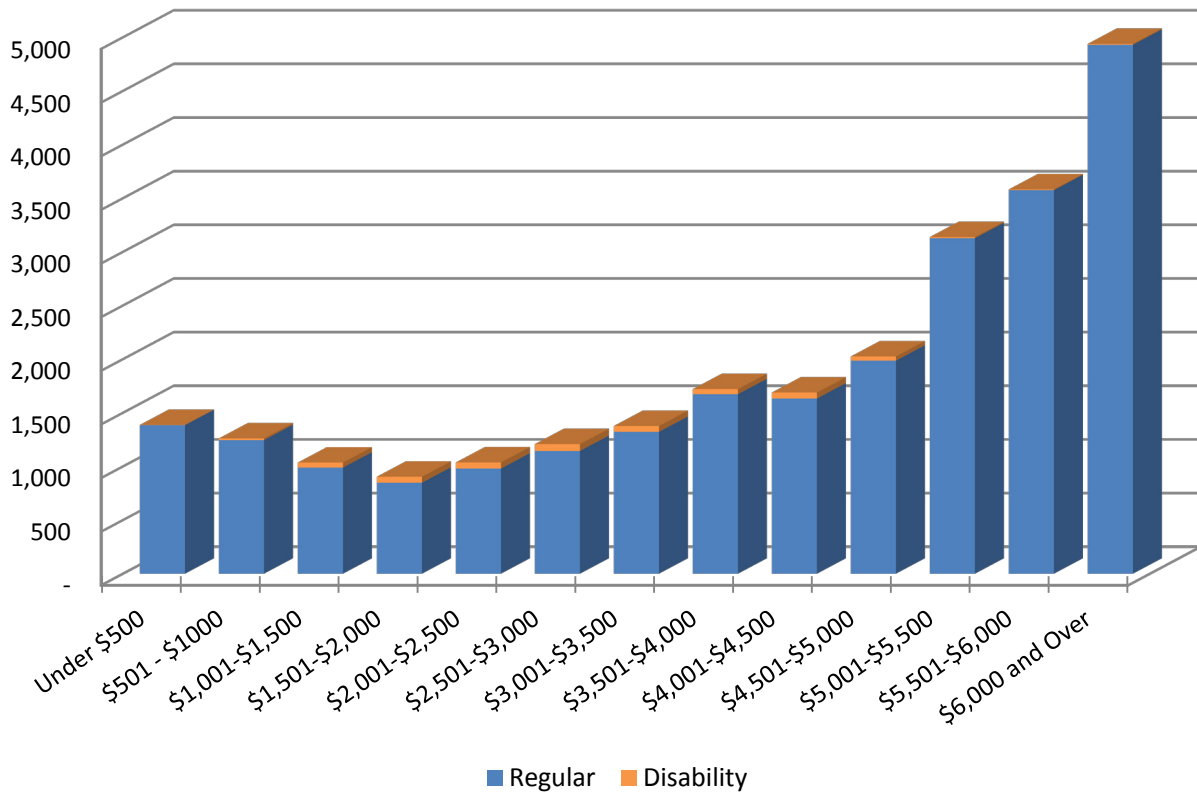


Distribution of Active Members by Service



GRAPH 7: RETIREES CLASSIFIED BY BENEFIT AMOUNT AND AGE

Distribution of Retirees by Monthly Benefits



Distribution of Retirees by Age

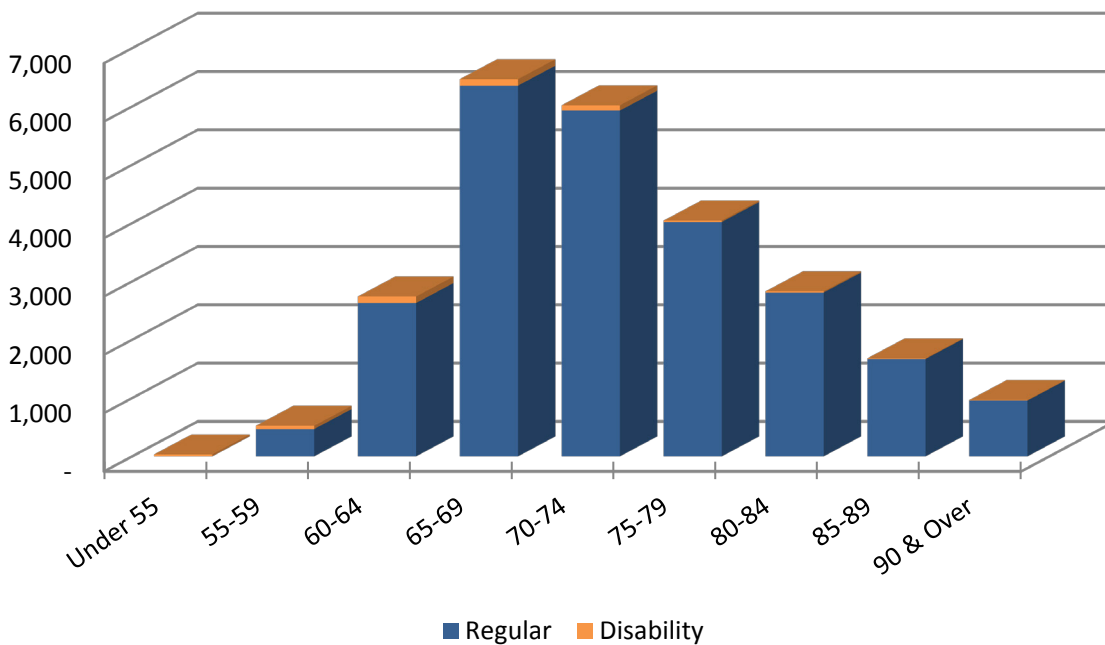


TABLE 8: SUMMARY OF FUND MEMBERSHIP

	YEAR ENDED		CHANGE FROM PRIOR YEAR
	JUNE 30, 2017	JUNE 30, 2016	
Active Members			
Number	28,855	29,543	(2.3%)
Average Age	41.8	41.5	
Average Service	10.6	10.4	
Total Salary Supplied by Fund	\$ 2,030,175,116	\$ 2,071,040,979	(2.0%)
Average Annual Salary	\$ 70,358	\$ 70,103	0.4%
Total Active Vested Participants	17,800	18,557	(4.1%)
Male Members	6,961	7,077	(1.6%)
Female Members	21,894	22,466	(2.5%)
Tier 1 Members	20,271	21,620	(6.2%)
Tier 2 Members	8,584	7,923	8.3%
Inactive Vested Members			
Number	6,062	5,715	6.1%
Average Age	47.2	47	
Average Service	10.1	n/a	
Inactive Non-vested Members			
Number	22,570	22,042	2.4%
Retirees			
Number	24,837	24,732	0.4%
Average Age	73.7	73.3	
Average Annual Benefit	\$ 53,052	\$ 51,721	2.6%
Total Annual Benefit	\$ 1,317,657,163	\$ 1,279,157,562	3.0%
Disabled Retirees			
Number	467	476	(1.9%)
Average Age	67.0	66.6	
Average Annual Benefit	\$36,427	\$ 35,447	2.8%
Total Annual Benefit	\$ 17,011,424	\$ 16,872,644	0.8%
Beneficiaries (Including Children)			
Number	3,135	3,090	1.5%
Average Age	76.3	76.0	
Average Annual Benefit	\$22,112	\$ 21,311	3.8%
Total Annual Benefit	\$ 69,320,685	\$ 65,852,350	5.3%
Total Members	85,926	85,598	0.4%

TABLE 9: MEMBER POPULATION AND RATIO OF NON-ACTIVES TO ACTIVES

YEAR ENDED JUNE 30	ACTIVE PARTICIPANTS	VESTED TERMINATED PARTICIPANTS ^a	RETIRES AND BENEFICIARIES	RATIO OF NON- ACTIVES TO ACTIVES
2008	32,086	3,479	23,920	0.85
2009	31,905	3,056	24,218	0.85
2010	31,012	3,554	24,600	0.91
2011	30,133	4,253	25,199	0.98
2012	30,366	4,245	25,926	0.99
2013	30,969	4,502	27,440	1.03
2014	30,654	4,818	27,722	1.06
2015	29,706	5,464	28,114	1.13
2016	29,543	5,715	28,298	1.15
2017	28,855	6,062	28,439	1.20

^a Excludes non-vested terminated participants due a refund of member contributions.

TABLE 10: TOTAL LIVES AND ANNUAL SALARIES* OF ACTIVE MEMBERS CLASSIFIED BY AGE AND YEARS OF SERVICE

AS OF JUNE 30, 2017

*Annual salaries are displayed in thousands of dollars.

COMPLETED YEARS OF SERVICE										
Age	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Under 20	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20-24	187	596	-	-	-	-	-	-	-	783
	\$ 2,277	\$ 29,372	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,649
25-29	336	2,853	737	-	-	-	-	-	-	3,926
	\$ 3,214	\$ 150,530	\$ 45,459	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 199,203
30-34	239	1,843	2,219	547	-	-	-	-	-	4,848
	\$ 3,048	\$ 99,885	\$ 150,751	\$ 45,322	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 299,006
35-39	161	915	1,315	1,792	425	-	-	-	-	4,608
	\$ 1,622	\$ 48,179	\$ 91,909	\$ 152,247	\$ 39,328	\$ -	\$ -	\$ -	\$ -	\$ 333,285
40-44	141	530	670	1,110	1,251	272	-	-	-	3,974
	\$ 1,717	\$ 27,184	\$ 46,147	\$ 95,263	\$ 117,782	\$ 27,457	\$ -	\$ -	\$ -	\$ 315,550
45-49	131	399	479	644	908	958	203	-	-	3,722
	\$ 1,193	\$ 20,180	\$ 33,450	\$ 54,466	\$ 83,430	\$ 93,690	\$ 21,221	\$ -	\$ -	\$ 307,630
50-54	97	261	278	382	479	627	509	95	1	2,729
	\$ 717	\$ 12,401	\$ 18,507	\$ 31,307	\$ 42,556	\$ 58,161	\$ 49,702	\$ 9,764	\$ 97	\$ 223,212
55-59	87	204	205	307	383	467	371	269	19	2,312
	\$ 691	\$ 7,675	\$ 11,917	\$ 23,947	\$ 33,609	\$ 42,302	\$ 35,295	\$ 27,102	\$ 2,144	\$ 184,682
60-64	67	131	116	203	223	240	169	91	47	1,287
	\$ 335	\$ 5,175	\$ 6,358	\$ 14,985	\$ 18,919	\$ 21,876	\$ 15,962	\$ 9,237	\$ 4,759	\$ 97,606
65-69	34	74	73	75	70	58	54	29	32	499
	\$ 126	\$ 1,793	\$ 2,551	\$ 4,232	\$ 5,448	\$ 5,238	\$ 5,144	\$ 2,805	\$ 3,306	\$ 30,643
70 & over	18	37	26	16	20	18	9	9	14	167
	\$ 66	\$ 458	\$ 506	\$ 627	\$ 1,273	\$ 1,543	\$ 927	\$ 833	\$ 1,477	\$ 7,710
Total	1,498	7,843	6,118	5,076	3,759	2,640	1,315	493	113	28,855
	\$ 15,006	\$ 402,832	\$ 407,555	\$ 422,396	\$ 342,345	\$ 250,267	\$ 128,251	\$ 49,741	\$ 11,783	\$ 2,030,176

