



# New York State Teachers' Retirement System

# Mission:

To provide our members with a secure pension

# Vision:

To be <u>the</u> model for pension fund excellence and exceptional customer service

# Values:

Integrity

Excellence

Respect

Resourcefulness

Diversity

Diligence

Balance

Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 2015

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# **GFOA Award**



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

# New York State Teachers' Retirement System

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2014

Jeffry K. Ener

Executive Director/CEO

# **PPCC** Award



**Public Pension Coordinating Council** 

# Public Pension Standards Award For Funding and Administration 2014

Presented to

# New York State Teachers' Retirement System

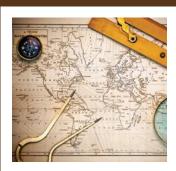
In recognition of meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA) National Conference on Public Employee Retirement Systems (NCPERS) National Council on Teacher Retirement (NCTR)

> Alan H. Winkle Program Administrator

# Introduction



Approximately 426,000 educators are covered by NYSTRS, including nearly 268,000 active members and more than 158,000 retired members and beneficiaries.



NYSTRS serves 822 employers, including public school districts, BOCES, institutions of higher education and charter schools that elect to participate.



A 10-member Board representing various constituents — including school teachers, administrators and boards — governs the System.

# Introduction

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# **Board of Trustees**

R. Michael Kraus

President

EAST AURORA

Insurance Executive

Insurance Executive Elected by Board of Regents First Elected 1992



David P. Keefe
Vice President
HEMPSTEAD
Retired Teacher Member
Elected by NYSTRS Retirees
First Elected 2004

Jolene T. DiBrango PITTSFORD Teacher Member Elected by Delegates

First Elected 2014





Michael J. Masse
FAYETTEVILLE
Bank Executive
Elected by Board of Regents
First Elected 2009

Paul J. Farfaglia JORDAN-ELBRIDGE Teacher Member Elected by Delegates First Elected 2009





Dr. L. Oliver Robinson
CLIFTON PARK
Administrator
Appointed by
Commissioner of Education
First Elected 2010

Dr. Phyllis S. Harrington
OCEANSIDE
Administrator
Appointed by
Commissioner of Education
First Appointed 2010





Nicholas Smirensky
DELMAR
State Comptroller's
Representative
First Appointed 2007



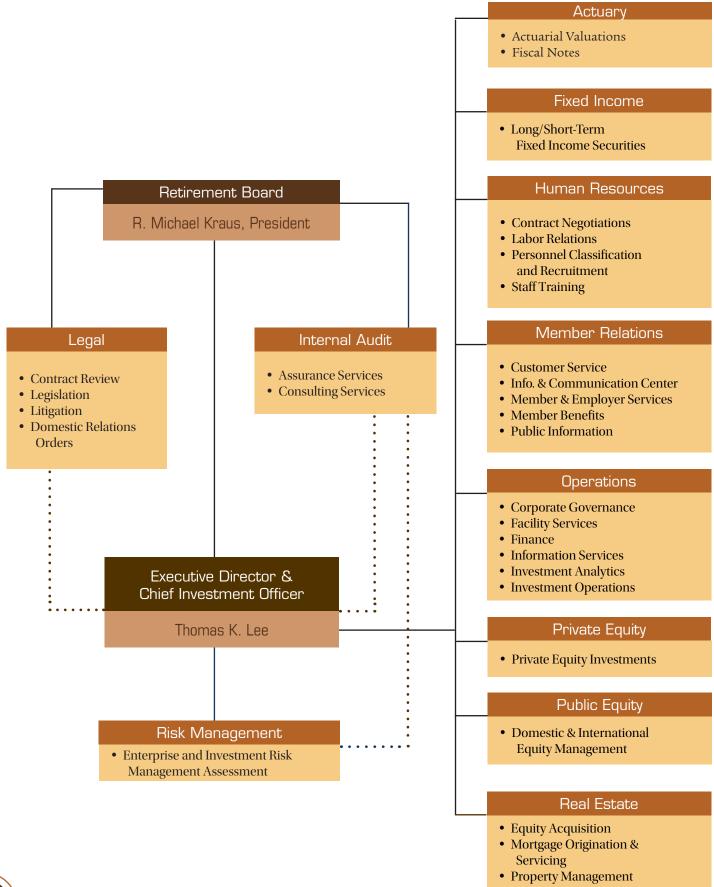
Bank Executive Elected by Board of Regents First Elected 2005





Timothy M. Southerton
SAYVILLE
Teacher Member
Elected by Delegates
First Elected 2011

# Organizational Structure



# **Executive Staff**

Thomas K.
Lee
Executive Director
& Chief Investment
Officer



Beth M. Bonacquist Director of Human Resources



Sheila O. Gardella Director of Member Relations



David C. Gillan Managing Director of Real Estate



Frederick W.
Herrmann
Managing
Director of
Public Equities



Joseph J. Indelicato Jr. General Counsel



Noreen Jones Director of Risk Management



Kenneth R. Kasper Director of Internal Audit



Kevin J. Schaefer Managing Director of Operations



John W.
Virtanen
Managing
Director of
Private Equity



Michael A. Wolfe Jr. Managing Director of Fixed Income



Richard A. Young Actuary



# Letter of Transmittal

RETIREMENT BOARD

East Aurora

Hempstead

Jordan-Elbridge

Pittsford

Troy

Oceanside

Fayetteville

Clifton Park

Delmar

Sayville

R. Michael Kraus

Jolene T. DiBrango

Phyllis S. Harrington

Daniel J. Hogarty Jr.

Michael J. Masse

L. Oliver Robinson

Nicholas Smirensky

Timothy M. Southerton

Paul J. Farfaglia

President

David P. Keefe Vice President



# New York State Teachers' Retirement System

10 Corporate Woods Drive Albany, NY 12211-2395 (800) 348-7298 or (518) 447-2900

NYSTRS.org

Thomas K. Lee, Executive Director & CIO

October 29, 2015

Trustees of the Retirement System Board:

On behalf of System staff, I present you with the Comprehensive Annual Financial Report (CAFR) of the New York State Teachers' Retirement System (NYSTRS or the System) for the fiscal year ended June 30, 2015. This report complies with all requirements governing the preparation and contents of annual reports.

# History and Overview

Created in 1921 by an act of the state Legislature, NYSTRS administers the fund from which most New York State public school teachers and administrators receive retirement and ancillary benefits. Retirement benefits are provided in accordance with New York State law and may not under the New York Constitution be diminished or impaired. A summary of NYSTRS benefits is provided on pages 15-19 of this report.

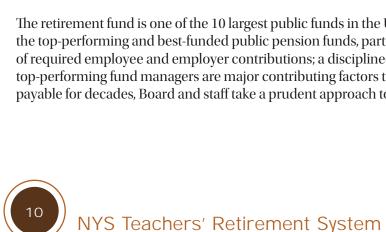
The System is governed by a 10-member Board of Trustees, which sets policy and oversees operations consistent with its fiduciary obligations under applicable law. A staff of approximately 370 is responsible for the day-to-day administration. NYSTRS serves 822 employers — including public school districts, BOCES, institutions of higher education and charter schools that elect to participate. NYSTRS has approximately 426,000 active and retired members, including beneficiaries (see accompanying chart).

# Membership Figures — as of June 30, 2015

Active Members: 267,715 Retired Members: 152,608 Beneficiaries: 5,850 Total Membership: 426,173

See page 109 for additional membership information.

The retirement fund is one of the 10 largest public funds in the U.S. based on portfolio size. NYSTRS is also consistently among the top-performing and best-funded public pension funds, particularly among teacher retirement systems. Consistent receipt of required employee and employer contributions; a disciplined, risk-controlled investment policy; and, relationships with top-performing fund managers are major contributing factors to this stability. As a long-term investor with liabilities often not payable for decades, Board and staff take a prudent approach to asset management.



## Letter of Transmittal (continued)

#### **Awards**

Recognition from various industry organizations further demonstrates the System's commitment to excellence. Honors received within the fiscal year covered by this report include:

Certificate of Achievement for Excellence in Financial Reporting, awarded by the Government Finance Officers Association (GFOA) of the United States and Canada. Given in recognition of the System's 2014 Comprehensive Annual Financial Report, the award certifies the report was prepared in conformity with the highest standards in government accounting and financial reporting.

*Distinguished Budget Presentation Award* for the fiscal year July 1, 2014 through June 30, 2015, also awarded by GFOA. To be eligible for this recognition, the budget document must meet established criteria as a policy document, operations guide, financial plan and communications device.

*Public Pension Principles Achievement Award*, presented by the Public Pension Coordinating Council. The criterion to qualify for this award includes compliance with specific principles in the areas of benefits, actuarial valuation, financial reporting, investment and disclosure.

#### Legislation

No legislation significantly impacting the System or its members was adopted during the fiscal year.

# Noteworthy Actions

#### Technology Upgrades

Upgrades were made to the System's portfolio accounting system to further enhance controls and provide processing efficiencies. In terms of member data, security was enhanced through improvements to our Intrusion Prevention Systems (IPS).

#### Website Redesign

Member Relations and Information Services staff spent much of the year redesigning and reformatting the System's website. The all-new NYSTRS.org made its debut in July 2015, featuring more intuitive navigation; a clean, clutter-free layout; and, responsive design for better viewing and navigation on mobile devices. We continue to add self-service functionality to the site benefitting members, employers and the System's investment partners.

#### Mobile App

NYSTRS enhanced its member customer service by creating and releasing in November a mobile app for smartphones and tablets — a pioneering effort in the public pension community. Members use the app to stay on top of the latest System news; get directions to NYSTRS consultation and seminar sites statewide; find answers to various benefit-related questions; learn about pension eligibility; and, even use a retirement countdown clock. Like the website, the app is another self-service tool offered as part of our continuing effort to provide exceptional customer service to our members.

## Letter of Transmittal (continued)

#### Significant Litigation

New York State Teachers' Retirement System, et. al. v. General Motors Company, et. al. — The action commenced May 12, 2014. The Sixth Circuit Court of Appeals denied the petition for mandamus and adopted the arguments that the District Court properly appointed NYSTRS as lead plaintiff. On September 17, 2015, GM announced that the parties had reached a confidential settlement of the matter subject to the approval of the District Court. The settlement is on behalf of a class of investors who purchased GM common stock from November 17, 2010 through July 24, 2014 and had concerns about GM's alleged failures to disclose facts regarding ignition switch defects that have been reported to have caused over 100 deaths and numerous other injuries.

#### Financial Information

Members of the NYSTRS Board, who serve without pay, have a fiduciary responsibility to safeguard the fund used to pay guaranteed retirement and ancillary benefits to the System's approximately 426,000 members and beneficiaries. The System's long-term pension obligations for this population are well funded. Strict governmental requirements for transparency and public accountability as established by the Governmental Accounting Standards Board (GASB), as well as state and federal laws, are rigorously followed. Consistently favorable audits of System finances from a variety of independent sources affirm this.

The design, implementation and administration of appropriate internal controls protecting the security of assets are the responsibility of System management. The internal control framework has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived, and that the valuation of costs and benefits require estimates and judgments by management. To ensure the validity of these controls, a system of both external and internal checks and balances exists. Financial information and internal controls are subject to audit by the New York State Department of Financial Services and the Retirement System's Internal Audit Department. In addition, KPMG LLP, an independent certified public accountant, whose unmodified opinion appears on page 23 of this report, audits the financial statements. An audit of our actuarial methods, assumptions and valuations was completed in 2015 by Gabriel Roeder Smith & Company, which concluded the actuarial valuation of the System fairly represented the actuarial position and funding requirements of the System. These oversight mechanisms provide scrupulous and transparent adherence to applicable regulations.

Major System expenses result from retirement benefit payments, death benefits and refunds of contributions to certain eligible members and beneficiaries. The increase in retirement benefit payments from 2014 to 2015 is attributable to a net increase of 2,527 retirees and beneficiaries (details are found on page 32 in the *Notes to Financial Statement-Plan Description*). Also see the *Benefits and Return of Contributions by Type* chart on pages 124-125 for more information.

For an overview of NYSTRS' financial activities for the fiscal year ended June 30, 2015, see *Management's Discussion and Analysis* beginning on page 25. This section provides explanations and further details of the information provided in the financial statements, its notes and required supplementary information.

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the management of the System. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the System.

# Letter of Transmittal (continued)

# **Funding**

Funds used to pay promised benefits come from employer contributions, member contributions and investment income. Assets are professionally managed and invested on a long-term basis using sound investment policies. See *Statements of Changes in Fiduciary Net Position* on page 31 for more information.

The employer contribution rate (ECR) — expressed as a uniform percentage of member payroll — is set annually at the level necessary to properly fund benefits. The rate is established in accordance with an actuarial valuation of System assets and liabilities. The most recently adopted ECR of 13.26% will apply to 2015-16 member salaries and will be paid by employers in fall 2016. The rates are set well in advance so school districts can budget for this expense.