TABLE 11: RECONCILIATION OF MEMBER DATA
AS OF JUNE 30, 2017

	ACTIVES	DEFERRED VESTED	EXPECTED REFUNDS	RETIREES	DISABILITIES	BENEFICIARIES	TOTAL
Totals as of the June 30, 2016, Actuarial Valuation	29,543	5,715	22,042	24,732	476	3,090	85,598
New Entrants	2,275	–	–	–	–	–	2,275
Rehires — Members with Service	613	(200)	(413)	–	–	–	–
Non-Vested Terminations	(1,658)	(1)	1,659	–	–	–	–
Vested Terminations	(889)	911	(22)	–	–	–	–
Service Retirements	(596)	(194)	(17)	810	(3)	–	–
Disabilities	(12)	(5)	–	(1)	18	–	–
Deaths	(42)	(22)	(40)	(709)	(2)	(194)	(1,009)
New Beneficiaries	–	–	–	–	–	239	239
Refunds and Benefit Terminations	(379)	(178)	(799)	–	(22)	–	(1,378)
Data Adjustments	–	36	160	5	–	–	201
Net Change	(688)	347	528	105	(9)	45	328
Totals as of the June 30, 2017, Actuarial Valuation	28,855	6,062	22,570	24,837	467	3,135	85,926

TABLE 12: HISTORY OF RETIREES AND BENEFICIARIES ADDED TO ROLLS

FISCAL YEAR	ADDED FROM ROLLS		REMOVED FROM ROLLS		ROLLS - END OF YEAR		AVERAGE ANNUAL ALLOWANCES	INCREASE IN AVG. ANNUAL ALLOWANCE
	NO.	ANNUAL ALLOWANCE	NO.	ANNUAL ALLOWANCE	NO.	ANNUAL ALLOWANCE		
2007	2,055	\$ 104,043,221	537	\$ 14,063,967	23,623	\$ 854,319,840	\$ 36,165	4.60%
2008	881	67,060,461	584	16,543,468	23,920	904,836,833	37,828	4.60%
2009	957	57,109,256	659	19,557,718	24,218	942,388,371	38,913	2.87%
2010	1,080	67,630,266	698	21,855,794	24,600	988,162,843	40,169	3.23%
2011	1,394	86,404,558	795	26,694,342	25,199	1,047,873,059	41,584	3.52%
2012	1,579	96,719,811	852	28,511,983	25,926	1,116,080,887	43,049	3.52%
2013	2,129	130,553,477	615	21,764,846	27,440	1,224,869,518	44,638	3.69%
2014	1,006	70,963,134	724	26,376,522	27,722	1,269,456,130	45,792	2.59%
2015	1,302	85,087,053	910	34,678,799	28,114	1,319,864,384	46,947	2.52%
2016	1,101	78,909,433	917	36,891,261	28,298	1,361,882,556	48,126	2.51%
2017	1,072	79,434,960	931	37,328,244	28,439	1,403,989,272	49,368	2.58%

TABLE 13: ANNUITANTS CLASSIFIED BY BENEFIT TYPE AND AMOUNT**ANNUITANTS****DISTRIBUTION OF CURRENT ANNUITANTS BY BENEFIT TYPE**

AS OF JUNE 30, 2017

MONTHLY PENSION AMOUNT	RETIREEES		DISABLED RETIREEES		BENEFICIARIES		TOTAL	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
\$ 1-500	386	999	1	1	168	247	555	1,247
501-1,000	384	861	5	11	212	365	601	1,237
1,001-1,500	325	664	14	33	149	192	488	889
1,501-2,000	222	626	8	48	171	238	401	912
2,001-2,500	234	746	12	45	144	247	390	1,038
2,501-3,000	257	887	13	51	227	357	497	1,295
3,001-3,500	301	1,021	15	40	42	138	358	1,199
3,501-4,000	309	1,364	13	35	18	77	340	1,476
4,001-4,500	331	1,302	9	47	12	56	352	1,405
4,501-5,000	470	1,516	6	33	8	33	484	1,582
5,001-5,500	765	2,362	3	8	4	17	772	2,387
5,501-6,000	862	2,713	1	6	3	7	866	2,726
6,001-6,500	479	1,469	–	–	–	1	479	1,470
6,501-7,000	237	594	2	2	–	–	239	596
7,001-7,500	191	278	–	1	–	–	191	279
7,501-8,000	121	227	2	1	–	–	123	228
8,001-8,500	100	220	1	–	–	–	101	220
8,501-9,000	85	164	–	–	1	–	86	164
9,001-9,500	76	128	–	–	–	–	76	128
Over \$9,500	195	366	–	–	–	1	195	367
Total	6,330	18,507	105	362	1,159	1,976	7,594	20,845

Table 14: Initial Year of Retirement Analysis

	YEARS OF CREDITED SERVICE							
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	TOTAL
Fiscal Year 2013								
Average Monthly Pension	\$ 275	856	1,645	2,761	3,567	4,422	5,976	\$ 4,294
Average Monthly FAS	\$ 5,623	5,491	6,180	7,136	7,495	7,688	8,157	\$ 7,535
Number of Retired Members	56	114	91	186	380	256	824	1,907
Average Age								63.2
Fiscal Year 2014								
Average Monthly Pension	\$ 262	758	1,648	2,581	3,477	4,307	5,683	\$ 3,217
Average Monthly FAS	\$ 6,555	5,023	6,309	6,657	7,376	7,516	7,823	\$ 6,958
Number of Retired Members	46	89	74	102	184	120	145	760
Average Age								63.4
Fiscal Year 2015								
Average Monthly Pension	\$ 275	877	1,606	2,621	3,530	4,254	5,561	\$3,398
Average Monthly FAS	\$ 6,587	5,377	5,891	6,851	7,555	7,483	7,762	\$7,077
Number of Retired Members	47	104	117	107	269	172	240	1,056
Average Age								63.2
Fiscal Year 2016								
Average Monthly Benefit	\$ 326	840	1,493	2,432	3,440	4,294	5,701	\$ 3,286
Average Monthly FAS	\$ 7,267	5,266	5,627	6,515	7,301	7,711	8,026	\$ 7,054
Number of Retired Persons	61	92	77	113	184	123	202	852
Average Age								63.1
Fiscal Year 2017								
Average Monthly Benefit	\$ 323	734	1,578	2,516	3,438	4,301	5,684	\$3,466
Average Monthly FAS	\$ 6,255	4,332	5,819	6,705	7,268	7,612	7,975	\$6,961
Number of Retired Persons	38	80	83	99	167	129	219	815
Average Age								63.7

SECTION F: ACTUARIAL METHODS AND ASSUMPTIONS

(Most Adopted Effective with the June 30, 2013, Actuarial Valuation)

Actuarial Cost Method as Mandated by 40 ILCS 5/17-129, Adopted August 31, 1991

The Projected Unit Credit normal cost method is used. Under this method, the projected pension at retirement age is first calculated and the present value at the individual member's current or attained age is determined. The normal cost for the member for the current year is equal to the actuarial present value divided by the member's projected service at retirement. The normal cost for the plan for the year is the sum of the individual normal costs.

The actuarial liability at any point in time is the present value of the projected pensions at that time less the present value of future normal costs.

For ancillary benefits for active members, in particular death and survivor benefits, termination benefits, and the post-retirement increases, the same procedure as outlined above is followed.

Estimated annual administrative expenses are added to the normal cost.

For actuarial valuation purposes, as well as projection purposes, an actuarial value of assets is used.

ACTUARIAL ASSUMPTIONS

Actuarial assumptions are set by the Board of Trustees. Most of the actuarial assumptions used for the June 30, 2017, actuarial valuation are based on an experience review for the five-year period ending July 1, 2007, through June 30, 2012, performed by the prior actuary (Segal Consulting). Beginning with the June 30, 2017, actuarial valuation, the investment return assumption, general inflation assumption and wage inflation assumption were reduced from 7.75 percent to 7.25 percent, 2.75 percent to 2.50 percent and 3.50 percent to 3.25 percent, respectively. The general inflation assumption also serves as the basis for the determination of annual increases in pension and pensionable salary cap for Tier 2 members. As a result of the change in the general inflation assumption, the assumption regarding future increases in pension and pensionable salary cap was reduced from 1.375 percent to 1.25 percent per year for current and future Tier 2 members. All actuarial assumptions are expectations of future experience, not market measures.

Mortality

Pre and Post-Retirement Healthy Mortality

The RP-2000 Healthy Annuitant mortality table, sex distinct, set back two years with generational mortality improvement from 2004 using Scale AA. This assumption provides a margin for future mortality improvements. No adjustment is made for post-disabled mortality.

Post-Retirement Disabled Mortality

The RP-2000 Disabled mortality table, sex distinct, set back three years.

Interest

7.25 percent per annum, compounded annually, net of investment expenses.

General Inflation

2.50 percent per annum, compounded annually.

This assumption serves as the basis for the determination of annual increases in pension and the pensionable salary cap for Tier 2 members.

Wage Inflation

3.25 percent per annum, compounded annually.

Total Payroll

Unless stated otherwise, total payroll includes employee contributions of seven percent of salary paid by the Board of Education.