The System's year-end net assets totaled \$109.7 billion. During the same period, benefits paid to retirees and beneficiaries were approximately \$6.5 billion.

The plan's funded ratio as of June 30, 2014, the date of the most-recent annual actuarial valuation and calculated using the Actuarial Value of Assets, was 92.9%. Details of our funding progress may be obtained by turning to page 103.

#### Investments

The System's assets are invested in the most prudent manner possible in order to achieve optimum long-term total returns with an appropriate level of risk. The System is committed to a disciplined, risk-controlled investment approach that focuses on thoughtful and prudent diversification of assets across a broad spectrum of capital market segments. The allocation of assets within the portfolio, as well as the fund's overall structure, are continuously reviewed and adjusted as appropriate to achieve these goals.

The System's total portfolio returned 5.2% net of fees for the fiscal year ended June 30, 2015. The positive return was in line with peer returns for the same period. Our 25-year rate of return is 8.9%, net of fees.

Refer to pages 67-96 for further information on NYSTRS' investments. A listing of our equity and fixed income holdings can be viewed on our website at NYSTRS.org.

# Acknowledgements

This Comprehensive Annual Financial Report is prepared by NYSTRS' staff and reviewed by external auditors prior to publication. The intent of the publication is to provide complete and reliable information for making management decisions, determining compliance with legal provisions and determining responsible stewardship of System assets.

The full report is available on the System's website at NYSTRS.org. A summary of the report is printed each year in the newsletters NYSTRS distributes to both its active and retired members. Printed copies are available upon request.

Board and staff successfully navigated the System through a challenging fiscal year, never losing sight of our fiduciary responsibility to members. We remain keenly focused on meeting established fund and risk objectives in our continuing effort to meet our primary mission: To provide our members with a secure pension.

Respectfully submitted,

Thomas K I oo

Executive Director & Chief Investment Officer

In K Lee

# President's Message





Dear NYSTRS Members, Administrators and Teachers:

"Roberta" (not her real name) is almost 99 years young and receives a NYSTRS pension — a pension she earned by working *60 years*. We have four other members receiving a monthly benefit payment from us who worked even longer, with "Henrietta" logging the most service: 64 years and 8 months.

In all we have 5,670 members who had 40 years or more of service at retirement, 99 of whom had 50 years or more. Clearly these public educators worked long and hard to earn their pensions.

Length of service is generally overlooked when people deliberate the pros and cons of public pensions, but this should not be the case. Our members earned their monthly benefit by dedicating countless hours educating our sons, daughters, grandchildren and the children of relatives, friends and neighbors. In return, we provide our more than 152,000 retired members with peace of mind in the form of retirement income. Our members know they can count on the benefits they earned from NYSTRS for as long as they live.

I am proud to be associated with an organization that cares deeply about the most senior members of our society. In my nearly 25-year association with NYSTRS, I have had the privilege to work with many bright and caring individuals who are dedicated to providing a secure pension and the highest levels of customer service. I have learned much from them while our members, whose consistently positive feedback continues to be a source of pride, have benefitted from their knowledge and compassion.

I am confident the defined benefit model will continue to prove it is the most efficient and cost-effective way to provide retirement security. I am equally assured NYSTRS will continue to be a model for pension fund excellence thanks to the tremendous individuals who work on behalf of our nearly half-a-million members.

R. Michael Kraus

R. Michael Grans

President

# **Summary of Benefits**

## Types of Benefits

NYSTRS provides service, vested and disability retirement benefits, as well as death benefits.

## Membership Tiers

System members are organized using a tier structure based on date of membership. There are six tiers, each with different benefit structures and eligibility rules.

Tier 1: Membership prior to 7/1/73 Tier 4: Membership 9/1/83 - 12/31/09 Tier 2: Membership 7/1/73 - 7/26/76 Tier 5: Membership 1/1/10 - 3/31/12 Tier 3: Membership 7/27/76 - 8/31/83 Tier 6: Membership on or after 4/1/12

# Eligibility for Service Retirement

Under Tiers 1-4, members may retire and receive a service retirement benefit at age 55 if credited with five years of New York State service. Retirement for Tier 1 members is also possible with fewer years of service under certain circumstances. Tier 5 and 6 members may retire at age 55 with 10 years of state service credit.

Tier 1 members may retire at any age with 35 years of service.

Tier 3 members are also entitled to the benefits under Tier 4. Because of the improvements in Tier 4, most Tier 3 members retire under the provisions of Tier 4. When the benefits under one tier are obviously better, an eligible member will automatically receive the better benefits.

### Service Retirement Benefit

A Tier 1 member is eligible to retire at age 55 under the Career Plan without a reduction in benefits if credited with at least 20 years of state service. The pension for 20 years of New York State service rendered after July 1, 1959, is 40% of final average salary. With few exceptions, the maximum pension under the Career Plan is 79% of final average salary. This includes the two years of service added under the Benefit Enhancement legislation.

A Tier 2 member may retire at age 55 without a reduction in benefits if credited with at least 30 years of service. The pension for 30 years of service is 60% of final average salary. The maximum pension payable under Tier 2 is also 79% of final average salary, including two years of service added under the Benefit Enhancement legislation.

A Tier 4 member, and a Tier 3 member retiring under Tier 4, may retire at age 55 without a reduction in benefits if credited with at least 30 years of service. The pension for 30 years of service is 60% of final average salary. Each year beyond 30 years increases the pension 1½% of final average salary.

A Tier 5 member may retire at age 57 without a reduction in benefits if credited with at least 30 years of service. A Tier 6 member may retire at age 63 without a reduction in benefits.

# Benefit Enhancement (Article 19)

New York State law enacted in 2000 provides up to two additional years of service credit at retirement for Tier 1 and 2 members who meet the eligibility requirements. It also allows Tier 3 and 4 members to cease making 3% required contributions when they have been a member for 10 years or have 10 years of total service credit, whichever occurs first. Tier 5 and 6 members are not entitled to any Benefit Enhancement.

#### Pension Formulas

A retirement benefit is determined by the following formula:

#### Pension Factor x Age Factor (if applicable) x Final Average Salary = Maximum Annual Pension.

The pension factor under each tier for a service retirement is calculated using the percentages as shown in the chart below.

#### PENSION FORMULAS FOR SERVICE RETIREMENT

#### Tier 1

- $\cdot 2\%$  x years of NYS service since July 1, 1959, including any applicable benefit enhancement credit.
- 1.8% x years of NYS service before July 1, 1959.
- 1% x years of out-of-state service prior to NYSTRS membership (10-year maximum).\*
- 5% reduction in pension for each full year of NYS service under 20 years (prorated for partial years with a maximum reduction of 50%).

#### Tier 2

- Computed under the Tier 1 formula, including applicable benefit enhancement credit and/or the 5% reduction for each year of NYS service under 20 years. (Note: Tier 2 members cannot claim out-of-state service unless it was credited under a previous Tier 1 membership.)
- A prorated reduction of up to 27% when retirement occurs before age 62 with less than 30 years of NYS service.
- No reductions if the member is age 62 with at least 20 years of service, or at age 55 with 30 years or more.

#### Tier 3 \* \*

- · 1.67% x years of NYS service if credited with less than 20 years, or 2% x years of NYS service if credited with 20 to 30 years.
- · 60% maximum for 30 years or more.
- · A prorated reduction of up to 30% when retirement occurs before age 62 with less than 30 years of NYS service.
- · No reductions if the member is age 62, or if credit totals 30 years or more.
- · At age 62 (or at retirement, if older), benefit reduced by 50% of primary Social Security benefit accrued while in NYS public employment.

#### Tier 4

- 1.67% x years of NYS service if credited with less than 20 years, or 2% x years of NYS service if credited with 20 to 30 years.
- 60% plus 1.5% for each year of NYS service beyond 30 years.
- · A prorated reduction of up to 27% when retirement occurs before age 62 with less than 30 years of NYS service.
- No reductions if the member is age 62, or if credit totals 30 years or more.

#### Tier 5

- 1.67% x years of NYS service if credited with less than 25 years, or 2% x years of NYS service if credited with 25 to 30 years.
- 60% plus 1.5% for each year of NYS service beyond 30 years.
- · A prorated reduction of up to 38% when retirement occurs before age 62 with less than 30 years of service.
- · No reduction if the member is age 62, or if credit totals 30 years or more of service and the member is at least age 57.

#### Tier 6

- 1.67% x years of NYS service if credited with less than 20 years, or 1.75% x years of NYS service if credited with 20 years.
- 35% plus 2% per year beyond 20 years of service.
- · A prorated reduction of up to 52% when retirement occurs before age 63 regardless of your total service.
- \* Any portion of this credit that brings the total service credit beyond 35 years is excluded from the pension calculation. Benefit Enhancement credit is <u>not</u> used to establish the 35-year threshold.
- \*\* Tier 3 members are entitled to receive either the benefits under Tier 3 or 4, whichever are greater.



# Final Average Salary

Final average salary is generally defined as the average of the member's three highest consecutive school years of regular salary, excluding termination pay, retirement bonuses, pay for unused sick leave or accumulated vacation, and increases in salary which exceed certain limitations. Tier 6 members are restricted to a five-year final average salary using regular salary.

Members who joined the System prior to June 17, 1971 are entitled to a five-year final average salary without the limitations of the three-year final average salary if the five-year final average salary is greater.

#### Vested Retirement

NYSTRS members who cease employment with five or more years of credited service are eligible for a vested retirement. Ten years are required for Tier 5 and 6 members. The vested benefit is payable at age 55 and is calculated using the same factors as a service retirement benefit. However, if vested members choose to withdraw their member contributions or transfer membership to another NYS public retirement system, they will not be eligible for a NYSTRS benefit. Tier 3-6 members with 10 or more years of service can only withdraw under the specific provisions of Chapter 553 of the Laws of 2011.

#### Disability Retirement

Generally, members credited with at least 10 years of New York State service (five years for Tier 3 members) who become disabled as defined by applicable statute are entitled to a disability retirement benefit from the System. In most cases, the minimum disability benefit is one-third of final average salary. For Tier 3-6 members who become disabled as the result of an accident sustained in the performance of their teaching duties, the five-year or 10-year eligibility requirement is waived.

The members of the Medical Board are:

#### STEVEN D. KRONICK, M.D.

Psychiatrist
Pine Bush Mental Health, LLP

Psychiatric Consultant Albany County Community Mental Health Center

Clinical Assistant Professor of Psychiatry Albany Medical College

> Diplomate of the National Board of Medical Examiners

Member of the American Board of Psychiatry and Neurology

Member of the American Psychiatric Association

#### RICHARD T. MacDOWELL, M.D.

Attending Surgeon at Albany Medical College

Member of the American College of Surgeons

Member of the American Board of Surgery

#### LAURA E. PICA, M.D.

Diplomate of the National Board of Medical Examiners

Diplomate of the American Board of Internal Medicine

Member of the American College of Physicians

Member of the American Society of Internal Medicine

St. Peter's Health Partners Medical Association - Primary Care Physician - Internal Medicine

#### Member Contributions

Tier 3 and 4 members are mandated to contribute 3% of their salary to the Retirement System until they have been a member for 10 years or have 10 years of service credit, whichever occurs first. Tier 5 members are required to contribute 3.5% of their salary throughout their active membership. Tier 6 members are required to contribute at a variable rate based on earnings throughout their active membership. These contributions are not included in the member's gross income for federal income tax purposes until they are distributed or made available to the member, generally at retirement as part of a retirement benefit or upon withdrawal from the System. The member's gross salary is used in all benefit calculations.

Tier 1 and 2 members are not required to contribute to the System. Tier 1 and 2 members who have made contributions to the annuity savings fund (ASF) can withdraw them with interest upon retirement, or receive an annuity throughout retirement in addition to the employer-funded pension described earlier. The annuity is based on total member contributions, life expectancy, date of membership and choice of benefit.

### Transfer and Prior Service

Under certain circumstances, members are eligible to transfer membership to or from another New York State public retirement system, or request reinstatement of a former membership in a NYS public retirement system. Credit for NYS public employment prior to joining NYSTRS and active duty military service are also creditable in certain situations.

## Ordinary Death Benefits

An employer-funded death benefit is paid if a member dies in service and certain eligibility requirements are met. In addition, if a member dies before retirement, any contributions made by the member to the System, plus interest, are paid to the designated beneficiary.

### Tier 1 Death Benefit

The amount of the employer-provided death benefit under Tier 1 is the greater of:

a. One-twelfth (1/12) of the member's last 12 months of earnings (exclusive of any form of termination pay) for each year of credited New York State service to a maximum of three times such earnings with 36 or more years of New York State service,

OR

b. The Death Gamble provision. Under the Death Gamble, if a member dies in active service while eligible for retirement without a benefit reduction, the beneficiary is entitled to the pension reserve which would have been used to pay the retirement benefit computed under Section 510 of the Education Law.

#### Tiers 2-6 Death Benefit

If a Tier 2, 3 or 4 member who joined prior to January 1, 2001, dies before retirement and a death benefit is payable, NYSTRS will pay to the beneficiary a death benefit calculated under Paragraph 2, unless the member selected Paragraph 1 and that calculation is higher. Tier 4 members joining on or after January 1, 2001, and all Tier 5 and 6 members, are covered only by Paragraph 2.

Paragraph 1 — One-twelfth ( $\frac{1}{12}$ ) of the member's last 12 months of regular earnings for each year of credited New York State service to a maximum of three times such earnings with 36 or more years of New York State service, or the Death Gamble benefit.

Paragraph 2 — One year's salary after a year of member service, increasing each year to a maximum of three years' salary after three or more years of member service. This benefit declines after age 60 at the rate of 4% per year, but never falls below 60% of the original death benefit otherwise payable.

Tier 2-6 members who teach until retirement will also have a survivor's death benefit if death occurs after retirement. This is separate from any choice of a Maximum retirement benefit or option.

1st Year 50% of benefit at retirement 2nd Year 25% of benefit at retirement

3rd & Ensuing Years 10% of benefit at age 60, if any, or at retirement if earlier

#### Accidental Death Benefit

An accidental death benefit is payable in the form of a pension to the beneficiaries of Tier 3-6 members who die as the result of an accident sustained in the performance of their teaching duties.

### Vested Member Death Benefit

A vested member death benefit is payable to the designated beneficiary or the estate of any member who has 10 or more years of credited service and does not meet the in-service eligibility requirement for an ordinary death benefit.

The amount of the benefit is half the amount of the ordinary death benefit which would have been paid if the member's death had occurred on the last day of creditable service.

## **Retirement Options**

At the time of retirement, a member may elect the Maximum retirement benefit with no protection for a beneficiary, or one of many actuarially equivalent options (i.e., lump sum, survivor, guarantee or alternative) providing protection for a beneficiary or beneficiaries.

## Cost-of-Living Adjustment (COLA)

All eligible current and future retired members will receive an automatic COLA based on 50% of the Consumer Price Index increase from one March to the next. It will be a minimum of 1% and a maximum of 3% of the first \$18,000 of the retiree's Maximum retirement benefit and is effective each September. Most service retirees must be age 62 and retired five years to be eligible.

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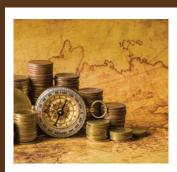
# Financial



The net position of the System was \$109.7 billion at June 30, 2015.



Over the last three years, System investments increased by a combined \$27.5 billion.



For the fiscal year ended June 30, 2015, NYSTRS paid out more than \$6.5 billion in benefits.

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# Independent Auditors' Report



**KPMG** 515 Broadway Albany, NY 12207-2974

The Retirement Board New York State Teachers' Retirement System:

We have audited the accompanying financial statements of the New York State Teachers' Retirement System (the System), which comprise the statements of fiduciary net position as of June 30, 2015 and 2014, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements, which collectively comprise the System's basic financial statements.

# Management's Responsibility for the Financial Statements

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

# Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' 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.

# Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the New York State Teachers' Retirement System as of June 30, 2015 and 2014, and the changes in its fiduciary net position for the years then ended, in accordance with U.S. generally accepted accounting principles.





#### Other Matters

### Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis and the schedules and related notes included under Required Supplementary Information in the accompanying 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 who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of 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 Supplemental Schedules

Our audits were conducted for the purpose of forming an opinion on the basic financial statements of the System. The accompanying Schedules of Administrative Expenses and Schedule of Investment Expenses as listed in the accompanying table of contents, and the Introduction, Investments, Actuarial, and Statistical sections of this report are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The Schedules of Administrative Expenses and Schedule of Investment Expenses have 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 Schedules of Administrative Expenses and Schedule of Investment Expenses are fairly stated, in all material respects, in relation to the basic financial statements as a whole. The Introduction, Investments, Actuarial and Statistical sections of this report have not been subjected to the auditing procedures applied in the audits of the basic financial statements and, accordingly, we express no opinion on them.



Albany, New York October 29, 2015

# Management's Discussion and Analysis

June 30, 2015 and 2014 (Unaudited)

The following discussion and analysis of the financial performance of the New York State Teachers' Retirement System (NYSTRS or the System) provides an overview of its activities for the years ended June 30, 2015, 2014, and 2013. Its purpose is to provide explanations and insights into the information presented in the financial statements, notes to the financial statements, and required supplementary information.

# Financial Highlights

- The System's investments experienced appreciation of \$3.3 billion in 2015, and \$14.6 billion and \$9.6 billion in 2014 and 2013, respectively.
- The net position of the System represents funds available to pay current and future benefits. Net position was \$109.7 billion at June 30, 2015, and \$108.2 billion and \$95.4 billion at June 30, 2014 and 2013, respectively.
- The 2015 net position increased from 2014 by \$1.6 billion, or 1.5%, and 2014 net position increased from 2013 by \$12.8 billion, or 13.4%.
- Contributions from employers were \$2.6 billion in 2015, \$2.4 billion in 2014, and \$1.7 billion in 2013, consistent with the change in the employer contribution rate.
- The size of the System's active membership has declined over the past three years. However, the number of retired members and beneficiaries receiving benefits has increased, leading to an increase in the retirement benefits paid, rising from \$6.1 billion in 2013 to \$6.3 billion in 2014 and \$6.5 billion in 2015.
- The System's funded ratio, a comparison of the actuarial value of assets to the accrued pension benefit liability, was 92.9% as of the June 30, 2014 valuation. Valuations in 2013 and 2012 resulted in the System's funded ratio of 87.5% and 89.8%, respectively.

#### Overview of the Financial Statements

The following discussion and analysis is intended to assist the reader in better understanding the purpose and meaning of each of the key components of NYSTRS' financial statements, which comprise the following:

- The Statements of Fiduciary Net Position present NYSTRS' assets and deferred outflows of resources and liabilities and deferred inflows
  of resources by major categories and may serve over time as a useful indicator of the System's financial position. The difference between
  assets and deferred outflows of resources and liabilities and deferred inflows of resources represents the net position restricted for
  pensions. The statements also compare assets and deferred outflows of resources and liabilities and deferred inflows of resources by
  class to the previous year, which offers the reader the opportunity to note changes in each class from year to year.
- 2. The Statements of Changes in Fiduciary Net Position provide information on the change in the System's net position during the current year. The majority of additions are normally derived from net investment income; primarily in the form of changes in the market value of assets from the prior year. Deductions include retirement benefit payments, beneficiary payments, return of contributions, and administrative expenses. For comparison purposes, information pertaining to the previous year's Statement of Changes in Fiduciary Net Position is also provided.
- The Notes to the Financial Statements are an essential part of the financial statements. They provide important background and detailed information about NYSTRS, the plan and the financial statements themselves.
- 4. The Required Supplementary Information (RSI) consists of information pertaining to NYSTRS' actuarial methods and assumptions and provides data on changes in the school districts' net pension liability, the school districts' net pension liability, the school districts' contributions, and NYSTRS' investment returns as well as data on the System's proportionate share of the net pension liability of the New York State and Local Employees' Retirement System (ERS), contributions to ERS and other postemployment benefits. Other supplemental information is also presented and includes the schedules of administrative expenses and investment expenses.

June 30, 2015 and 2014 (Unaudited)

# Financial Analysis

Tables 1 and 2 summarize and compare the System's financial results for the years 2015, 2014, and 2013. It is important to note that the change from year to year in a particular investment category is attributable not only to the change in market value but also to purchases and sales or maturities of that investment.

Table 1 - Summary of Fiduciary Net Position

(dollars in thousands)

	June 30			Amount increase	Percentage
	2015	2014	2013	(decrease) 2014 to 2015	change of total 2014 to 2015
Investments at fair value:					
Short-term	\$ 2,553,630	\$ 2,151,360	\$ 2,468,675	\$ 402,270	0.37%
Domestic fixed income securities	17,897,983	16,247,824	13,459,697	1,650,159	1.53
Global fixed income securities	1,565,394	1,030,747	368,357	534,647	0.49
Domestic equities	43,193,027	43,694,509	39,875,468	(501,482)	(0.46)
International equities	19,995,307	21,581,642	17,489,829	(1,586,335)	(1.47)
Mortgages	3,776,802	3,467,991	3,627,691	308,811	0.29
Real estate	8,231,139	7,579,193	7,180,814	651,946	0.60
Alternative investments	9,528,078	9,641,818	8,825,549	(113,740)	(0.11)
Total investments	106,741,360	105,395,084	93,296,080	1,346,276	1.24
Net other assets, liabilities, and deferrals	2,977,557	2,759,999	2,070,941	217,558	0.20
Net position restricted for pensions	\$109,718,917	\$108,155,083	\$95,367,021	\$1,563,834	1.44%

Table 2 - Summary of Changes in Fiduciary Net Position

(dollars in thousands)

	Years ended June 30			Amount increase (decrease)	Percentage change of total	
	2015	2014	2013	2014 to 2015	2014 to 2015	
Net appreciation						
in fair value of investments	\$3,294,147	\$ 14,601,733	\$ 9,635,631	\$ (11,307,586)	(88.42)%	
Other investment income	2,106,118	2,062,970	2,000,849	43,148	0.34	
Contributions	2,756,306	2,522,513	1,868,333	233,793	1.83	
Retirement benefits	(6,513,931)	(6,324,546)	(6,118,849)	(189,385)	(1.48)	
Other deductions	(74,157)	(74,608)	(75,207)	451	_	
Net increase	\$1,568,483	\$12,788,062	\$7,310,757	\$(11,219,579)	(87.73)%	

June 30, 2015 and 2014 (Unaudited)

### Fiscal Year 2015

In 2015, as a result of asset allocation rebalancing, the internally managed domestic fixed income portfolio balance increased due to investments into the fixed income asset class. The June 30, 2015 balance was approximately 15.5% of invested System assets, higher than the 14.2% allocation at the end of the prior fiscal year and still within the allowable range of 13% to 22%. During the year, bond purchases of approximately \$3.6 billion exceeded the sum of bond maturities, sales, tenders, calls, and agency mortgage principal prepayments, by approximately \$1.6 billion.

The yield curve flattened during the fiscal year, as interest rates increased somewhat in the front part of the yield curve and declined slightly further out the curve in securities with maturities beyond 7 years. However, the magnitude of the interest rate moves was small, resulting in little capital depreciation to the long-term bond portfolio and an overall positive return for the fiscal year primarily due to the interest income of the portfolio. The weighted average coupon of the domestic fixed income portfolio declined as higher coupon bonds matured while reinvestment of these maturities continued into lower coupon securities throughout the period. Due to the increase in the face value of bonds held there was a slight increase in interest income during 2015 despite the lower weighted average coupon of the domestic fixed income portfolio.

Exposure to global bonds continued to increase during the 2015 fiscal year due to additional investments into the asset class along with reinvestment of coupon resulting in a fiscal year-end total of \$1.6 billion invested in the two separately managed accounts. The global bond balance was approximately 1.5% of invested System assets at June 30, 2015, within the allowable range of 0% to 3.0%.

In domestic equities, net appreciation of \$2.3 billion for the fiscal year was the result of positive market returns in both equities and domestic REITs within the equities portfolio, of 7.3% and 6.9%, respectively. The positive returns in domestic equities were offset by sales of approximately \$2.3 billion, contributing to a decrease in net position for domestic equities of \$134.8 million. Domestic REIT activity included dividend income of approximately \$83.6 million which was reinvested within the portfolio, offset by sales of approximately \$560.0 million, resulting in an overall decrease in net position for domestic REITs of \$366.7 million. Returns in 2014 were 25.0% for domestic equities and 13.9% for domestic REITs, resulting in a decrease in net appreciation from the prior year of \$6.1 billion. The balance was approximately 38.7% of invested System assets at June 30, 2015, remaining within the allowable range of 32% to 42%.

International equities' net depreciation of \$(1.3) billion was the result of withdrawals of \$550 million, combined with negative returns in international equities and international REITs of (5.3)% and (2.2)%, respectively. Returns in 2014 were 22.0% for international equities and 12.9% for international REITs, resulting in a decrease in net appreciation from the prior year, of \$4.8 billion. The balance was approximately 18.4% of invested System assets at June 30, 2015, remaining within the allowable range of 14% to 22%.

Real estate investments consist of a globally diversified portfolio of public and private commercial real estate assets. Net new investments coupled with positive investment returns, resulted in net appreciation of \$276 million for the equity real estate portfolio and \$379 million for the debt real estate portfolio. The balance of equity real estate was approximately 10.6% of invested System assets at June 30, 2015, remaining in the allowable range of 6% to 14%. The debt real estate investments were approximately 5.2% of invested System assets at June 30, 2015, remaining in the allowable range of 5% to 11%. The debt real estate investments remain on the low end of the allowable range due to historically low yields available in the market. Commercial real estate values, as measured by the National Council of Real Estate Investment Fiduciaries (NCREIF), continued to grow at a moderate pace of 1.3% to 2.3% per quarter for a total increase of 7.5% for the year.