Termination

Select and ultimate termination rates were used. Ultimate rates after the tenth year are shown in the 10+ Years of Service column in the table below. Select rates are as follows:

TERMINATION			
LESS THAN 10 YEARS OF SERVICE		10+ YEARS OF SERVICE	
Service (Beginning of Year)	Rate (%)	Age	Rate (%)
0	25.00%	30	2.50%
1	15.00%	35	2.50%
2	10.00%	40	2.25%
3	9.00%	45	2.00%
4	8.00%	50	2.00%
5	7.00%	55	2.00%
6	6.00%		
7	5.00%		
8	4.50%		
9	4.00%		

It is assumed that terminated employees will not be rehired. The rates apply only to employees who have not fulfilled the service requirement necessary for retirement at any given age.

Salary Increases

Illustrative rates of increase per individual employee per annum, compounded annually:

Age	Annual Increase
20	15.50%
25	10.50%
30	7.00%
35	7.00%
40	5.50%
45	5.00%
50	4.50%
55	4.00%
60	4.00%
65	4.00%
70	4.00%

The underlying salary increase assumption is based on a wage inflation assumption of 3.25 percent per annum.

Disability

Disability rates, based on recent experience of the Fund, were applied to members with at least ten years of service. All disabilities are assumed to be non-duty disabilities. Sample rates are as follows:

Age	Rate (%)
20	0.05%
25	0.05%
30	0.06%
35	0.07%
40	0.08%
45	0.12%
50	0.16%
55	0.20%
60	0.20%

Retirement

Employees are assumed to retire in accordance with the rates shown below. The rates apply only to employees who have fulfilled the service requirement necessary for retirement at any given age.

RETIREMENT RATES FOR TIER 1 EMPLOYEES		
AGE	<34 YEARS OF SERVICE RATE (%)	34+ YEARS OF SERVICE RATE (%)
55	5.00%	20.00%
56	5.00%	20.00%
57	5.00%	20.00%
58	5.00%	20.00%
59	7.00%	20.00%
60	9.00%	22.50%
61	11.00%	22.50%
62	12.00%	22.50%
63	13.00%	22.50%
64	14.00%	22.50%
65	15.00%	25.00%
66	16.00%	25.00%
67	17.00%	25.00%
68	18.00%	27.50%
69	19.00%	27.50%
70	20.00%	30.00%
71	20.00%	30.00%
72	20.00%	30.00%
73	20.00%	30.00%
74	20.00%	30.00%
75	100.00%	100.00%

RETIREMENT RATES FOR TIER 2 EMPLOYEES	
AGE	RATE (%)
62	40.00%
63	25.00%
64	25.00%
65	30.00%
66	25.00%
67	30.00%
68	20.00%
69	20.00%
70	20.00%
71	20.00%
72	20.00%
73	20.00%
74	20.00%
75	100.00%

Population Projection

For purposes of determining annual appropriation as a percent of total covered payroll, the size of the active group is assumed to remain level at the number of actives as of the actuarial valuation date, or 28,855. New entrants are assumed to enter with an average age and an average pay as disclosed below. New entrants are assumed to have a similar demographic profile of recent new entrants to the Fund. The average increase in payroll for the projection period is 2.50 percent per annum.

NEW ENTRANT PROFILE		
AGE GROUP	No.	SALARY
Under 20		
20-24	204	\$ 8,556,240
25-29	359	15,333,868
30-34	161	7,063,544
35-39	93	4,237,520
40-44	63	2,752,034
45-49	45	1,636,736
50-54	26	896,540
55-59	27	762,523
60-64	16	311,206
65-69	5	143,263
70 & Over		
Total	999	\$ 41,693,474
Avg. Salary		\$ 41,735
Avg. Age		31.78
Percent Male		26%

Assets

The asset values used for the actuarial valuation were based on asset information contained in the financial statements for the year ended June 30, 2017, prepared by the Fund. The actuarial value of assets was determined by smoothing unexpected gains or losses over a period of four years. The investment gain or loss for a year is calculated as the total investment income on the market value of assets, minus expected investment return on the prior actuarial value of assets. The final actuarial value is equal to the expected actuarial value plus (or minus) 25 percent of the calculated gain (or loss) in the prior four years.

Expenses

Administrative expenses included in the normal cost are based on the previous years' administrative expenses increased by five percent. Future administrative expenses are assumed to increase at five percent per year.

Marriage Assumption

80.0 percent of active participants are assumed to be married. Actual marital status at benefit commencement is used for retirees.

Spouse's Age

The female spouse is assumed to be two years younger than the male spouse.

Total Service at Retirement

A teacher's total service credit at retirement is assumed to be 103.3 percent of the teacher's regular period of service at retirement.

Valuation of Inactive Members Eligible for Deferred Vested Pension Benefits

Benefits for inactive deferred vested members were determined by projecting the accumulated contribution balance to retirement (age 62) with interest at the assumed investment rate of return, converted to an annuity, and then loaded by 35 percent.

Contribution Timing

Projected employer contributions are assumed to occur based on the following timing:

1. Additional Board of Education Contribution (0.58 percent of pay) — June 30th (End of Year)
2. Additional State Contribution (0.544 percent of pay) — Monthly (Middle of Year)
3. State Normal Cost Contribution — Monthly (Middle of Year)
4. Board of Education Early Payment of Special Tax Levy — March 1st, annually
 - a. 55 percent of prior year's tax levy is assumed to occur each March 1st
 - i. This amount is assumed to be \$141,625,000 if fiscal year 2018 and increased each year by three percent.
5. Remaining Board of Education Contribution — June 30th (End of Year)

Decrement Timing

All decrements are assumed to occur at the beginning of the year.

Decrement Relativity

Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Decrement Operation

Turnover decrements do not operate after a member reaches retirement eligibility. Disability decrements do not operate after a member reaches normal retirement eligibility.

Eligibility Testing

Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.

Assumptions as a Result of P.A. 96-0889

Members hired after December 31, 2010, are assumed to make contributions on salary up to the final average compensation cap in a given year.

State contributions, expressed as a percentage of pay, are calculated based upon capped pay.

Capped (pensionable) pay was \$112,408 for fiscal year 2017 and increases at ½ the annual increase in the Consumer Price Index-U thereafter.

The annual increase in the Consumer Price Index-U is assumed to be 2.50 percent for all years.

Employer Contributions Under P.A. 98-0889

The following is an excerpt from the Illinois Compiled statutes 40 ILCS 5/17-129 (b)(iv) – (b)(vii):

- (iv) For fiscal years 2014 through 2059, the minimum contribution to the Fund to be made by the Board of Education in each fiscal year shall be an amount determined by the Fund to be sufficient to bring the total assets of the Fund up to 90% of the total actuarial liabilities of the Fund by the end of fiscal year 2059. In making these determinations, the required Board of Education contribution shall be calculated each year as a level percentage of the applicable employee payrolls over the years remaining to and including fiscal year 2059 and shall be determined under the Projected Unit Credit actuarial cost method.
- (v) Beginning in fiscal year 2060, the minimum Board of Education contribution for each fiscal year shall be the amount needed to maintain the total assets of the Fund at 90% of the total actuarial liabilities of the Fund.
- (vi) Notwithstanding any other provision of this subsection (b), for any fiscal year, the contribution to the Fund from the Board of Education shall not be required to be in excess of the amount calculated as needed to maintain the assets (or cause the assets to be) at the 90% level by the end of the fiscal year.
- (vii) Any contribution by the State to or for the benefit of the Fund, including, without limitation, as referred to under Section 17-127, shall be a credit against any contribution required to be made by the Board of Education under this subsection (b).

Additional State and Employer Contributions Under P.A. 90-0655 and P.A. 91-0357

The following is an excerpt from the Illinois Compiled statutes 40 ILCS 5/17-127 (b):

- (b) The General Assembly finds that for many years the State has contributed to the Fund an annual amount that is between 20% and 30% of the amount of the annual State contribution to the Article 16 retirement system, and the General Assembly declares that it is its goal and intention to continue this level of contribution to the Fund in the future. Beginning in State fiscal year 1999, the State shall include in its annual contribution to the Fund an additional amount equal to 0.544% of the Fund's total teacher payroll; except that this additional contribution need not be made in a fiscal year if the Board has certified in the previous fiscal year that the Fund is at least 90% funded, based on actuarial determinations. These additional State contributions are intended to offset a portion of the cost to the Fund of the increases in retirement benefits resulting from this amendatory Act of 1998.

The following is an excerpt from the Illinois Compiled statutes 40 ILCS 5/17-127.2 (1)-(2):

Sec. 17-127.2. Additional contributions by employer of teachers. Beginning July 1, 1998, the employer of a teacher shall pay to the Fund an employer contribution computed as follows:

- (1) Beginning July 1, 1998 through June 30, 1999, the employer contribution shall be equal to 0.3% of each teacher's salary.
- (2) Beginning July 1, 1999 and thereafter, the employer contribution shall be equal to 0.58% of each teacher's salary. The employer may pay these employer contributions out of any source of funding available for that purpose and shall forward the contributions to the Fund on the schedule established for the payment of member contributions. These employer contributions need not be made in a fiscal year if the Board has certified in the previous fiscal year that the Fund is at least 90% funded, based on actuarial determinations. These employer contributions are intended to offset a portion of the cost to the Fund of the increases in retirement benefits resulting from Public Act 90-582.

Board of Education Dedicated Property Tax Levy Under P.A. 99-0521 as amended by P.A. 100-0465

The following is an excerpt from the Illinois Compiled statutes 105 ILCS 5/34-53:

Beginning on the effective date of this amendatory Act of the 99th General Assembly, for the purpose of making an employer contribution to the Public School Teachers' Pension and Retirement Fund of Chicago, the board may levy annually for taxable years prior to 2017, upon all taxable property located within the district, a tax at a rate not to exceed 0.383%. Beginning with the 2017 taxable year, for the purpose of making an employer contribution to the Public School Teachers' Pension and Retirement Fund of Chicago, the board may levy annually, upon all taxable property within the district, a tax at a rate of 0.567%. The proceeds from this additional tax shall be paid, as soon as possible after collection, directly to the Public School Teachers' Pension and Retirement Fund of Chicago and not to the Board of Education.