In 2015 net appreciation in the private equity portfolio continued to remain positive as distributions from existing investments increased from the prior year. The System made 1.0 billion in capital contributions to new and existing private equity funds and took 2.3 billion in distributions from existing private equity investments. The balance was approximately 7.7% of invested System assets at June 30,2015, within the allowable range of 4% to 12%. Fifteen new private equity commitments were made during the year.

Within the securities lending market, unconventional monetary policy initiatives implemented by global central banks continued during the 2015 fiscal year. Rates remained suppressed in the U.S. despite further improved unemployment figures which were equalized by inflation readings that had not reached the Federal Reserve's unofficial 2% inflation target. Attractive reinvestment opportunities during the fiscal year were limited as money markets continued to be flooded with cash and issuers termed out funding needs to take advantage of low rates as well as work towards meeting various regulatory targets. At the end of the fiscal year, however, interest rates were starting to reflect a small probability that the Federal Reserve might increase the Fed Funds rate in the 2015 calendar year. Gross earnings increased from the prior fiscal year even as front end yields continue to be at historic lows, driven by increased demand for equity securities reflecting an attractive risk-return trade-off. For this reason, as well as a realized gain on cash collateral investments, net earnings were higher than the prior fiscal

June 30, 2015 and 2014 (Unaudited)

year. Lastly, the unrealized loss on cash collateral investments reversed itself and became a gain, due to a change in amortization methodology and receipt of principal payments at par.

Investment expenses are primarily comprised of investment management fees that are based on the market value of assets managed and in some cases the returns achieved. The investment expense decrease in 2015 from 2014 is primarily the result of activity within the System's alternative investments.

The change in employer contributions was a function of an increase in the employer contribution rate from 16.25% in 2014 to 17.53% in 2015.

#### Fiscal Year 2014

In 2014, as a result of asset allocation rebalancing, the internally managed domestic fixed income portfolio balance increased due to investments into the fixed income asset class. The June 30, 2014 balance was approximately 14.2% of invested System assets, within the allowable range of 13% to 22%. During the year, bond purchases of approximately \$4.7 billion exceeded the sum of bond maturities, sales, tenders, calls, and agency mortgage principal prepayments, by approximately \$2.6 billion.

Interest rates increased slightly in the intermediate part of the curve and declined slightly in the long end, but there was little year-over-year movement in front-end and 10 year rates. The interest rate curve remained steep and this, combined with the lower interest rate sensitivity of the bond portfolio, helped to minimize capital depreciation. Although there was an increase in the face value of bonds held, the continued maturity of higher coupon bonds and reinvestment into lower coupon securities drove the weighted average coupon of the domestic fixed income portfolio lower and decreased interest income during 2014.

Exposure to global bonds increased during the 2014 fiscal year, with a total of \$625 million invested into two separately managed accounts. The balance was approximately 1.0% of invested System assets at June 30, 2014, within the allowable range of 0% to 3%.

In domestic equities, net appreciation of \$8.3 billion for the fiscal year was driven by strong equity market returns, which included sales of approximately \$4.6 billion, contributing to an increase in net position for domestic equities of approximately \$3.8 billion. The domestic equities portfolio returned 25.03% for 2014 compared to 21.41% for 2013 resulting in a \$1.8 billion increase in net appreciation year over year. The balance was approximately 39.3% of invested System assets at June 30, 2014, remaining within the allowable range of 32% to 42%.

Similarly, international equities' net appreciation of \$3.5 billion was driven by strong international equity market returns. The System also provided additional funding of two international equity managers during the period, contributing to the change in net position for international equities of approximately \$4.0 billion. The international equities portfolio returned 22.01% for 2014 compared to 14.62% for 2013 resulting in a \$1.8 billion increase in net appreciation. The balance was approximately 20.1% of invested System assets at June 30,2014, remaining within the allowable range of 14% to 22%.

Real estate investments consist of a globally diversified portfolio of public and private commercial real estate assets. Net new investments, coupled with positive investment returns, resulted in net appreciation of \$763 million for the equity real estate portfolio and \$67 million for the debt real estate portfolio. The balance of equity real estate was approximately 10.5% of invested System assets at June 30, 2014, remaining in the allowable range of 6% to 14%. The debt real estate investments were approximately 4.9% of invested System assets at June 30, 2014, falling slightly under the allowable range of 5% to 11%, due to historically low yields available in the market. The balance was brought back into the allowable range when the System closed a \$425 million mortgage loan on July 2, 2014. Commercial real estate values, as measured by the National Council of Real Estate Investment Fiduciaries (NCREIF), continued to grow at a moderate pace of 1.3% to 2.3% per quarter for a total increase of 7.3% for the year.

The 2014 increase in private equity market values during the past year was the result of unrealized gains in the portfolio of \$1.7 billion, after \$1.1 billion in capital contributions to new and existing private equity funds and \$2.0 billion in distributions from existing private equity investments. The balance was approximately 8.0% of invested System assets at June 30, 2014, within the allowable range of 4% to 12%. Sixteen new private equity commitments were made during the year.

Within the securities lending market, unconventional monetary policy initiatives across central banks continued during the 2014 fiscal year. Rates remained suppressed despite improving unemployment figures, inflation readings moving towards the Federal Reserve's 2% target and improving financial markets on the domestic front. Attractive reinvestment opportunities remained scarce as money markets continued to be flooded with cash and issuers looked to term out funding needs to take advantage of low rates as well as work towards meeting various

June 30, 2015 and 2014 (Unaudited)

regulatory targets. Gross earnings fell from the prior fiscal year as front end yields continue to be at historic lows, leading the agent lenders to reduce loan balances as the risk-return trade-off has become less attractive. For this reason, as well as the realized loss on the sale of two cash collateral investments, net earnings were lower than the prior fiscal year. Lastly, the unrealized loss on cash collateral investments continued to decline, due to the previously mentioned sale of cash collateral investments plus appreciation of assets and receipt of principal payments at par.

Investment expenses are primarily comprised of investment management fees that are based on the market value of assets managed and in some cases the returns achieved. The investment expense increase in 2014 from 2013 is primarily the result of activity within the System's international equity assets under management and real estate commingled and equity funds.

The change in employer contributions was a function of an increase in the employer contribution rate from 11.84% in 2013 to 16.25% in 2014.

# Net Appreciation (Depreciation)

For the year ended June 30, 2015, NYSTRS reported net investment income of \$5.4 billion compared to \$16.7 billion in 2014 and \$11.6 billion in 2013. The most significant change was in appreciation (depreciation) on investments as follows:

Table 3 - Net Appreciation (Depreciation) on Investments

(dollars in thousands)

	Years ended June 30			Amount increase (decrease)	
	2015	2014	2013	2014 to 2015	
Short-term	\$ 1,931	\$ (66)	\$ (59)	\$ 1,997	
Domestic fixed income securities	(126,395)	21,152	(361,933)	(147,547)	
Global fixed income securities	(3,422)	17,941	(11,207)	(21,363)	
Domestic equities	2,263,543	8,344,471	6,517,776	(6,080,928)	
International equities	(1,308,567)	3,487,949	1,728,839	(4,796,516)	
Mortgages	(45,092)	32,325	(79,676)	(77,417)	
Real estate	1,148,192	803,186	722,510	345,006	
Alternative investments	1,363,957	1,894,775	1,119,381	(530,818)	
Totals	\$3,294,147	\$14,601,733	\$9,635,631	\$(11,307,586)	

#### **Economic Factors**

The economic factor that is of primary significance to NYSTRS is the investment rate of return earned in the capital markets. Legislative, demographic, and actuarial assumption changes can also have a significant impact on the funded status of the plan. All of these factors are incorporated into the annual actuarial valuation, which determines the rate at which participating employers must contribute in order to appropriately fund member benefits. In terms of demographics, the System will likely continue to experience a shift toward a greater proportion of retirees relative to active members. This year, the System had only slight appreciation in investments, due in part to the negative performance of international equities. Investment returns are smoothed (averaged) by NYSTRS over a five-year period for purposes of computing the actuarial value of assets used to determine the employer contribution rate. The substantial loss on investments during the 2008-09 fiscal year was the primary reason for the continued increase in the employer contribution rate, from 16.25% on 2013-14 member salaries to 17.53% on 2014-15 member salaries.

#### Requests for Information

This financial report is designed to provide active members, retirees, employers and anyone else who is interested, with a general overview of the financial activities of NYSTRS. Questions about this report or requests for additional financial information should be addressed to the Public Information Office, New York State Teachers' Retirement System, 10 Corporate Woods Drive, Albany, NY 12211 or by email at communit@nystrs.org.

# Statements of Fiduciary Net Position June 30, 2015 and 2014

(dollars in thousands)

Assets:	2015	2014
Investments — at fair value (note 4):		
Short-term	\$ 2,553,630	\$ 2,151,360
Domestic fixed income securities	17,897,983	16,247,824
Global fixed income securities	1,565,394	1,030,747
Domestic equities	43,193,027	43,694,509
International equities	19,995,307	21,581,642
Mortgages	3,776,802	3,467,991
Real estate	8,231,139	7,579,193
Alternative investments	9,528,078	9,641,818
Total investments	106,741,360	105,395,084
Receivables:		
Employer	2,615,155	2,364,883
Employer incentives	10,415	20,151
Employer-paid member	96,033	98,489
Investment income	52,950	130,604
Investment sales	262,355	6,461
Total receivables	3,036,908	2,620,588
Other assets:		
Securities lending collateral — invested (note 5)	1,813,522	1,791,001
Member loans	229,810	218,957
Capital assets, net of depreciation	27,722	29,037
Miscellaneous assets	64,523	29,189
Total other assets	2,135,577	2,068,184
Total assets	111,913,845	110,083,856
Deferred outflows of resources:		
Changes in net pension liability (note 9)	793	
Liabilities:		
Securities lending collateral — due to borrowers (note 5)	1,810,136	1,792,205
Investment purchases payable	263,888	9,983
Mortgage escrows and deposits — net of investments	413	8,801
Other liabilities (notes 5, 8 and 9)	121,284	117,784
Total liabilities	2,195,721	1,928,773
Net position restricted for pensions (note 3)	\$109,718,917	\$108,155,083

 $See\ accompanying\ notes\ to\ financial\ statements.$ 

# Statements of Changes in Fiduciary Net Position Years Ended June 30, 2015 and 2014

(dollars in thousands)

Additions:	2015	2014
Investment income:		
Net appreciation in fair value of investments	\$ 3,294,147	\$ 14,601,733
Interest income	688,937	650,905
Dividend income	1,259,370	1,287,878
Real estate — net operating income	350,388	308,474
Securities lending — gross earnings	6,003	670
Other — net	13,896	22,483
	5,612,741	16,872,143
Less:		
Investment expenses	228,351	229,376
Securities lending:		
Broker rebates	(13,154)	(10,123)
Management fees	1,869	1,704
Appreciation of collateral	(4,590)	(13,517)
Net investment income	5,400,265	16,664,703
Contributions:		
Employer (note 1)	2,633,682	2,400,386
Employer-paid member	119,411	120,762
Transfers	3,213	1,365
Total contributions	2,756,306	2,522,513
Net additions	8,156,571	19,187,216
Deductions:		
Retirement benefit payments — periodic	6,461,313	6,273,994
Beneficiary payments	52,618	50,552
Return of contributions	17,209	18,992
Administrative expenses	56,948	55,616
Total deductions	6,588,088	6,399,154
Net increase in net position	1,568,483	12,788,062
Net position restricted for pensions:		
Beginning of year	108,155,083	95,367,021
Cumulative effect of change in accounting principle (note 2)	(4,649)	
Beginning balance, as restated	108,150,434	95,367,021
End of year	\$109,718,917	\$108,155,083

See accompanying notes to financial statements.

## Notes to Financial Statements

June 30, 2015 and 2014 (dollars in thousands)

# (1) Plan Description

The New York State Teachers' Retirement System (NYSTRS or the System) was created and exists pursuant to Article 11 of the New York State Education Law. The System is the administrator of a cost-sharing, multiple-employer public employee retirement system (PERS), administered by a 10-member Board to provide pension benefits for teachers employed by participating employers in the State of New York, excluding New York City. The System's Board is composed of:

- Three teacher members elected from the active membership.
- One retired member elected by a mail vote of all retired members.
- Two school administrators appointed by the Commissioner of Education.
- Two present or former school board members, experienced in the fields of finance and investment, elected by the Board of Regents. At least one of these individuals must have experience as an executive of an insurance company.
- One present or former bank executive elected by the Board of Regents.
- The State Comptroller or his/her designee.