State Contributions Under P.A. 100-0465

The following is an excerpt from the Illinois Compiled statutes 40 ILCS 5/17-127 (d)(1)-(d)(2):

(d) In addition to any other contribution required under this Article, including the contribution required under subsection (c), the State shall contribute to the Fund the following amounts:

- (1) For State fiscal year 2018, the State shall contribute \$221,300,000 for the employer normal cost for fiscal year 2018 and the amount allowed under paragraph (3) of Section 17-142.1 of this Code to defray health insurance costs. Funds to this paragraph (1) shall come from funds appropriated for Evidence-Based Funding pursuant to Section 18-8.15 of the School Code.
- (2) Beginning in State fiscal year 2019, the State shall contribute for each fiscal year an amount to be determined by the Fund, equal to the employer normal cost for that fiscal year, plus the amount allowed pursuant to paragraph (3) of Section 17-142.1 to defray health insurance costs.

We calculated the required contribution based on the above legislation; the results are shown in the summary section of this report.

SECTION G: SUMMARY OF PLAN PROVISIONS (AS OF JUNE 30, 2017)

It should be noted that the purpose of this Section is to describe the benefit structures of CTPF for which actuarial values have been generated. Many portions of the defined plans are described in a manner which may not be legally complete or precise.

It is not our intent to provide an exhaustive description of all benefits provided under CTPF or the policies and procedures utilized by CTPF staff. A more precise description of the provisions of CTPF can be found in Illinois Compiled Statutes (ILCS) Chapter 40, Articles 1, 17, and 20. In all situations, the plan provisions described in the statutes govern.

Purpose

The Public School Teachers' Pension and Retirement Fund of Chicago, established in 1895 by the Illinois state legislature, is a defined benefit public employee retirement fund that provides retirement, survivor, and disability benefits to certain teachers and employees of the Chicago Public Schools.

Administration

Responsibility for the operation of the Fund and the direction of its policies is vested in a Board of Trustees of 12 members. The 12 member Board of Trustees is comprised of six members elected by the teacher contributors, three members elected by the annuitants, one member elected by the principal contributors, and two members are appointed by the Board of Education. The administration of the detailed affairs of the Fund is the responsibility of the Executive Director who is appointed by the Board of Trustees. Administrative policies and procedures are designed to ensure an accurate accounting of funds of CTPF and prompt payment of claims for benefits within the applicable statute.

Membership

Any teacher and certain other employees of the Chicago Public Schools, approved charter schools and the Chicago Teachers' Pension Fund are participants of CTPF. Members hired prior to January 1, 2011, participate under the Tier 1 benefit structure. Members hired on and after January 1, 2011, participate under the Tier 2 benefit structure.

Membership Service

Membership service includes all service rendered while a member of the Fund for which credit is allowable. Contributors to the Fund cannot earn more than one year of service credit per fiscal year. Validated service within a fiscal year is determined on a schedule of 170 days.

Member Contributions

Members are required to contribute a percentage of salary as their share of meeting the cost of the various benefits. The total contribution rate of 9.0 percent of salary consists of 7.5 percent toward the retirement pension, 1.0 percent toward the survivor pension, and 0.5 percent toward the post-retirement increase.

As of September 1981, the Board of Education has been paying 7.0 percent of the required teacher contributions for Chicago public school teachers. Charter school contributions may be contributed at various rates by the employers and teachers.

As a result of the collective bargaining agreement between the Board of Education of the City of Chicago and the Chicago Teachers Union, Local No. 1, American Federation of Teachers, AFL-CIO, which became effective December 7, 2016, teachers hired on and after January 1, 2017, will no longer receive the pension pick-up of 7.0 percent from the Board of Education.

Retirement Pension

Qualification of Member

A member is eligible for a retirement pension after (1) completing 20 years of validated service, with the pension payable at age 55 or older, or (2) after completing five years of service with the pension payable at age 62 or older.

Amount of Pension

The pension is based on the member's final average salary and the number of years of service credit that has been established.

Final Average Salary is the average of the highest rates of salary for any four consecutive years of validated service within the last 10 years.

For service earned before July 1, 1998, the amount of the service retirement pension is 1.67 percent of final average salary for the first 10 years, 1.90 percent for each of the next 10 years, 2.10 percent for each of the following 10 years, and 2.30 percent for each year above 30. For service earned after June 30, 1998, the amount of the service retirement pension is 2.2 percent of final average salary for each year of service.

Service earned before July 1, 1998, can be upgraded to the 2.2 percent formula through the payment of additional employee contributions of 1 percent of the teacher's highest salary within the last four years for each year of prior service, up to a maximum of 20 percent, which upgrades all service years. The number of years for which contributions are required is reduced by one for each three full years of service after June 30, 1998. No contribution is required if the member has at least 30 years of service.

The maximum pension payable is 75 percent of final average salary or \$1,500 per month, whichever is greater.

Annual Increases in Pension

Postretirement increases of 3.0 percent of the current pension (i.e., increases are compounded) are granted to members effective each January 1, occurring on or after the first anniversary of the pension or the 61st birthday, whichever is later.

Reductions

Except for retirement after 34 years of service, the retirement pension is reduced by $\frac{1}{2}$ of 1.0 percent for each month the member is under age 60.

Survivors Annuity

Qualification of Survivor

A surviving spouse or unmarried minor children is entitled to a pension upon the death of a member while in service or in retirement. Survivor's pensions are conditioned upon marriage having been in effect at least one year prior to death.

Amount of Pension

The minimum survivor's pension upon death of an active or retired member is 50 percent of the deceased member's pension at the date of death. If the surviving spouse is under age 50, and no unmarried minor children under age 18 survive, payment of the survivor's pension is deferred until age 50.

Annual Increases in Pension

Survivors' pensions are subject to annual increases of 3.0 percent per year based on the current amount of pension starting the later of when the member would have attained age 61 and receipt of one year's pension payments.

Death Benefits

Amount and Duration of Payment

Upon the death of a member in service, a refund equal to the total contributions less contributions for survivors' pensions is payable without interest to a designated beneficiary or the estate of the member. The death benefit payable is the lesser of \$10,000 and salary earned for the most recent six months.

Upon death of a member after retirement, the death benefit consists of the excess, if any, of the total contributions over the total pension payments paid to the member or his/her beneficiary. Furthermore, the death benefit is the lesser of \$10,000 and the most recent salary earned for a six month period less 20% of the death benefit for each year that the member has been on pension, to a minimum of \$5,000.

Non-Duty Disability Benefits

Qualification and Amount of Payment

A disability retirement pension is payable in the event of total or permanent disability with 10 or more years of service, irrespective of age. The benefit is the unreduced service retirement pension. However, if the participant has 20 or more and less than 25 years of service and is under age 55, the benefit is reduced by $\frac{1}{2}$ of 1.0 percent for each month that the age of the member is below age 55 down to a minimum age of 50. If total service is 20 years or more and the member has attained age 55, or after 25 years of service, regardless of age, the retirement pension is payable without reduction.

Annual Increases in Annuity

Postretirement increases of 3.0 percent of the current pension (i.e., increases are compounded) are granted to members effective each January 1, occurring on or after the first anniversary of the pension or the 61st birthday, whichever is later.

Duty Disability Benefits

Qualification and Amount of Payment

A disability retirement pension is payable in the event of total or permanent disability from an injury that occurred while working. The disability benefit provided is 75 percent of final average salary until attainment of age 65. At age 65, the disabled retiree shall receive a service retirement pension, which includes service earned while disabled.

Annual Increases in Annuity

Postretirement increases of 3.0 percent of the current pension (i.e., increases are compounded) are granted to members effective each January 1, occurring on or after the first anniversary of the pension or the 61st birthday, whichever is later.

Refunds

Upon termination of employment, a member may obtain a refund of his/her total contributions and those contributions made on his/her behalf, without interest.

A member who is unmarried at the date of retirement is entitled to a refund of the full amount contributed for the survivor's pension, without interest.

Reversionary Pension

A member can provide a reversionary pension for a surviving beneficiary by having his/her current pension reduced. If the beneficiary survives the date of the member's retirement, but does not survive the retired member, the member's pension shall be restored to the full amount of pension in place prior to choosing the reversionary pension.

Health Insurance Subsidy

The board may pay each recipient of a retirement, disability, or survivor's pension an amount to be determined by the board, which shall represent partial reimbursement for the cost of the recipient's health insurance coverage, with the total amount of payment not to exceed \$65,000,000, or 75% of the total cost of health insurance coverage in any year.

Retirement Systems Reciprocal Act

The Fund complies with the Retirement Systems Reciprocal Act (Chapter 40, Act 5, Article 20, of the Illinois Compiled Statutes) to provide reciprocal benefits if a member has service credit for other public employment in Illinois.

Provisions Applicable to Members Hired On or After January 1, 2011, as a Result of P.A. 96-0889

Final Average Compensation

Based on last eight years of service and may not exceed \$106,800, as automatically increased by the lesser of 3 percent or one-half of the annual increase in the Consumer Price Index-U during the preceding 12-month calendar year.

Retirement Eligibility

Normal retirement – 67 years old with 10 years of service.

Early Retirement – 62 years old with 10 years of service with a 6.0 percent per year reduction in benefit for each year age is under 67.

Annual Increases in Annuity

Annual increases begin at the later of the first anniversary of retirement or age 67. The annual increases are equal to the lesser of 3.0 percent or one-half of the annual increase in the Consumer Price Index-U during the preceding 12-month calendar year and are not compounded.

Survivor Benefits

Benefit equal to 66.67 percent of the earned retirement benefit at death. Survivor benefits are increased by the lesser of 3.0 percent or one-half of the annual increase in the Consumer Price Index-U during the preceding 12-month calendar year and are not compounded.