As of June 30, the number of participating employers was:

	2015	2014
Public school districts	680	680
B.O.C.E.S.	37	37
S.U.N.Y.	31	31
Community colleges	30	30
Charter schools	25	26
Special act districts	10	11
Other	9	9
Total	822	824

As of June 30, the System's membership consisted of:

	2015	2014
Retired members and beneficiaries currently receiving benefits	158,458	155,931
Members:		
Active members	259,495	262,322
Terminated members entitled to but not yet receiving benefits	8,220	7,717
Subtotal	267,715	270,039
Total	426,173	425,970

#### Notes to Financial Statements (continued)

June 30, 2015 and 2014 (dollars in thousands)

#### (a) Benefits

The benefits provided to members of the System are established by New York State law and may be amended only by the Legislature with the Governor's approval. Benefit provisions vary depending on date of membership and are subdivided into the following six classes:

#### Tier 1

Members who last joined prior to July 1, 1973 are covered by the provisions of Article 11 of the Education Law.

#### Tier 2

Members who last joined on or after July 1, 1973 and prior to July 27, 1976 are covered by the provisions of Article 11 of the Education Law and Article 11 of the Retirement and Social Security Law.

#### Tier 3

Members who last joined on or after July 27, 1976 and prior to September 1, 1983 are covered by the provisions of Article 14 and Article 15 of the Retirement and Social Security Law.

#### Tier 4

Members who last joined on or after September 1, 1983 and prior to January 1, 2010 are covered by the provisions of Article 15 of the Retirement and Social Security Law.

#### Tier 5

Members who joined on or after January 1, 2010 and prior to April 1, 2012 are covered by the provisions of Article 15 of the Retirement and Social Security Law.

#### Tier 6

Members who joined on or after April 1, 2012 are covered by the provisions of Article 15 of the Retirement and Social Security Law.

#### (b) Service Retirements

Tier 1 members are eligible, beginning at age 55, for a service retirement allowance of approximately 2% per year of credited service times final average salary.

Under Article 19 of the Retirement and Social Security Law, eligible Tiers 1 and 2 members can receive additional service credit of one-twelfth of a year for each year of retirement credit as of the date of retirement or death up to a maximum of two additional years.

Tiers 2 through 5 are eligible for the same but with the following limitations: (1) Tiers 2 through 4 members receive an unreduced benefit for retirement at age 62 or retirement at ages 55 through 61 with 30 years of service or a reduced benefit for retirement at ages 55 through 61 with less than 30 years of service. (2) Tier 5 members receive an unreduced benefit for retirement at ages 62 or retirement at ages 57 through 61 with 30 years of service. They receive a reduced benefit for retirement at ages 55 and 56 regardless of service credit, or ages 57 through 61 with less than 30 years of service.

Tier 6 members are eligible for a service retirement allowance of 1.75% per year of credited service for the first 20 years of service plus 2% per year for years of service in excess of 20 years times final average salary. Tier 6 members receive an unreduced benefit for retirement at age 63. They receive a reduced benefit at ages 55-62 regardless of service credit.

#### (c) Vested Benefits

Retirement benefits vest after 5 years of credited service except for Tiers 5 and 6 where 10 years of credited service are required. Benefits are payable at age 55 or greater with the limitations noted for service retirements above.

#### Notes to Financial Statements (continued)

June 30, 2015 and 2014 (dollars in thousands)

#### (d) Disability Retirement

Members are eligible for disability retirement benefits after 10 years of credited New York State service except for Tier 3 where disability retirement is permissible after 5 years of credited New York State service pursuant to the provisions of Article 14 of the Retirement and Social Security Law. The Tier 3 benefit is integrated with Social Security.

#### (e) Death Benefits

Death benefits are paid to the beneficiary of active members who die in service. The benefit is based on final salary and the number of years of credited service.

#### (f) Prior Service

After 2 years of membership, members of all tiers may claim and receive credit for prior New York State public or teaching service. Only Tiers 1 and 2 members may, under certain conditions, claim out-of-state service.

#### (g) Tier Reinstatement

In accordance with Chapter 640 of the Laws of 1998, any active member who had a prior membership may elect to be reinstated to their original date and Tier of membership.

#### (h) Employer Contributions

Pursuant to Article 11 of the New York State Education Law, employers are required to contribute at an actuarially determined rate adopted annually by the Retirement Board. The actuarially determined employer contribution rate applied to 2014-15 and 2013-14 member salaries is 17.53% and 16.25%, respectively. A reconciliation of total required employer contributions presented in the Schedule of the School Districts' Contributions and additions from employer contributions per the System's Statements of Changes in Fiduciary Net Position for fiscal years 2015 and 2014 is as follows:

	June	30
	2015	2014
Total required employer contributions	\$2,633,244	\$2,400,378
Miscellaneous billing adjustments	438	8
Additions from employer contributions	\$2,633,682	\$2,400,386

In April 2013, the System's Retirement Board adopted a Stable Contribution Option (SCO) provided for under Chapter 57 of the Laws of 2013. Under the law, BOCES and public school districts participating in NYSTRS are offered the choice of either paying the actuarially determined contribution (ADC) or electing to participate in the SCO program, thereby paying a stable contribution rate for up to seven years beginning with the rate applied to the 2013-14 salaries and concluding with the rate applied to the 2019-20 salaries; deferring payment of the difference between the ADC and the contribution determined applying the SCO rate. Interest on deferred contribution amounts will be based on the monthly average yield on 10-year U.S. Treasury securities for the twelve-month period that precedes August 1 of the applicable deferred year, plus 1%. Payments on 2015 deferred contributions and accumulated interest will be made over a five year period beginning in the fall of 2019. Should the System's funded status fall below 80%, the SCO will terminate and all participating employers will be required to resume payment of the ADC in addition to any outstanding deferred contributions, plus interest, over a period not to exceed five years. The SCO receivable balances at June 30, 2015 and 2014 were \$40,493 and \$17,233, respectively.

#### (i) Employer-Paid Member Contributions

Tier 3 and Tier 4 members who have less than 10 years of service or membership are required by law to contribute 3% of salary to the System. Tier 5 members are required by law to contribute 3.5% of salary throughout their active membership. Tier 6 members are required by law to contribute between 3% and 6% of salary throughout their active membership in accordance with a schedule based upon salary earned. Pursuant to Article 14 and Article 15 of the Retirement and Social Security Law,

#### **Notes to Financial Statements** (continued)

June 30, 2015 and 2014 (dollars in thousands)

those member contributions are used to help fund the benefits provided by the System. However, if a member dies or leaves covered employment with less than 5 years of credited service for Tiers 3 and 4, or 10 years of credited service for Tiers 5 and 6, the member contributions with interest calculated at 5% per annum are refunded to the employee or designated beneficiary. Eligible Tier 1 and Tier 2 members may make member contributions under certain conditions pursuant to the provisions of Article 11 of the Education Law and Article 11 of the Retirement and Social Security Law. Upon termination of membership, such accumulated member contributions are refunded. At retirement, such accumulated member contributions can be withdrawn or are paid as a life annuity. Member contributions are paid by participating employers and are treated as employer contributions in determining income tax treatment under Section 414(h) of the Internal Revenue Code (IRC).

#### (j) Permanent Cost-of-Living Adjustment (COLA)

Section 532-a of the Education Law provides a permanent cost-of-living benefit to both current and future retired members. This benefit will be paid commencing September of each year to retired members who have attained age 62 and have been retired for 5 years or attained age 55 and have been retired for 10 years. Disability retirees must have been retired for 5 years, regardless of age, to be eligible. The annual COLA percentage is equal to 50% of the increase in the consumer price index, not to exceed 3% nor be lower than 1%. It is applied to the first eighteen thousand dollars of annual benefit. The applicable percentage payable beginning September 2015 is 1.0%, remaining unchanged from the 1.0% paid beginning September 2014.

Members who retired prior to July 1, 1970 are eligible for a minimum benefit of seventeen thousand five hundred dollars for 35 years of credited full-time New York State service. Certain members who retire pursuant to the provisions of Article 14 of the Retirement and Social Security Law are eligible for automatic cost-of-living supplementation based on the increase in the consumer price index with a maximum per annum increase of 3%.

## (2) Summary of Significant Account Policies

#### (a) Basis of Accounting

The System's financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has a legal requirement to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Investment purchases and sales are recorded on a trade-date basis.

#### (b) Method Used to Value Investments

Plan investments are reported at fair value. Fair value is the amount at which an investment could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. Refer to Note 4(c) for more detail regarding the System's policy on accounting for investments.

#### (c) Capital Assets

Capital assets of twenty-five thousand dollars or more are recorded at historical cost and capitalized over their useful life. Depreciation has been provided over the estimated useful lives using the straight-line method. The estimated useful lives are as follows:

	Years
Building	50
Building improvements	Various
Roads and shrubbery	15
Office furniture and equipment	5 - 7
Computer equipment and software	3 - 5
Automobiles	5

June 30, 2015 and 2014 (dollars in thousands)

#### (d) Federal Tax Status

The System is exempt from federal income taxes under Section 501(a) of the IRC.

#### (e) Reclassifications

Where necessary, amounts in the prior year's financial statements have been reclassified to conform to the presentation in the current year's financial statements.

#### (f) Use of Estimates

Management of the System has made a number of estimates and assumptions relating to the reporting of assets and liabilities and in the disclosure of contingencies to prepare these financial statements in conformity with U.S. generally accepted accounting principles. The System's most significant estimates relate to assumptions made about future events as part of the annual actuarial valuation process, and the valuation of alternative investments. Due to the inherent nature of these estimates, actual results could differ from those estimates.

#### (g) Adoption of Accounting Pronouncements

The System adopted Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions — an amendment of GASB Statement No.* 27 (GASB 68). GASB 68 addresses accounting and financial reporting for pensions that are provided to the employees of state and local governmental employers. This statement establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources, and expense related to pensions. Note disclosure and required supplementary information requirements about pensions also are addressed. For defined benefit pensions, this statement also identifies the methods and assumptions that should be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. NYSTRS' employees are provided with defined benefit pensions through the ERS, a cost-sharing, multiple-employer defined benefit pension plan administered by the New York State and Local Retirement System (NYSLRS). In accordance with the provisions of GASB 68, the System has reported its proportionate share of the ERS collective system-wide net pension liability, deferred outflows of resources, deferred inflows of resources, and pension expense. As a result of the implementation of GASB 68, beginning net position restricted for pensions as of July 1, 2014, was decreased by \$4.6 million.

The System also adopted GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date — an amendment of GASB Statement No. 68* (GASB 71). GASB 71 amends paragraph 137 of GASB 68 to require that, at transition, a government recognize a beginning deferred outflow of resources for its pension contributions, if any, made subsequent to the measurement date of the beginning net pension liability. There was no impact to the System's financial statements as a result of this new statement.

#### (h) Accounting Pronouncements Applicable to the System, Issued but Not Yet Effective

In February 2015, the GASB issued Statement No. 72, *Fair Value Measurement and Application* (GASB 72). The statement addresses accounting and financial reporting issues related to fair value measurements of assets and liabilities. GASB 72 identifies various approaches to measuring fair value and levels of inputs based on the objectivity of the data used to measure fair value. GASB 72 will be effective for periods beginning after June 15, 2015. The System is evaluating the impact of this new statement.

In June 2015, the GASB issued Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not Within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68 (GASB 73). Provisions of this statement that are applicable to NYSTRS include clarification of information that is required to be presented as notes to the required supplementary information. The System believes this statement will have limited impact on the financial statements.

June 30, 2015 and 2014 (dollars in thousands)

In June 2015, the GASB issued Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75). The statement addresses accounting and financial reporting for other postemployment benefits (OPEB) that are provided to the employees of state and local governmental employers. GASB 75 establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expenses related to OPEB in the basic financial statements, in addition to requiring more extensive note disclosures and required supplementary information. The System is evaluating the impact of this new statement.

#### (3) Funds

The following funds were established pursuant to the laws of the State of New York. All of the funds, with the exception of the Administrative Fund, are available for the payment of benefits to members or beneficiaries.

#### (a) Annuity Savings Fund

The fund in which contributions of Tiers 1 and 2 members covered by the provisions of Article 11 of the Education Law and Article 11 of the Retirement and Social Security Law are accumulated.

#### (b) Annuity Reserve Fund

The fund from which the accumulated contributions of members covered by the provisions of Article 11 of the Education Law and Article 11 of the Retirement and Social Security Law are paid as a life annuity.

#### (c) Pension Accumulation Fund

The fund in which all reserves for the payment of all benefits are accumulated with the exception of the annuity provided by the accumulated contributions of Tiers 1 and 2 members, supplemental retirement allowances, and group term life insurance.

#### (d) Pension Reserve Fund

The fund that pays pensions with the reserves transferred from the Pension Accumulation Fund.

#### (e) Group Life Insurance Fund

Pursuant to Article 4-B of the Retirement and Social Security Law, the Retirement Board established a Group Life Insurance Fund. The Group Life Insurance Fund provides a group term death benefit not to exceed fifty thousand dollars, payable upon the death of eligible members. Group term death benefits paid for the years ended June 30, 2015 and 2014 were \$14,963 and \$13,771, respectively. For reporting purposes below, this fund is combined with the Pension Accumulation Fund.