Salary and COLA Development for Members Hired on or After January 1, 2011

YEAR ENDING	CPI-U	1/2 CPI-U	COLA	MAXIMUM ANNUAL PENSIONABLE EARNINGS
2011			3.00%	\$106,800.00
2012	3.90%	1.95%	1.95%	\$108,882.60
2013	2.00%	1.00%	1.00%	\$109,971.43
2014	1.20%	0.60%	0.60%	\$110,631.26
2015	1.70%	0.85%	0.85%	\$111,571.63
2016	0.00%	0.00%	0.00%	\$111,571.63
2017	1.50%	0.75%	0.75%	\$112,408.42

Section H: Glossary of Terms

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

Actuarial Accrued Liability (AAL):	The difference between the Actuarial Present Value of Future Benefits and the Actuarial Present Value of Future Normal Costs.
Actuarial Assumptions:	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
Actuarial Cost Method (ACM):	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.
Actuarial Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability that each payment will be made.
Actuarial Present Value of Future Benefits (APVFB):	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67, such as the Funded Ratio and the Actuarially Determined Contribution (ADC).
Actuarial Value of Assets:	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio, or contribution requirement.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period:	The period used in calculating the Amortization Payment.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.
Equivalent Single Amortization Period:	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
Experience Gain/Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience; e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience; i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
Funded Ratio:	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
GASB:	Governmental Accounting Standards Board.
GASB Statement No. 67 and GASB Statement No. 68:	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68, which replaced Statement No. 27 effective with the fiscal year ending June 30, 2015, sets the accounting rules for the employers that sponsor or contribute to public retirement systems. Statement No. 67, which replaced Statement No. 25 effective with fiscal year ending June 30, 2014, sets the rules for the systems themselves.
Normal Cost:	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
Unfunded Actuarial Accrued Liability (UAAL):	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
Valuation Date:	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

SECTION I: ADDITIONAL PROJECTION DETAILS

TABLE 15: ADDITIONAL PROJECTION DETAILS - ACTUARIAL ACCRUED LIABILITY
(\$ IN MILLIONS)

FISCAL YEAR	CURRENT INACTIVES		ACTIVES			GRAND TOTALS		
	RETIREES & BENEFICIARIES	DEFERREDS	TIER 1	CURRENT TIER 2	FUTURE TIER 2	CURRENT RETIREES, BENEFICIARIES, & DEFERREDS	ACTIVES	TOTAL
2018	\$ 16,113.28	\$ 458.77	\$ 5,152.71	\$ 97.25	\$ 0.00	\$ 16,572.05	\$ 5,249.96	\$ 21,822.01
2019	15,808.32	475.75	5,823.12	122.87	0.00	16,284.07	5,945.99	22,230.06
2020	15,471.08	493.41	6,532.44	149.02	5.52	15,964.49	6,686.99	22,651.48
2021	15,103.95	511.55	7,280.38	176.37	15.72	15,615.50	7,472.47	23,087.97
2022	14,707.63	530.05	8,066.35	205.77	30.71	15,237.69	8,302.83	23,540.51
2023	14,283.14	548.97	8,889.28	238.99	50.49	14,832.10	9,178.76	24,010.87
2024	13,831.65	568.21	9,747.98	277.36	75.24	14,399.86	10,100.58	24,500.44
2025	13,354.57	587.79	10,640.40	321.01	105.29	13,942.37	11,066.71	25,009.07
2026	12,853.48	607.21	11,563.48	370.69	141.19	13,460.69	12,075.36	25,536.05
2027	12,330.23	626.61	12,513.79	426.96	183.67	12,956.84	13,124.42	26,081.26
2028	11,786.88	645.92	13,487.08	489.75	233.46	12,432.80	14,210.29	26,643.09
2029	11,225.74	679.17	14,479.41	557.99	291.43	11,904.91	15,328.83	27,233.73
2030	10,649.37	712.99	15,484.51	632.05	359.85	11,362.35	16,476.41	27,838.77
2031	10,060.57	747.15	16,496.81	712.29	439.92	10,807.72	17,649.02	28,456.74
2032	9,462.42	781.35	17,510.38	799.09	532.85	10,243.76	18,842.32	29,086.09
2033	8,858.21	815.65	18,518.07	892.83	639.90	9,673.86	20,050.80	29,724.66
2034	8,251.45	849.14	19,512.59	993.78	762.54	9,100.59	21,268.91	30,369.50
2035	7,645.88	881.92	20,485.49	1,102.36	902.01	8,527.80	22,489.85	31,017.65
2036	7,045.42	913.51	21,428.00	1,218.90	1,059.91	7,958.93	23,706.80	31,665.73
2037	6,454.11	943.88	22,330.45	1,343.78	1,237.95	7,397.98	24,912.18	32,310.16
2038	5,876.04	972.43	23,184.00	1,477.37	1,437.91	6,848.48	26,099.28	32,947.76
2039	5,315.32	999.14	23,977.68	1,620.01	1,661.80	6,314.46	27,259.48	33,573.94
2040	4,775.86	1,022.85	24,700.63	1,771.63	1,911.01	5,798.70	28,383.28	34,181.98
2041	4,261.31	1,043.70	25,342.53	1,932.47	2,187.63	5,305.01	29,462.63	34,767.64

TABLE 15: ADDITIONAL PROJECTION DETAILS - ACTUARIAL ACCRUED LIABILITY
 (\$ IN MILLIONS) | (CONTINUED)

FISCAL YEAR	CURRENT INACTIVES		ACTIVES			GRAND TOTALS		
	RETIRES & BENEFICIARIES	DEFERREDS	TIER 1	CURRENT TIER 2	FUTURE TIER 2	CURRENT RETIREES, BENEFICIARIES, & DEFERREDS	ACTIVES	TOTAL
2042	\$ 3,774.98	\$ 1,060.57	\$ 25,893.57	\$ 2,102.61	\$ 2,493.81	\$ 4,835.55	\$ 30,489.98	\$ 35,325.54
2043	3,319.64	1,073.28	26,341.94	2,281.84	2,831.86	4,392.91	31,455.65	35,848.56
2044	2,897.46	1,081.78	26,680.91	2,469.22	3,204.42	3,979.24	32,354.55	36,333.79
2045	2,509.94	1,085.85	26,906.06	2,663.70	3,612.39	3,595.79	33,182.15	36,777.94
2046	2,157.90	1,085.10	27,013.00	2,864.21	4,058.01	3,243.00	33,935.22	37,178.22
2047	1,841.42	1,080.16	27,005.24	3,068.12	4,543.68	2,921.58	34,617.03	37,538.62
2048	1,559.86	1,070.70	26,886.59	3,273.02	5,071.86	2,630.57	35,231.48	37,862.04
2049	1,311.99	1,057.63	26,664.03	3,475.28	5,645.41	2,369.62	35,784.72	38,154.34
2050	1,096.03	1,041.51	26,345.04	3,672.25	6,263.06	2,137.53	36,280.36	38,417.89
2051	909.80	1,022.67	25,938.29	3,859.13	6,926.59	1,932.47	36,724.01	38,656.48
2052	750.79	1,001.32	25,452.04	4,028.76	7,637.99	1,752.10	37,118.79	38,870.89
2053	616.31	977.80	24,894.89	4,176.24	8,399.31	1,594.11	37,470.44	39,064.54
2054	503.62	952.13	24,272.06	4,297.37	9,213.22	1,455.75	37,782.65	39,238.40
2055	410.03	924.38	23,588.48	4,391.42	10,071.75	1,334.41	38,051.65	39,386.06
2056	332.93	894.61	22,848.56	4,455.61	10,974.28	1,227.54	38,278.44	39,505.98
2057	269.91	862.90	22,056.60	4,487.34	11,920.16	1,132.80	38,464.10	39,596.91
2058	218.73	829.36	21,217.18	4,487.60	12,908.63	1,048.09	38,613.41	39,661.50
2059	177.44	794.10	20,334.70	4,459.13	13,939.96	971.55	38,733.79	39,705.34

TABLE 16: ADDITIONAL PROJECTION DETAILS - PRESENT VALUE OF FUTURE

FISCAL YEAR	CURRENT INACTIVES		ACTIVES			GRAND TOTALS		
	RETIREEES & BENEFICIARIES	DEFERREDS	TIER 1	CURRENT TIER 2	FUTURE TIER 2	CURRENT RETIREEES, BENEFICIARIES, & DEFERREDS	ACTIVES	TOTAL
2018	\$ 16,113.28	\$ 458.77	\$ 9,129.61	\$ 611.69	\$ 0.00	\$ 16,572.05	\$ 9,741.30	\$ 26,313.35
2019	15,808.32	475.75	9,757.97	643.11	78.59	16,284.07	10,479.67	26,763.74
2020	15,471.08	493.41	10,414.92	676.16	166.34	15,964.49	11,257.42	27,221.91
2021	15,103.95	511.55	11,099.90	711.10	262.42	15,615.50	12,073.42	27,688.92
2022	14,707.63	530.05	11,812.05	748.50	366.23	15,237.69	12,926.78	28,164.46
2023	14,283.14	548.97	12,550.17	789.76	477.87	14,832.10	13,817.79	28,649.89
2024	13,831.65	568.21	13,312.79	835.88	597.54	14,399.86	14,746.22	29,146.08
2025	13,354.57	587.79	14,097.97	886.75	726.22	13,942.37	15,710.94	29,653.31
2026	12,853.48	607.21	14,902.99	942.89	864.86	13,460.69	16,710.73	30,171.42
2027	12,330.23	626.61	15,724.81	1,004.63	1,014.40	12,956.84	17,743.85	30,700.69
2028	11,786.88	645.92	16,559.73	1,071.79	1,176.03	12,432.80	18,807.55	31,240.35
2029	11,225.74	679.17	17,404.31	1,143.16	1,350.89	11,904.91	19,898.36	31,803.26
2030	10,649.37	712.99	18,253.42	1,218.96	1,541.77	11,362.35	21,014.15	32,376.50
2031	10,060.57	747.15	19,102.42	1,299.44	1,749.34	10,807.72	22,151.20	32,958.92
2032	9,462.42	781.35	19,946.18	1,384.87	1,974.34	10,243.76	23,305.39	33,549.15
2033	8,858.21	815.65	20,778.63	1,475.51	2,218.25	9,673.86	24,472.39	34,146.25
2035	7,645.88	881.92	22,384.54	1,673.24	2,767.69	8,527.80	26,825.47	35,353.26
2036	7,045.42	913.51	23,144.11	1,780.81	3,075.62	7,958.93	28,000.54	35,959.46
2037	6,454.11	943.88	23,864.61	1,894.48	3,407.01	7,397.98	29,166.10	36,564.08
2038	5,876.04	972.43	24,539.16	2,014.50	3,763.12	6,848.48	30,316.78	37,165.26
2039	5,315.32	999.14	25,159.06	2,141.02	4,145.52	6,314.46	31,445.61	37,760.07
2040	4,775.86	1,022.85	25,715.64	2,273.99	4,555.83	5,798.70	32,545.46	38,344.16
2041	4,261.31	1,043.70	26,200.49	2,413.51	4,994.82	5,305.01	33,608.81	38,913.82
2042	3,774.98	1,060.57	26,605.99	2,559.58	5,463.95	4,835.55	34,629.52	39,465.07
2043	3,319.64	1,073.28	26,922.91	2,711.99	5,965.24	4,392.91	35,600.14	39,993.05
2044	2,897.46	1,081.78	27,145.80	2,870.02	6,499.65	3,979.24	36,515.46	40,494.70

TABLE 16: ADDITIONAL PROJECTION DETAILS - PRESENT VALUE OF FUTURE BENEFITS (\$ IN MILLIONS) | (CONTINUED)

FISCAL YEAR	CURRENT INACTIVES		ACTIVES			GRAND TOTALS		
	RETIREES & BENEFICIARIES	DEFERREDS	TIER 1	CURRENT TIER 2	FUTURE TIER 2	CURRENT RETIREES, BENEFICIARIES, & DEFERREDS	ACTIVES	TOTAL
2045	\$ 2,509.94	\$ 1,085.85	\$ 27,271.14	\$ 3,032.79	\$ 7,068.11	\$ 3,595.79	\$ 37,372.04	\$ 40,967.83
2046	2,157.90	1,085.10	27,295.08	3,199.51	7,671.57	3,243.00	38,166.16	41,409.16
2047	1,841.42	1,080.16	27,219.60	3,368.14	8,311.08	2,921.58	38,898.82	41,820.40
2048	1,559.86	1,070.70	27,047.01	3,536.87	8,988.08	2,630.57	39,571.96	42,202.52
2049	1,311.99	1,057.63	26,782.26	3,702.79	9,704.54	2,369.62	40,189.59	42,559.20
2050	1,096.03	1,041.51	26,430.94	3,863.83	10,460.96	2,137.53	40,755.73	42,893.26
2051	909.80	1,022.67	25,999.80	4,016.21	11,259.47	1,932.47	41,275.47	43,207.94
2052	750.79	1,001.32	25,495.45	4,154.15	12,101.97	1,752.10	41,751.56	43,503.66
2053	616.31	977.80	24,925.03	4,273.75	12,989.37	1,594.11	42,188.14	43,782.25
2054	503.62	952.13	24,292.59	4,371.49	13,922.77	1,455.75	42,586.85	44,042.60
2055	410.03	924.38	23,602.17	4,446.63	14,898.33	1,334.41	42,947.13	44,281.54
2056	332.93	894.61	22,857.45	4,496.20	15,913.50	1,227.54	43,267.14	44,494.69
2057	269.91	862.90	22,062.19	4,517.07	16,966.79	1,132.80	43,546.06	44,678.87
2058	218.73	829.36	21,220.54	4,509.41	18,056.76	1,048.09	43,786.71	44,834.80
2059	177.44	794.10	20,336.61	4,475.08	19,183.57	971.55	43,995.27	44,966.81

TABLE 17: ADDITIONAL PROJECTION DETAILS - BENEFIT PAYMENTS INCLUDING ADMINISTRATIVE EXPENSES AND HEALTH INSURANCE SUBSIDY
 (\$ IN MILLIONS)

FISCAL YEAR	CURRENT INACTIVES		ACTIVES			GRAND TOTALS		
	RETIRES & BENEFICIARIES	DEFERREDS	TIER 1	CURRENT TIER 2	FUTURE TIER 2	CURRENT RETIREES, BENEFICIARIES, & DEFERREDS	ACTIVES	TOTAL
2018	\$ 1,422.52	\$ 15.71	\$ 83.70	\$ 26.16	\$ 0.00	\$ 1,438.23	\$ 109.87	\$ 1,548.10
2019	1,432.32	16.26	98.39	25.93	3.18	1,448.58	127.50	1,576.08
2020	1,437.58	17.02	115.84	25.83	6.72	1,454.61	148.40	1,603.00
2021	1,440.07	17.94	136.15	25.47	10.26	1,458.01	171.88	1,629.90
2022	1,439.53	18.85	159.56	24.03	14.02	1,458.37	197.61	1,655.98
2023	1,435.87	19.85	186.18	21.99	17.92	1,455.72	226.10	1,681.82
2024	1,428.98	20.86	216.42	20.49	21.90	1,449.85	258.80	1,708.65
2025	1,418.77	22.40	250.84	18.89	25.91	1,441.17	295.63	1,736.81
2026	1,405.08	23.77	289.55	17.36	29.93	1,428.85	336.84	1,765.69
2027	1,387.86	25.23	333.00	16.43	34.10	1,413.09	383.53	1,796.62
2028	1,367.00	13.11	380.67	17.03	38.42	1,380.12	436.12	1,816.24
2029	1,342.43	14.89	433.98	17.66	41.60	1,357.32	493.23	1,850.55
2030	1,314.07	16.92	492.07	18.30	45.03	1,331.00	555.40	1,886.40
2031	1,281.89	19.29	555.08	18.96	48.75	1,301.18	622.79	1,923.97
2032	1,245.86	21.57	623.58	19.70	52.79	1,267.43	696.06	1,963.49
2033	1,206.03	24.77	697.08	20.61	57.12	1,230.79	774.81	2,005.61
2034	1,162.40	27.79	775.97	21.61	61.96	1,190.19	859.54	2,049.73
2035	1,115.07	31.24	859.89	22.82	67.16	1,146.31	949.87	2,096.18
2036	1,064.20	34.63	949.14	24.21	72.74	1,098.83	1,046.09	2,144.92
2037	1,010.01	38.50	1,042.24	25.81	78.76	1,048.51	1,146.81	2,195.32
2038	952.80	42.29	1,140.48	27.68	85.14	995.09	1,253.30	2,248.40
2039	893.02	47.06	1,243.25	30.09	92.42	940.07	1,365.75	2,305.83
2040	831.19	51.47	1,349.68	32.82	100.24	882.66	1,482.75	2,365.41
2041	767.93	56.77	1,458.43	36.01	108.60	824.70	1,603.05	2,427.75
2042	703.96	61.98	1,570.55	39.87	117.53	765.94	1,727.95	2,493.89

TABLE 17: ADDITIONAL PROJECTION DETAILS - BENEFIT PAYMENTS INCLUDING ADMINISTRATIVE EXPENSES AND HEALTH INSURANCE SUBSIDY
 (\$ IN MILLIONS) | (CONTINUED)

FISCAL YEAR	CURRENT INACTIVES		ACTIVES			GRAND TOTALS		
	RETIREES & BENEFICIARIES	DEFERREDS	TIER 1	CURRENT TIER 2	FUTURE TIER 2	CURRENT RETIREES, BENEFICIARIES, & DEFERREDS	ACTIVES	TOTAL
2043	\$ 640.06	\$ 66.93	\$ 1,681.72	\$ 44.87	\$ 127.01	\$ 706.98	\$ 1,853.60	\$ 2,560.58
2044	577.03	71.80	1,789.76	51.05	138.28	648.83	1,979.09	2,627.92
2045	515.65	76.74	1,894.77	58.34	150.36	592.39	2,103.47	2,695.86
2046	456.67	80.73	1,990.88	67.83	163.26	537.39	2,221.97	2,759.37
2047	400.78	84.75	2,077.98	79.15	176.93	485.54	2,334.06	2,819.59
2048	348.55	87.58	2,153.68	93.24	191.19	436.13	2,438.11	2,874.25
2049	300.38	89.61	2,217.73	109.10	209.28	389.99	2,536.10	2,926.09
2050	256.55	91.10	2,269.38	128.23	228.81	347.65	2,626.42	2,974.07
2051	217.23	92.22	2,309.21	152.30	249.90	309.45	2,711.42	3,020.87
2052	182.41	92.81	2,337.18	179.04	272.72	275.22	2,788.94	3,064.16
2053	151.95	93.24	2,356.71	207.88	296.86	245.19	2,861.45	3,106.64
2054	125.63	93.45	2,368.13	235.91	330.68	219.08	2,934.72	3,153.81
2055	103.15	93.46	2,371.98	265.32	367.80	196.61	3,005.10	3,201.71
2056	84.17	93.25	2,368.47	296.01	408.17	177.42	3,072.65	3,250.07
2057	68.31	92.80	2,357.48	324.64	451.78	161.11	3,133.90	3,295.01
2058	55.18	92.10	2,339.28	349.57	497.77	147.28	3,186.61	3,333.90
2059	44.43	91.14	2,313.80	368.83	557.55	135.57	3,240.19	3,375.76

TABLE 18: ADDITIONAL PROJECTION DETAILS - ACTIVE POPULATION, COVERED PAYROLL, EMPLOYEE CONTRIBUTIONS, AND NORMAL COSTS
 (\$ IN MILLIONS)