#### (f) CO-ESC Member Contributions Fund

Members covered by the provisions of Article 14 and Article 15 of the Retirement and Social Security Law contributed 3% of salary to the System's CO-ESC Member Contribution Fund. Effective October 2000, contributions were eliminated for Tiers 3 and 4 members with 10 or more years of service or membership. Effective January 1, 2010, Tier 5 members are required to contribute 3.5% of salary throughout their active membership. Effective April 1, 2012, Tier 6 members are required to contribute between 3% and 6% of salary throughout their active membership in accordance with a schedule based upon salary earned. Contributions to this fund were \$105,871 and \$112,844 for the years ended June 30, 2015 and 2014, respectively. For reporting purposes below, this fund is combined with the Pension Accumulation Fund.

#### (g) Administrative Fund

All operating expenses of the System are paid through this fund. The fund receives an allocation from employer contributions, which are designated by law to cover all non-investment related operating expenses. Investment expenses are offset directly by investment income.

June 30, 2015 and 2014 (dollars in thousands)

#### (h) Summary of Fund Balances

Net position restricted for pensions at June 30, consist of the following:

	2015	2014
Administrative Fund	\$ 58,851	\$ 58,398
Annuity Savings Fund	1,028	2,430
Annuity Reserve Fund	130,393	139,817
Pension Accumulation Fund	53,440,480	50,881,776
Pension Reserve Fund	56,088,165	57,072,662
Total	\$109,718,917	\$108,155,083

#### (4) Pension Plan Investments

#### (a) Investment Policy

The System has been authorized by the New York State Legislature pursuant to the Banking Law, Section 235, the Education Law, Article 11, Section 508, the Retirement and Social Security Law (RSSL), Article 4-A, Sections 176 and 177, to invest in stocks, bonds, mortgages, real estate, and other investments. A specific investment within these broad asset classes may be subject to particular restrictions or limitations contained in the applicable statutory provision. The "Leeway Clause" of Section 177 provides that, subject to guidelines adopted by the Retirement Board, up to 25% of assets may be invested in types of assets not otherwise specifically authorized, provided the Retirement Board is satisfied such investments were made with the care, skill, prudence, and diligence of a prudent person acting in a like capacity and familiar with such matters. Pursuant to regulations promulgated by the New York State Department of Financial Services, investments must be made in a manner consistent with those of a reasonably prudent person exercising care, skill, and caution. In addition to applicable legal constraints, the Retirement Board has adopted policies governing the investments made by the System.

#### (b) Asset Allocation

The System's asset allocation policy as of June 30, 2015 and 2014, as adopted by the Retirement Board is as follows:

Asset Class	Target	Range
Domestic equities	37%	32-42%
International equities	18	14-22
Real estate	10	6-14
Alternative investments	7	4-12
Total equities	72	
Domestic fixed income securities	17	13-22
Global fixed income securities	2	0-3
Mortgages	8	5-11
Short-term	1	0-4
Total fixed income	28	
Total	100%	

June 30, 2015 and 2014 (dollars in thousands)

#### (c) Method Used to Value Investments

Plan investments are reported at fair value. Fair value is the amount at which an investment could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. Quoted market prices, when available, have been used to value investments. The market values for securities that have no quoted market price represent estimated fair value. International equities are valued based upon quoted foreign market prices and translated into U.S. dollars at the exchange rate in effect at June 30. In general, corporate debt securities have been valued at quoted market prices or, if not available, values are based on yields currently available on comparable securities of issuers with similar credit ratings. Mortgages have been valued on the basis of their future principal and interest payments discounted at prevailing interest rates for similar instruments. The fair value of real estate investment securities is based on appraisals plus fiscal year-to-date capital expenditures. Publicly traded alternative investments are valued based on quoted market prices. In the absence of readily determinable public market values, alternative investments are valued using current estimates of fair value obtained from the general partner or investment manager. Such valuations generally reflect discounts for liquidity and consider variables such as financial performance of investments, discounted cash flow analysis, recent sales prices of comparable investments, and other pertinent information.

#### (d) Rate of Return

For the years ended June 30, 2015 and 2014, the annual money-weighted rate of return on System investments, net of pension plan investment expense, was 5.18% and 18.16%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

#### (5) Deposit and Investment Risk Disclosure

#### (a) Credit Risk

The quality ratings of investments in fixed income securities as described by nationally recognized statistical rating organizations at June 30, 2015 and 2014 are as follows:

	2015		20	14
Quality rating	Fair value	Percentage of portfolio	Fair value	Percentage of portfolio
Aaa	\$ 4,591,051	23.68%	\$ 4,787,087	27.81%
Aa	1,579,128	8.15	1,472,128	8.55
A	3,468,119	17.89	2,702,723	15.69
Baa	1,989,266	10.26	1,785,513	10.37
Other	115,815	0.60	67,905	0.39
Total credit risk debt securities	11,743,379	60.58	10,815,356	62.81
U.S. government fixed income securities*	7,642,312	39.42	6,405,950	37.19
Total fixed income securities**	\$19,385,691	100.00%	\$17,221,306	100.00%

<sup>\*</sup> Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk and do not have purchase limitations.

<sup>\*\*</sup> Domestic and global fixed income securities on the Statements of Fiduciary Net Position at June 30, 2015 and 2014 include \$77,686 and \$57,265, respectively, in cash and commingled commercial mortgage backed securities.

June 30, 2015 and 2014 (dollars in thousands)

#### (b) Custodial Credit Risk

Deposits are exposed to custodial credit risk if they are uninsured and uncollateralized. Custodial credit risk is the risk that, in the event of a failure of the counterparty, the System will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the System, and are held by either the counterparty or the counterparty's trust department or agent but not in the System's name.

The head of the Division of the Treasury in the Department of Taxation and Finance (the Treasurer) is the statutory custodian of the funds of the System, and, in this capacity, has arranged to have bank accounts collateralized. Collateral is held in the name of the Treasurer as custodian for the System, by a bank that does not act as an agent for the System. Although the System's bank accounts were fully collateralized during the year, at June 30, 2015 and 2014, the System's bank balance was \$(5,679) and \$(8,477), respectively, representing a managed overdraft.

Consistent with the System's investment policy, all of the System's securities are held by the System's custodial bank in the System's name.

#### (c) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer.

As of June 30, 2015 and 2014, the System did not hold investments in any one issuer that would represent 5% or more of fiduciary net position. Obligations issued or explicitly guaranteed by the U.S. government and pooled investments are permissible investments and are not considered subject to concentration of credit risk.

Issuer limits for investments held by the System are established for each investment area by the RSSL Article 4-A, Sections 176-179.

Short-term fixed income investments are generally limited to the following investment types maturing in one year or less:

- Obligations issued by any Federal Home Loan Bank or obligations fully guaranteed as to principal and interest by Fannie Mae or Freddie Mac.
- Commercial paper that has the highest rating by two nationally recognized rating services.

Fixed income securities are generally limited to the following investment types with maturities longer than one year:

- Obligations payable in U.S. dollars issued by any department, agency, or political subdivision of the U.S. government or issued by any corporation, company, or other issuer of any kind or description created or existing under the laws of the U.S., any state of the U.S., District of Columbia or Commonwealth of Puerto Rico, and obligations of Canada or any province or city of Canada provided each obligation shall be rated investment grade by two nationally recognized rating services. The aggregate investment by the System in the obligations of any one issuer shall not exceed 2% of the assets of the System or 5% of the direct liabilities of the issuer.
- Notwithstanding the 5% limitation stated above, the System may invest not more than 2.5% of its assets in the obligations of any one railroad or industrial corporation, or any one corporation engaged directly and primarily in the production, transportation, distribution, or sale of electricity or gas or the operations of telephone and telegraph systems or waterworks or in some combination thereof.
- In no event may more than 30% of the System's assets be invested in bonds of electric and gas corporations. Equipment trust certificates, subject to the provisions of the law, are not to exceed 5% of the assets of the System.
- Obligations issued or guaranteed by the Inter-American Development Bank, Asian Development Bank, the African Development Bank, or the Youth Facilities Project Guarantee Fund and participations therein.
- Obligations of the Dominion of Canada, of any province of the Dominion of Canada, and of any city of the Dominion of Canada, payable in U.S. funds, provided that the aggregate unpaid principal amount of all such obligations at any time held by the System shall not exceed 5% of the System's assets.

June 30, 2015 and 2014 (dollars in thousands)

- Bonds of the Savings and Loan Bank of the State of New York, Federal Land Bank, Federal Intermediate Credit Banks, and Banks for Cooperatives.
- Bonds of Freddie Mac, Federal Home Loan Banks, Tennessee Valley Authority, Fannie Mae, and the United States Postal Service.
- Obligations issued or guaranteed by the International Bank for Reconstruction and Development, provided the aggregate unpaid principal amount of such obligations at any time held by the System shall not exceed 5% of the System's assets.
- Bonds and notes of any bank, trust company, savings bank, or savings and loan association organized under the laws
  of New York State having a net worth of at least \$10 million, which meet all applicable statutes, provided the aggregate
  unpaid principal amount of bonds and notes secured by conventional mortgages shall not exceed 5% of the assets of
  the System.
- Mortgage pass-through certificates, provided the certificates evidence ownership of undivided interests in pools or
  mortgage loans secured by first mortgages on real property located in New York State improved by one-to-four family
  residential dwellings, which meet all applicable statutes. The aggregate unpaid principal on conventional mortgages
  securing mortgage pass through certificates cannot exceed 10% of the assets of the System nor can the total unpaid
  principal on any single pool of conventional mortgages securing mortgage pass-through certificates exceed 1% of the
  assets of the System.
- Collateralized Mortgage Obligations, which meet the requirements of applicable statutes.
- Private placements, where the purchase of unrated obligations is authorized by the Banking Law or the Retirement and Social Security Law, governing fixed income obligations; if not so provided, private placements as well as other domestic fixed income securities not otherwise provided for may be purchased under the Leeway Clause.

The System may invest in domestic equity securities and interest-bearing obligations payable in U.S. funds, which are convertible into equity securities of any corporation created or existing under the laws of the U.S., any state of the U.S. District of Columbia, and the Commonwealth of Puerto Rico or any investment company, as defined by, and which is registered under, an act of Congress of the United States, entitled to the Investment Company Act of 1940, as amended, subject to certain limitations.

The System's international equity investments may not exceed 10% of the System's assets including emerging market equity securities. To the extent the 10% limitation is exceeded, the System's international equity securities may be invested in Leeway investments (which amount shall not exceed 25% of System assets).

The maximum amount invested within the System's equities, including domestic and international, may not exceed, in any one year, 15% of System assets or 70% of the total System assets in aggregate. The System may not own more than 5% of the total issued and outstanding equity securities of any one corporation.

The System's real estate investments will be diversified across geographic regions to allow for competitive portfolio performance in the event of a temporary weakness in any one region and to allow for differing urban and suburban market trends within any region. The System may invest in certain conventional mortgages constituting a first lien upon real property located in the U.S. pursuant to statute subject to certain provisions.

Alternative investments are made pursuant to the Leeway Clause of the Retirement and Social Security Law. The System's investment in a limited partnership is valued based on the underlying value of the companies in which the partnership has invested.

June 30, 2015 and 2014 (dollars in thousands)

#### (d) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the investment. The System is exposed to interest rate risk at June 30, 2015 and 2014 as follows:

	20	15	201	14
Investment type	Fair value	Duration (in years)	Fair value	Duration (in years)
Short-term	\$ 2,553,630	0.087	\$ 2,151,360	0.055
Domestic fixed income*	17,858,271	3.647	16,210,609	3.700
Global fixed income	1,565,394	5.985	1,030,747	5.431
Total fair value	\$21,977,295		\$19,392,716	
Portfolio modified duration		3.400		3.387

<sup>\*</sup>Domestic fixed income on the Statements of Fiduciary Net Position at June 30, 2015 and 2014 include \$39,712 and \$37,215 respectively, in commingled commercial mortgaged backed securities.

Duration is a measure of a debt investment's exposure to fair value changes arising from changing interest rates. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates and vice versa. Duration is the measure of a bond price's sensitivity to a 100-basis point change in interest rates. A duration of 8 would mean that, given a 100-basis point change up/down in rates, a bond's price would move up/down by 8%.

#### (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 System has exposure through international holdings in commingled investment trust funds and separate accounts, international real estate investment trusts (REITs), global bonds, and alternatives. The "Alternatives" represent private equity and real estate investments denominated in foreign currency. With respect to global bond investments, the majority of currency risk inherent in non-U.S. dollar denominated bonds owned by the System in a separate account is hedged away by the managers through currency forwards. The System has an exposure to foreign currency fluctuation at June 30, 2015 and 2014 as follows (holdings valued in U.S. dollars):

	2015		2	014
	International Equities	Alternatives, Cash, and Global Fixed Income	International Equities	Alternatives, Cash, and Global Fixed Income
Currency:				
Euro	\$ 4,100,433	\$1,608,345	\$ 4,613,754	\$1,776,008
Japanese Yen	3,303,281	136,938	3,077,865	94,883
British Pound Sterling	2,978,880	282,654	3,344,942	203,701
Canadian Dollar	1,280,076	63,863	1,568,650	43,903
Swiss Franc	1,270,415	6,051	1,326,332	4,088
Hong Kong Dollar	989,471		868,647	
Australian Dollar	921,588	38,179	1,139,721	21,700
Korean Won	615,243	14,974	724,935	11,694
Taiwan Dollar	499,175		499,427	
China Renminibi	493,836		387,199	
Other	2,881,199	70,557	3,284,687	49,991
Totals	\$19,333,597	\$2,221,561	\$20,836,159	\$2,205,968

June 30, 2015 and 2014 (dollars in thousands)

#### (f) Securities Lending Transactions

The Retirement and Social Security Law authorizes the System to enter into securities lending transactions. Agreements to lend a security must be with a broker dealer or with New York State or nationally chartered banks and must not exceed a period of one year. The market value of securities loaned may not exceed 20% of the market value of the System's invested assets. Domestic and international bonds, domestic and international equities, and global REIT securities are loaned. Initial collateral of at least 102% of the market value of loaned securities is received from the borrower for domestic securities and 105% for international securities. Securities on loan are marked to market daily and collateral for the loan is required not to fall below 100%. The fair value of reinvested securities lending collateral is reported as an asset and collateral due to borrowers is reported as a liability on the Statement of Fiduciary Net Position. At June 30, 2015, the fair value of the cash collateral invested by the System exceeded the amount the System owed borrowers by approximately \$3.4 million. At June 30, 2014, the amount the System owed borrowers exceeded the fair value of the cash collateral invested by approximately \$1.2 million. For each year end, the System had no credit risk exposure to borrowers because the amounts the System owes the borrowers (the collateral) exceeds the amounts the borrowers owe the System (the loaded securities).

As of June 30, 2015 and 2014, JP Morgan Securities Lending (JP Morgan) acted as agent for the domestic equity and fixed income securities lending programs and State Street Bank and Trust Co. (State Street) acted as agent for the international equity, global bonds and global REIT securities lending program. Under the terms of the contract with the lending agents, the System is fully indemnified against failure of the borrowers to return the loaned securities (to the extent the collateral is inadequate to replace the loaned securities) or failure to pay the System for income distributions by the securities' issuers while the securities are on loan. There were no significant violations of legal or contractual provisions, no borrower or lending agent defaults, and no recoveries of prior period losses during the year. The majority of securities on loan can be recalled by the System on demand or returned by the borrower at any time. Cash collateral is invested by the System's lending agents, in short-term investment funds managed by the agent lenders. There is no direct match of the maturities of the collateral investments with the maturities of the securities loans. Investments are restricted to issuers with a short-term credit rating issued by Standard & Poor's and Moody's Investors Service, not lower than A1/P1 or long-term ratings not lower than A/A2, respectively, or the equivalent thereof. Non-cash collateral received is limited to high quality U.S. treasuries, agency securities and agency mortgage backed securities, and can only be pledged or sold by the System in the event of default. At June 30, 2015 and 2014, the average effective duration of the funds managed by JP Morgan was 21 days and of those managed by State Street was 2 days compared to 22 days and 2 days, respectively. Securities loans and related collateral investments are monitored on a daily basis to ensure compliance with collateral requirements, limitations, and collateral investment guidelines.

Securities lending program	2015	2014
Fair value of securities on loan — cash collateral	\$1,766,742	\$1,749,502
Fair value of securities on loan — non-cash collateral	895,037	982,767
Total fair value of securities on loan	\$2,661,779	\$2,732,269
Fair value of cash collateral invested by System	\$1,813,522	\$1,791,001
Fair value of non-cash collateral held by System	914,459	1,002,936
Total collateral invested and held by the System	\$2,727,981	\$2,793,937
Fair value of liabilities to borrowers — cash collateral	\$1,810,136	\$1,792,205
Fair value of liabilities to borrowers — non-cash collateral	914,459	1,002,936
Total collateral due to borrowers	\$2,724,595	\$2,795,141

June 30, 2015 and 2014 (dollars in thousands)

## (6) Net Pension Liability (Asset) of NYSTRS Participating School Districts

The components of the net pension liability (asset) of the NYSTRS participating school districts at June 30, 2015 and 2014 were as follows:

	2015	2014
Total pension liability	\$ 99,332,104	\$ 97,015,706
Plan fiduciary net position	109,718,917	108,155,083
School districts' net pension liability (asset)	\$ (10,386,813)	\$ (11,139,377)
Plan fiduciary net position as a percentage of total pension liability	110.46%	111.48%

#### (a) Actuarial Assumptions

The total pension liability at June 30, 2015 was determined using an actuarial valuation as of June 30, 2014, with update procedures used to roll forward the total pension liability to June 30, 2015. Total pension liability at June 30, 2014 was determined by an actuarial valuation as of June 30, 2013, with update procedures used to roll forward the total pension liability to June 30, 2014. These actuarial valuations used the following actuarial assumptions:

Inflation	3.0%		
Projected salary increases	Rates of increase differ based on age and gender.  They have been calculated based upon recent NYSTRS member experience.		
	<u>Age</u>	<u>Female</u>	<u>Male</u>
	25	10.35%	10.91%
	35	6.26	6.27
	45	5.39	5.04
	55	4.42	4.01
Projected COLAs	1.625% compounded annually		
Investment rate of return	8.0% compounded annually, net of pension plan investment expense, including inflation.		

Annuitant mortality rates are based on plan member experience, with adjustments for mortality improvements based on Society of Actuaries Scale AA.

The actuarial assumptions used in the June 30, 2014 and 2013 valuations were based on the results of an actuarial experience study for the period July 1, 2005 to June 30, 2010.

The long-term expected rate of return on pension plan investments was determined in accordance with Actuarial Standard of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*. ASOP No. 27 provides guidance on the selection of an appropriate assumed investment rate of return. Consideration was given to expected future real rates of return (expected returns, net of pension plan investment expense and inflation) for each major asset class as well as historical investment data and plan performance.

June 30, 2015 and 2014 (dollars in thousands)

Best estimates of arithmetic real rates of return for each major asset class included in the System's target asset allocation as of the valuation date of June 30, 2014 and June 30, 2013 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Long-Term Expected Real Rate of Return*			
Asset Class	2014	2013	
Domestic equities	6.5%	7.3%	
International equities	7.7%	8.5%	
Real estate	4.6%	5.0%	
Alternative investments	9.9%	11.0%	
Domestic fixed income securities	2.1%	1.5%	
Global fixed income securities	1.9%	1.4%	
Mortgages	3.4%	3.4%	
Short-term	1.2%	0.8%	

<sup>\*</sup>Real rate of return are net of the long-term inflation assumption of 2.3% for 2014 and 2013.

#### (b) Discount Rate

The discount rate used to measure the total pension liability was 8.0 percent. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current member contribution rates and that contributions from school districts will be made at statutorily required rates, actuarially determined. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

#### (c) Sensitivity of the Net Pension Liability (Asset) to Changes in the Discount Rate

The following presents the net pension liability (asset) of the NYSTRS participating school districts calculated using the discount rate of 8.0 percent, as well as what the school districts' net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower (7.0 percent) or 1-percentage-point higher (9.0 percent) than the current rate:

School districts' net pension liability (asset)			
	1% Decreas (7.0%)	Current e Discount Rate (8.0%)	1% Increase (9.0%)
June 30, 2015	\$ 708,515	\$ (10,386,813)	\$(19,848,797)
June 30, 2014	\$ (240,292)	\$ (11,139,377)	\$(20,426,910)

## (7) Commitments and Contingencies

The System, in the normal course of business, enters into commitments with off-balance-sheet risk. The System adheres to the same credit policies, financial and administrative controls, and risk limiting and monitoring procedures for commitments as for on-balance-sheet investments.

The commitments for loans on real estate or purchases of real estate are subject to satisfactory appraisals prior to closing. Once investments are made, the System's exposure to potential loss is determined by the value of the underlying collateral.

June 30, 2015 and 2014 (dollars in thousands)

The future financial commitments outstanding at June 30, 2015 and 2014 respectively, were: real estate and real estate alternative investments of \$2.34 billion and \$1.95 billion; mortgages and real estate debt funds of \$470.9 million and \$722.5 million; and private equity investments of \$4.55 billion and \$4.37 billion.

#### (8) Other Liabilities

Other liabilities include amounts due to the System's bank for disbursements issued on previous business days, which are funded when presented for payment. Of the total other liabilities of \$121,284 and \$117,784 at June 30, 2015 and 2014, respectively, \$5,679 and \$8,477, respectively, were managed overdrafts.

### (9) System Employees' Pension Plan

#### (a) Plan Description

As an employer, the System participates in the ERS, a cost sharing, multi-employer defined benefit pension plan which falls under NYSLRS and administered by the Comptroller of the State of New York. ERS provides retirement, disability, withdrawal, and death benefits to plan members and beneficiaries as authorized by the Retirement and Social Security Law of the State of New York. Benefits are guaranteed by the State Constitution and cannot be diminished or impaired. Benefits can be reduced for future members only by an act of the State Legislature. The NYSLRS issues a publicly available financial report that contains financial statements and required supplementary information for ERS. The report may be obtained on the Comptroller's website at www.osc.state.ny.us/pension.

#### (b) Benefits

The classes of employees covered under the ERS range from Tiers 1–6. In order to be eligible for retirement, all members must be at least age 55 and have a minimum of 5 years of service for Tiers 2–4, and 10 years of service for Tiers 5 and 6. There is no minimum service requirement for Tier 1 members. Generally, all members are eligible for early retirement at age 55 with a benefit calculation of 1.67% of final average salary. Benefit calculations for Tiers 1 and 2 members with greater than 20 years of service credit, or Tiers 3–5 members between 20 and 30 years of service credit, is 2.0% of final average salary. Tiers 3–5 members are eligible for an additional 1.50% of final average salary applied to each year of service over 30 years. Generally, Tier 6 member retirement benefits are 1.75% of final average salary with 20 years of service, with an additional 2.0% of final average salary for each year of service over 20 years.

For Tiers 1–5, final average salary is the average of the wages earned in the three highest consecutive years of employment. Tier 6 final average salary is the average of the wages earned in the five highest consecutive years of employment.

Other benefits provided under the ERS include: ordinary disability, accidental disability, and post-retirement benefit increases.

#### (c) Funding Policy

Funding of ERS is accomplished through member and employer contributions and investment earnings, according to the New York State Retirement and Social Security Law.

Plan members who joined the System before July 27, 1976, are not required to make contributions. Those joining on or after July 27, 1976, and before January 1, 2010, who have less than 10 years of service or membership are required to contribute 3% of salary. Those joining on or after January 1, 2010, and before April 1, 2012, are required to contribute 3% throughout active service. Persons joining on or after April 1, 2012, are required to contribute between 3% and 6% throughout active service. Employers are required to contribute at an actuarially determined rate. An average employer contribution rate for the Tiers of 19.9% and 20.8% was applicable to the annual covered payroll for the years ended March 31, 2015 and March 31, 2014, respectively. The required contributions paid to ERS during the System's years ended June 30, 2015 and 2014 were \$5,131 and \$5,250, respectively, and were 100% of the contributions required.

June 30, 2015 and 2014 (dollars in thousands)

#### (d) Pension Liabilities, Pension Expense, and Deferred Outflows of Resources Related to Pensions

At June 30, 2015 and 2014 (incorporated in the cumulative effect of change in accounting principle), the System reported a liability of \$3.5 and \$4.6 million, respectively, for its proportionate share of the ERS net pension liability measured as of March 31, 2015 and 2014, respectively. NYSTRS' proportion of the ERS net pension liability was based on the projection of the long-term share of contributions to ERS relative to the projected contributions of all participating employers, actuarially determined. At March 31, 2015 and 2014, the System's proportion was 0.1028788%.