FISCAL YEAR	TIER 1 ACTIVE MEMBERS				CURRENT TIER 2 ACTIVE MEMBERS				FUTURE TIER 2 ACTIVE MEMBERS			
	POPULATION	COVERED PAYROLL	EMPLOYEE CONTRIBUTIONS	NORMAL COST	POPULATION	COVERED PAYROLL	EMPLOYEE CONTRIBUTIONS	NORMAL COST	POPULATION	COVERED PAYROLL	EMPLOYEE CONTRIBUTIONS	NORMAL COST
2018	20,271	\$ 1,693.72	\$ 152.43	\$ 370.34	8,584	\$ 451.45	\$ 40.63	\$ 44.09	0	\$ 0.00	\$ 0.00	\$ 0.00
2019	19,178	1,696.20	152.66	375.66	7,634	438.17	39.44	42.58	2,043	87.47	7.87	8.51
2020	18,237	1,700.60	153.05	380.75	6,991	432.40	38.92	41.80	3,627	162.90	14.66	16.18
2021	17,364	1,704.20	153.38	385.41	6,490	430.24	38.72	41.52	5,001	235.29	21.18	23.63
2022	16,536	1,706.14	153.55	389.48	6,083	431.33	38.82	41.70	6,236	307.06	27.64	30.97
2023	15,738	1,705.37	153.48	393.04	5,758	435.86	39.23	42.31	7,359	378.87	34.10	38.29
2024	14,971	1,702.01	153.18	395.73	5,497	443.42	39.91	43.23	8,387	451.18	40.61	45.65
2025	14,224	1,694.65	152.52	397.26	5,280	452.95	40.77	44.39	9,350	525.13	47.26	53.20
2026	13,491	1,682.31	151.41	397.66	5,097	463.75	41.74	45.74	10,267	601.54	54.14	61.07
2027	12,768	1,665.19	149.87	396.77	4,936	475.18	42.77	47.17	11,151	681.06	61.30	69.31
2028	12,054	1,642.88	147.86	394.68	4,788	485.54	43.70	48.64	12,013	764.42	68.80	78.05
2029	11,351	1,615.72	145.42	390.86	4,642	492.92	44.36	50.11	12,862	852.16	76.69	87.27
2030	10,648	1,582.14	142.39	385.54	4,507	496.61	44.70	51.53	13,699	944.96	85.05	97.15
2031	9,954	1,543.16	138.88	378.91	4,378	497.42	44.77	52.91	14,523	1,042.82	93.85	107.69
2032	9,275	1,499.52	134.96	370.77	4,253	496.26	44.66	54.27	15,327	1,145.47	103.09	118.85
2033	8,607	1,450.66	130.56	361.01	4,132	493.77	44.44	55.58	16,116	1,253.42	112.81	130.74
2034	7,949	1,396.43	125.68	349.39	4,012	490.13	44.11	56.89	16,893	1,366.49	122.98	143.25
2035	7,303	1,336.43	120.28	335.87	3,896	485.80	43.72	58.18	17,656	1,483.61	133.52	156.48
2036	6,671	1,270.82	114.37	320.45	3,781	480.72	43.27	59.47	18,404	1,604.89	144.44	170.47
2037	6,051	1,199.78	107.98	303.16	3,668	475.09	42.76	60.73	19,136	1,730.00	155.70	185.17
2038	5,450	1,123.84	101.15	283.82	3,557	468.89	42.20	61.99	19,848	1,858.82	167.29	200.67
2039	4,864	1,042.66	93.84	262.74	3,447	462.25	41.60	63.08	20,543	1,991.63	179.25	216.73
2040	4,300	957.37	86.16	240.29	3,333	454.47	40.90	64.11	21,222	2,127.20	191.45	233.56
2041	3,760	869.20	78.23	216.37	3,219	446.21	40.16	65.02	21,876	2,264.67	203.82	251.10
2042	3,246	778.29	70.05	190.79	3,104	437.31	39.36	65.74	22,504	2,404.04	216.36	269.38
2043	2,755	684.29	61.59	164.92	2,987	427.45	38.47	66.05	23,113	2,545.66	229.11	288.51
2044	2,300	591.57	53.24	139.33	2,859	415.58	37.40	65.98	23,695	2,688.36	241.95	307.88
2045	1,885	501.55	45.14	114.42	2,725	402.26	36.20	65.48	24,244	2,829.75	254.68	327.77
2046	1,510	415.38	37.38	92.29	2,585	387.28	34.85	64.21	24,760	2,970.64	267.36	348.14
2047	1,191	339.09	30.52	72.87	2,427	369.08	33.22	62.22	25,237	3,110.41	279.94	368.85
2048	923	271.82	24.46	56.53	2,258	348.47	31.36	59.42	25,674	3,248.81	292.39	389.95
2049	703	214.65	19.32	43.06	2,076	324.81	29.23	56.00	26,076	3,386.16	304.75	410.47

TABLE 18: ADDITIONAL PROJECTION DETAILS - ACTIVE POPULATION, COVERED PAYROLL, EMPLOYEE CONTRIBUTIONS, AND NORMAL COSTS
 (\$ IN MILLIONS) | (CONTINUED)

FISCAL YEAR	TIER 1 ACTIVE MEMBERS				CURRENT TIER 2 ACTIVE MEMBERS				FUTURE TIER 2 ACTIVE MEMBERS			
	POPULATION	COVERED PAYROLL	EMPLOYEE CONTRIBUTIONS	NORMAL COST	POPULATION	COVERED PAYROLL	EMPLOYEE CONTRIBUTIONS	NORMAL COST	POPULATION	COVERED PAYROLL	EMPLOYEE CONTRIBUTIONS	NORMAL COST
2050	526	\$ 166.77	\$ 15.01	\$ 32.28	1,888	\$ 299.30	\$ 26.94	\$ 51.60	26,441	\$ 3,519.46	\$ 316.75	\$ 431.06
2051	388	127.71	11.49	23.83	1,679	269.74	24.28	45.93	26,788	3,652.28	328.71	451.93
2052	281	96.34	8.67	17.38	1,445	234.95	21.15	39.40	27,129	3,785.21	340.67	473.15
2053	201	71.71	6.45	12.49	1,202	197.51	17.78	32.48	27,453	3,917.32	352.56	494.77
2054	141	52.55	4.73	8.85	962	159.81	14.38	25.88	27,752	4,048.27	364.34	514.70
2055	98	37.90	3.41	6.16	747	125.55	11.30	19.87	28,010	4,171.06	375.40	534.20
2056	66	26.77	2.41	4.20	561	95.20	8.57	14.73	28,228	4,289.02	386.01	553.25
2057	44	18.47	1.66	2.81	408	70.21	6.32	10.75	28,403	4,402.12	396.19	571.77
2058	28	12.46	1.12	1.81	295	51.55	4.64	7.91	28,531	4,509.82	405.88	589.93
2059	18	8.05	0.72	1.12	218	38.59	3.47	5.85	28,619	4,613.58	415.22	606.87

Normal cost includes administrative expenses and the health insurance subsidy of \$65 million annually.
 Covered payroll is capped for members hired after December 31, 2010, as defined by Public Act 96-0889.

STATISTICAL

This section includes summaries of statistical information about participating members, annuitants, and the benefits paid to them.

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION PENSION FUND

FOR THE YEAR ENDED JUNE 30, 2017, WITH COMPARATIVE TOTALS FOR 9 YEARS

	2017	2016	2015	2014	2013
ADDITIONS:					
Contributions:					
Intergovernmental, net (employer)	\$ 746,840,000	\$ 635,070,000	\$ 643,667,000	\$ 585,416,141	\$ 142,654,000
Employee contributions	187,538,787	191,882,430	191,233,298	187,846,065	188,356,294
Allocation to Health Insurance Fund	(49,000,701)	–	–	–	–
	885,378,086	826,952,430	834,900,298	773,262,206	331,010,294
Investment Income:					
Net investment income (loss)	1,233,003,939	(28,176,952)	381,688,431	1,685,079,840	1,174,500,001
Miscellaneous	214,119	1,463,050	943,946	–	–
Total Additions (Losses)	2,118,596,144	800,238,528	1,217,532,675	2,458,342,046	1,505,510,295
DEDUCTIONS:					
Pension Benefits:					
Retirement	1,322,061,148	1,282,078,958	1,242,868,398	1,211,523,930	1,173,343,019
Survivors	53,004,333	50,082,015	47,403,198	44,428,213	41,503,227
Disability	14,382,691	14,372,308	14,223,383	13,882,921	13,472,748
Refunds:					
Separation	22,718,240	23,077,014	17,504,508	22,332,203	12,948,597
Death	4,095,450	4,581,068	2,009,495	3,598,338	3,284,366
Other	5,395,680	5,917,518	4,365,794	6,901,631	8,554,098
Death Benefits:					
Heirs of Active Teachers	755,675	1,158,629	161,214	194,115	441,036
Heirs of Annuitants	2,524,967	3,558,888	3,031,417	3,480,505	3,553,273
	1,424,938,184	1,384,826,398	1,331,567,407	1,306,341,856	1,257,100,364
Administrative and Miscellaneous Expenses					
	13,781,343	12,298,862	11,705,562	10,494,139	11,537,394
Total Deductions	1,438,719,527	1,397,125,260	1,343,272,969	1,316,835,995	1,268,637,758
Net increase (decrease)	679,876,617	(596,886,732)	(125,740,294)	1,141,506,051	236,872,537
Net assets held in trust for benefits:					
Beginning of period	10,093,067,588	10,689,954,320	10,815,694,614	9,674,188,563	9,437,316,026
Transfer of residual assets to Pension Plan	20,229,722*	–	–	–	–
End of period	\$ 10,793,173,927	\$ 10,093,067,588	\$ 10,689,954,320	\$ 10,815,694,614	\$ 9,674,188,563

*The Health Insurance Fund is not in an OPEB Trust, nor are the OPEB assets restricted solely for OPEB.

	2012	2011	2010	2009	2008
ADDITIONS:					
Contributions:					
Intergovernmental, net (employer)	\$ 138,729,011	\$ 143,589,994	\$ 290,759,950	\$ 198,069,327	\$ 164,270,412
Employee contributions	187,141,384	185,882,636	194,621,551	176,176,975	172,504,804
Allocation to Health Insurance Fund	—	—	—	—	—
	325,870,395	329,472,630	485,381,501	374,246,302	336,775,216
Investment Income:					
Net investment income (loss)	(38,124,125)	2,123,272,170	1,107,453,898	(2,464,420,944)	(738,817,587)
Miscellaneous					
	431,790	55,307	—	—	—
Total Additions (Losses)	288,178,060	2,452,800,107	1,592,835,399	(2,090,174,642)	(402,042,371)
DEDUCTIONS:					
Pension Benefits:					
Retirement	1,062,373,677	999,323,111	943,252,537	897,873,287	863,963,625
Survivors	38,812,556	36,196,804	33,738,810	31,028,747	29,037,664
Disability	12,698,514	12,019,044	11,512,123	11,673,453	11,673,773
Refunds:					
Separation	17,521,737	13,135,132	9,334,950	10,615,031	5,626,786
Death	4,139,266	3,373,836	4,253,510	3,765,163	3,218,956
Other	14,633,633	10,671,550	7,495,834	5,658,269	7,884,526
Death Benefits:					
Heirs of Active Teachers	387,047	419,861	496,832	514,743	486,740
Heirs of Annuitants	2,937,334	2,840,999	2,449,315	2,462,789	2,359,473
	1,153,503,764	1,077,980,337	1,012,533,911	963,591,482	924,251,543
Administrative and Miscellaneous Expenses					
	10,120,434	9,527,938	8,800,848	8,751,945	7,827,576
Total Deductions	1,163,624,198	1,087,508,275	1,021,334,759	972,343,427	932,079,119
Net increase (decrease)	(875,446,138)	1,365,291,832	571,500,640	(3,062,518,069)	(1,334,121,490)
Net assets held in trust for benefits:					
Beginning of period	10,312,762,164	8,947,470,332	8,375,969,692	11,438,487,761	12,772,609,251
Transfer of residual assets to Pension Plan	—	—	—	—	—
End of period	\$ 9,437,316,026	\$ 10,312,762,164	\$ 8,947,470,332	\$ 8,375,969,692	\$ 11,438,487,761

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
HEALTH INSURANCE FUND
FOR THE YEAR ENDED JUNE 30, 2017, WITH COMPARATIVE TOTALS FOR 9 YEARS

	2017	2016	2015	2014	2013
ADDITIONS:					
Contributions:					
Allocation from Employer Contribution	\$ 49,000,701	\$ 65,000,000	\$ 65,000,000	\$ 65,000,000	\$ 65,000,000
Investment Income:					
Net investment income	–	189,789	51,868	55,134	82,822
Miscellaneous	–	–	–	8,000,000	8,352,647
Total Additions	49,000,701	65,189,789	65,051,868	73,055,134	73,435,469
DEDUCTIONS:					
Health Insurance Premium Subsidy	49,000,701	66,673,226	79,316,153	72,874,594	71,763,523
Total Deductions	49,000,701	66,673,226	79,316,153	72,874,594	71,763,523
Net increase (decrease)	–	(1,483,437)	(14,264,285)	180,540	1,671,946
Fiduciary Net Position Held in Trust for Pension Benefits:					
Beginning of period	20,229,722	21,713,159	35,977,444	35,796,904	34,124,958
Transfer of residual assets to Pension Plan	(20,229,722)	–	–	–	–
End of period	\$ –	\$ 20,229,722	\$ 21,713,159	\$ 35,977,444	\$ 35,796,904

	2012	2011	2010	2009	2008
ADDITIONS:					
Contributions:					
Intergovernmental, net (employer)	\$ 65,000,000	\$ 65,000,000	\$ 65,000,000	\$ 65,000,000	\$ 65,000,000
Investment income:					
Net investment income	41,058	20,471	119,855	514,200	1,278,818
Miscellaneous	6,770,651	10,338,661	–	15,000,000	–
Total Additions	71,811,709	75,359,132	65,119,855	80,514,200	66,278,818
DEDUCTIONS:					
Health Insurance Premium Rebate	69,011,323	78,892,292	79,953,873	75,811,835	68,691,191
Total Deductions	69,011,323	78,892,292	79,953,873	75,811,835	68,691,191
Net increase (decrease)	2,800,386	(3,533,160)	(14,834,018)	4,702,365	(2,412,373)
Fiduciary Net Position Held in Trust for Pension Benefits:					
Beginning of period	31,324,572	34,857,732	49,691,750	44,989,385	47,401,758
Transfer of residual assets to Pension Plan	–	–	–	–	–
End of period	\$ 34,124,958	\$ 31,324,572	\$ 34,857,732	\$ 49,691,750	\$ 44,989,385

ANNUITANTS

DISTRIBUTION OF CURRENT ANNUITANTS BY BENEFIT TYPE AS OF JUNE 30, 2017

MONTHLY PENSION AMOUNT	RETIREEES		DISABLED RETIREEES		BENEFICIARIES		TOTAL	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
\$ 1 – 500	386	999	1	1	168	247	555	1,247
\$ 501 – 1,000	384	861	5	11	212	365	601	1,237
\$ 1,001 – 1,500	325	664	14	33	149	192	488	889
\$ 1,501 – 2,000	222	626	8	48	171	238	401	912
\$ 2,001 – 2,500	234	746	12	45	144	247	390	1,038
\$ 2,501 – 3,000	257	887	13	51	227	357	497	1,295
\$ 3,001 – 3,500	301	1,021	15	40	42	138	358	1,199
\$ 3,501 – 4,000	309	1,364	13	35	18	77	340	1,476
\$ 4,001 – 4,500	331	1,302	9	47	12	56	352	1,405
\$ 4,501 – 5,000	470	1,516	6	33	8	33	484	1,582
\$ 5,001 – 5,500	765	2,362	3	8	4	17	772	2,387
\$ 5,501 – 6,000	862	2,713	1	6	3	7	866	2,726
\$ 6,001 – 6,500	479	1,469	–	–	–	1	479	1,470
\$ 6,501 – 7,000	237	594	2	2	–	–	239	596
\$ 7,001 – 7,500	191	278	–	1	–	–	191	279
\$ 7,501 – 8,000	121	227	2	1	–	–	123	228
\$ 8,001 – 8,500	100	220	1	–	–	–	101	220
\$ 8,501 – 9,000	85	164	–	–	1	–	86	164
\$ 9,001 – 9,500	76	128	–	–	–	–	76	128
\$ 9,500 & Over	195	366	–	–	–	1	195	367
Total	6,330	18,507	105	362	1,159	1,976	7,594	20,845

ANNUITANTS

DISTRIBUTION OF PENSIONERS WITH HEALTH INSURANCE REIMBURSEMENTS BY SIZE OF ANNUITY | AS OF JUNE 30, 2017

MONTHLY PENSION AMOUNT	HEALTH INSURANCE	
	MALE	FEMALE
\$ 0 – 499	28	75
\$ 500 – 999	68	219
\$ 1,000 – 1,499	113	229
\$ 1,500 – 1,999	93	357
\$ 2,000 – 2,499	129	467
\$ 2,500 – 2,999	176	681
\$ 3,000 – 3,499	179	750
\$ 3,500 – 3,999	201	957
\$ 4,000 – 4,499	235	988
\$ 4,500 – 4,999	361	1,192
\$ 5,000 – 5,499	616	1,929
\$ 5,500 – 5,999	696	2,236
\$ 6,000 – 6,499	403	1,210
\$ 6,500 – 6,999	191	491
\$ 7,000 – 7,499	154	237
\$ 7,500 – 7,999	100	191
\$ 8,000 – 8,499	85	174
\$ 8,500 – 8,999	75	145
\$ 9,000 & Over	225	417
Total	4,128	12,945

Represents members who have purchased insurance from the Fund's providers and reimbursed members who have purchased insurance from other outside providers.

SCHEDULE OF AVERAGE BENEFIT PAYMENTS FOR PERSONS RETIRED WITHIN THE LAST 10 YEARS

	YEARS OF CREDITED SERVICE						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Fiscal Year 2008							
Average Monthly Pension	258	781	1,397	2,071	2,699	4,025	6,297
Average Final Salary*	5,487	5,450	5,411	5,539	5,969	7,185	8,555
Number of Retired Members	45	49	35	38	58	44	358
Fiscal Year 2009							
Average Monthly Pension	339	813	1,519	2,249	2,621	3,523	4,748
Average Final Salary*	6,323	5,224	5,635	6,074	5,616	5,970	6,459
Number of Retired Members	38	63	52	50	82	53	314
Fiscal Year 2010							
Average Monthly Pension	307	803	1,435	2,331	2,922	3,672	5,862
Average Final Salary*	5,954	4,909	5,408	6,139	6,275	6,413	7,978
Number of Retired Members	33	64	52	46	63	42	160
Fiscal Year 2011							
Average Monthly Pension	313	802	1,361	2,363	2,910	3,944	6,458
Average Final Salary*	6,480	4,994	5,276	6,252	6,405	6,936	8,824
Number of Retired Members	39	59	56	60	91	49	232
Fiscal Year 2012							
Average Monthly Pension	348	842	1,452	2,522	3,308	4,142	5,788
Average Final Salary*	6,690	5,457	5,509	6,696	7,049	7,173	7,887
Number of Retired Members	72	114	84	134	221	157	538
Fiscal Year 2013							
Average Monthly Pension	275	856	1,645	2,761	3,567	4,422	5,976
Average Final Salary*	5,623	5,491	6,180	7,136	7,495	7,688	8,157
Number of Retired Members	56	114	91	186	380	256	824
Fiscal Year 2014							
Average Monthly Pension	262	758	1,648	2,581	3,477	4,307	5,683
Average Final Salary*	6,555	5,023	6,309	6,657	7,376	7,516	7,823
Number of Retired Members	46	89	74	102	184	120	145
Fiscal Year 2015							
Average Monthly Pension	275	877	1,606	2,621	3,530	4,254	5,561
Average Final Salary*	6,587	5,377	5,891	6,851	7,555	7,483	7,762
Number of Retired Members	47	104	117	107	269	172	240
Fiscal Year 2016							
Average Monthly Benefit	326	840	1,493	2,432	3,440	4,294	5,701
Average Final Salary*	7,267	5,266	5,627	6,515	7,301	7,711	8,026
Number of Retired Persons	61	92	77	113	184	123	202
Fiscal Year 2017							
Average Monthly Benefit	323	734	1,578	2,516	3,438	4,301	5,684
Average Final Salary*	6,255	4,332	5,819	6,705	7,268	7,612	7,975
Number of Retired Persons	38	80	83	99	167	129	219

* The higher final average salaries in the 0-4 years of credited service are the result of a higher concentration of members with larger salaries who have service with other reciprocal pension plans. Table does not include disabled members or surviving spouses.

PARTICIPATING MEMBERS

NUMBER OF ACTIVE MEMBERS*

FISCAL YEAR	MALE PARTICIPANTS	FEMALE PARTICIPANTS	TOTAL
2008	7,473	24,613	32,086
2009	7,617	24,288	31,905
2010	7,145	23,867	31,012
2011	6,949	23,184	30,133
2012	7,048	23,318	30,366
2013	7,253	23,716	30,969
2014	7,215	23,439	30,654
2015	7,033	22,673	29,706
2016	7,077	22,466	29,543
2017	6,961	21,894	28,855

*Active members consist of vested and non-vested employees.



BOARD OF TRUSTEES

As of January 1, 2018

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President

Gregory Redfeairn
Financial Secretary

Lois W. Ashford
Vice President

Bernice Eshoo
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Executive Director