For the year ended June 30, 2015, the System recognized pension expense of \$3.2 million. At June 30, 2015, NYSTRS reported deferred outflows of resources related to pensions from the following sources:

	Deferred outflows of resources
Difference between expected and actual experience	\$111
Net differences between projected and actual investment earnings on pension plan investments	604
Changes in proportion and differences between employer contributions and proportionate share of contributions	78
	\$793

There were no deferred amounts at June 30, 2014. Amounts reported as deferred outflows of resources at June 30, 2015 related to pensions will be recognized in pension expense as follows:

Year ended June 30:	
2016	\$198
2017	198
2018	198
2019	199

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the ERS and additions to/deductions from ERS's fiduciary net position have been determined on the same basis as they are reported for the ERS by the NYSLRS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

June 30, 2015 and 2014 (dollars in thousands)

#### (e) Actuarial Assumptions

The total pension liability for the March 31, 2015 measurement date was determined by using an actuarial valuation as of April 1, 2014, with update procedures used to roll forward the total pension liability to March 31, 2015. The total pension liability for the March 31, 2014 measurement date was determined by using an actuarial valuation as of April 1, 2014. These actuarial valuations applied the following actuarial assumptions:

Actuarial cost method Entry age normal

Inflation 2.7%

Salary scale 4.9%, indexed by service

Investment rate of return, including inflation 7.5% compounded annually, net of investment expenses

Cost-of-living adjustments 1.4% annually

Decrements Developed from the Plan's 2010 experience study of the

period April 1, 2005 through March 31, 2010

Mortality improvement Society of Actuaries Scale MP-2014

The long-term expected rate of return on pension plan investments was determined in accordance with ASOP No. 27, which provides guidance on the selection of an appropriate assumed investment rate of return. Consideration was given to expected future real rates of return (expected returns, net of pension plan investment expense and inflation) for equities and fixed income as well as historical investment data and plan performance.

Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of March 31, 2015 and 2014 are summarized below:

Asset Class	Target allocation	Long-term expected real rate of return
Domestic equity	38%	7.3%
International equity	13	8.55
Private equity	10	11.00
Real estate	8	8.25
Absolute return strategies	3	6.75
Opportunistic portfolio	3	8.60
Real assets	3	8.65
Bonds and mortgages	18	4.00
Cash	2	2.25
Inflation-indexed bonds	2	4.00
	100%	

#### **Discount Rate**

The discount rate used to calculate the total pension liability was 7.5 percent. The projection of cash flows used to determine the discount rate assumes that contributions from plan members will be made at the current contribution rates and that contributions from employers will be made at statutorily required rates, actuarially. Based upon the assumptions, the ERS's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore the long term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

June 30, 2015 and 2014 (dollars in thousands)

#### Sensitivity of the System's Proportionate Share of the ERS Net Pension Liability

The following presents the System's proportionate share of the ERS net pension liability calculated using the discount rate of 7.5 percent, as well as what the System's proportionate share of the ERS net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.5 percent) or 1-percentage-point higher (8.5 percent) than the current rate:

System's net pension liability (asset)						
	Current  1% Decrease Discount 1% Increase  (6.5%) Rate (7.5%) (8.5%)					
June 30, 2015	\$23,166	\$3,475	\$(13,148)			

## (10) System Employees' Other Postemployment Benefits

#### (a) Plan Description

The System adopted GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits other than Pensions* (GASB 45), for the fiscal year beginning July 1, 2007. The adoption necessitated the recognition of an actuarially determined annual required contribution (ARC) as an expense in the Statement of Changes in Fiduciary Net Position.

Pursuant to contractual agreement and policy, the System provides postemployment healthcare benefits to eligible System employees who retire from the System. The System is a voluntary participating employer in the New York State Health Insurance Program (NYSHIP), administered by the State of New York as an agent multiple-employer defined benefit plan. Article XI of the New York State Civil Service Law assigns the authority to NYSHIP to establish and amend the benefit provisions of the plan and to establish maximum obligations of the plan members to contribute to the plan. The System's Board is authorized to establish the contribution rates of System employees and retirees below those set by Civil Service Law, and they are set as part of the collective bargaining process.

In order to be eligible, employees must have worked for at least 10 years for the System, retire directly from System employment, and commence receipt of their pension from the ERS. Dependents may also be covered.

System retirees are required to contribute toward the cost of their coverage. Under the agreement that was effective prior to April 1, 2015, employees who retire on or after July 1, 1985 contribute an amount equal to 10% of the premium paid by the System up to the premium of the Empire Plan option. If more expensive coverage is elected, the retiree pays 10% of the Empire Plan option and 100% of the difference between the two. A new collective bargaining agreement effective April 1, 2015 increased retiree contributions toward health coverage from 10% to 12% of the plan premium. This change will first be reflected in the valuation as of July 1, 2015.

Employees who retire on or after April 1, 1991, are eligible to have accumulated unused sick leave converted into a credit to offset their contribution requirement.

As of June 30, 2015, 623 participants including 379 current employees, and 244 retired and/or spouses of retired employees participated in the healthcare plan. As of June 30, 2014, 579 participants including 347 current employees, and 232 retired and/or spouses of retired employees participated in the healthcare plan. NYSHIP does not issue a stand alone financial report and NYSHIP's agent activities are included within the financial statements of the State of New York.

#### (b) Funding

The System's Board established the New York State Teachers' Retirement System Retired Employee Health Benefits Trust (the Trust) in 2008. The Trust was created for the sole purpose of accepting irrevocable contributions from the System in order to provide postemployment health insurance benefits to current and future eligible retirees of the System in accordance with the terms of the healthcare plan. The Trust issues stand-alone financial statements, which can be obtained by contacting the System.

June 30, 2015 and 2014 (dollars in thousands)

The employer contribution, or funding, of the System's other postemployment benefit (OPEB) obligation is at the discretion of management and the Board. The System's current policy is to prefund benefits by contributing an amount that is, at a minimum, equal to the ARC, an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years.

The System's contribution to the Trust for the years ended June 30, 2015 and 2014, were \$5,500 and \$5,500, respectively, and were equal to 121% and 115% of the System's ARC.

The funded status of the System's OPEB as of the most recent actuarial valuation date is as follows:

Actuarial valuation date	Actuarial value of assets (a)	Actuarial accrued liability (AAL) – entry age normal (b)	Unfunded AAL (UAAL) (b-a)	Funded ratio (a/b)	Covered payroll (c)	UAAL as a percentage of covered payroll ((b-a)/c)
July 1, 2014	\$23,100	\$77,131	\$54,031	29.9%	\$25,556	211%

#### (c) Actuarial Methods and Assumptions

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Actuarially determined amounts are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information following the Notes to Financial Statements, presents multiyear trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the AAL for benefits. The provisions of GASB Statement No. 45 require an actuarial valuation be performed at least biennially. Currently, the Trust has an actuarial valuation performed annually.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the pattern of sharing of benefit costs between the employer and plan members to that point. Actuarial calculations reflect a long-term perspective and employ methods and assumptions that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. Additional information as of the latest actuarial valuation is as follows:

Valuation date
Actuarial cost method
Amortization method
Amortization period
Asset valuation method
Actuarial assumptions:
Investment rate of return

Investment rate of return\* Healthcare cost trend rate July 1, 2014
Entry age normal
Level percentage of payroll, open
30 years
Market value

8.0% compounded annually 9% initial, 5% ultimate

\*Includes an inflation assumption of 3.0%

## (11) Risk Management

The System is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; job-related illnesses or injuries to employees; and natural disasters for which the System carries commercial insurance. There were no settlements in the past two years that exceeded coverage. Management of the System believes there would be no material adverse effect on the financial statements as a result of the outcome of these matters if they existed.



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# Required Supplementary Information

## Schedule of Changes in the School Districts' Net Pension Liability (Asset) (Unaudited)

Last Three Fiscal Years (dollars in thousands)

	2015	2014	2013
Total pension liability			
Service cost	\$ 1,396,824	\$ 1,397,547	\$ 1,406,084
Interest	7,611,757	7,434,764	7,252,357
Changes of benefit terms	-	-	-
Differences between expected and actual experience	(161,043)	(181,834)	(128,194)
Changes of assumptions	-	-	-
Benefit payments, including refunds of member contributions	(6,531,140)	(6,343,538)	(6,139,718)
Net change in total pension liability	2,316,398	2,306,939	2,390,529
Total pension liability — beginning	97,015,706	94,708,767	92,318,238
Total pension liability — ending (a)	\$ 99,332,104	\$ 97,015,706	\$94,708,767
Plan fiduciary net position			
Contributions — employer	\$ 2,633,682	\$ 2,400,386	\$ 1,734,908
Contributions — employer-paid member	119,411	120,762	128,903
Net investment income	5,400,265	16,664,703	11,636,480
Benefit payments, including refunds of member contributions	(6,531,140)	(6,343,538)	(6,139,718)
Administrative expenses	(56,948)	(55,616)	(54,338)
Other	3,213	1,365	4,522
Net change in plan fiduciary net position	1,568,483	12,788,062	7,310,757
Plan fiduciary net position — beginning	108,155,083	95,367,021	88,056,264
Cumulative effect of change in accounting principle	(4,649)	-	-
Beginning balance, as restated	108,150,434	95,367,021	88,056,264
Plan fiduciary net position — ending (b)	\$109,718,917	\$108,155,083	\$95,367,021
School districts' net pension liability (asset) — ending (a) — (b)	\$(10,386,813)	\$(11,139,377)	\$ (658,254)

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditors' report and notes to required supplementary information.



## Schedule of the School Districts' Net Pension Liability (Asset) (Unaudited)

Last Three Fiscal Years (dollars in thousands)

	2015	2014	2013
Total pension liability	\$ 99,332,104	\$ 97,015,706	\$94,708,767
Plan fiduciary net position	109,718,917	108,155,083	95,367,021
School districts' net pension liability (asset)	\$(10,386,813)	\$ (11,139,377)	\$ (658,254)
Plan fiduciary net position as a percentage of the total pension liability	110.46%	111.48%	100.70%
Covered — employee payroll	\$ 15,149,363	\$ 14,897,824	\$14,761,368
School districts' net pension liability (asset) as a percentage of covered — employee payroll	(68.56)%	(74.77)%	(4.46)%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## Schedule of the School Districts' Contributions (Unaudited)

Last 10 Fiscal Years (dollars in thousands)

	2015	2014	2013	2012
Actuarially determined contribution	\$ 2,633,244	\$ 2,400,378	\$ 1,734,303	\$ 1,626,589
Contributions in relation to the actuarially determined contribution	2,608,266	2,383,145	1,734,303	1,626,589
Contribution deficiency	\$ 24,978	\$ 17,233	\$ -	\$ -
Covered-employee payroll	\$15,149,363	\$14,897,824	\$14,761,368	\$14,744,519
Contributions as a percentage of covered-employee payroll	17.22%	16.00%	11.75%	11.03%

 $See\ accompanying\ independent\ auditors'\ report\ and\ notes\ to\ required\ supplementary\ information.$ 



## Schedule of the School Districts' Contributions (Unaudited)

Last 10 Fiscal Years (dollars in thousands)

2011	2010	2009	2008	2007	2006
\$ 1,269,976	\$ 915,632	\$ 1,096,155	\$ 1,195,148	\$ 1,125,138	\$ 997,687
1,269,976	915,632	1,096,155	1,195,148	1,125,138	997,687
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$14,831,451	\$14,894,333	\$14,451,525	\$13,743,396	\$13,204,013	\$12,498,568
8.56%	6.15%	7.59%	8.70%	8.52%	7.98%

## Notes to Required Supplementary Information (Unaudited)

Last 10 Fiscal Years

Changes of benefit terms. Chapter 504 of the Laws of 2009 created a new tier of membership (Tier 5) for members with a date of membership on or after January 1, 2010. The Tier 5 benefit structure represents a reduction in benefits from those of prior tiers and an increase in the required employee contribution rate. The Tier 5 benefit changes were first included in the 2010 actuarial valuation. Chapter 18 of the Laws of 2012 created a new tier of membership (Tier 6) for members who join on or after April 1, 2012. The Tier 6 benefit formula is slightly less generous than that of Tier 5, and the required employee contribution rate was increased further. The Tier 6 benefit changes were first included in the 2012 actuarial valuation.

Changes of assumptions. Actuarial assumptions are revised periodically to more closely reflect actual, as well as anticipated future experience. The actuarial assumptions used in the actuarial valuations prior to 2006 were adopted by the Retirement Board on October 25, 2000. Revised assumptions were adopted by the Retirement Board on October 26, 2006, and first used in the 2006 actuarial valuation. The actuarial assumptions were revised again in 2011. These assumptions were adopted by the Retirement Board on October 27, 2011, and first used in the 2011 actuarial valuation. The Retirement System's asset valuation method was changed effective with the 2007 actuarial valuation. Prior to the 2007 actuarial valuation, the asset valuation method used was a five-year market smoothing for equities, real estate, and alternative investments, based upon book values. Prior to the 2011 actuarial valuation, COLAs were projected to increase at a rate of 1.75% annually.

Method and assumptions used in calculations of school districts' actuarially determined contributions. The actuarially determined contribution rates in the schedule of school districts' contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. Unless otherwise noted above, the following actuarial methods and assumptions were used to determine contribution rates reported in the Schedule of the School Districts' Contributions.

Actuarial cost method Aggregate (level percent of payroll)\*

n/a\* Amortization method Remaining amortization period n/a\*

Asset valuation method Five-year phased in deferred recognition of each year's actual gain or

loss, above (or below) an assumed inflationary gain of 3.0%.

3.0% Inflation

Rates of increase differ based on age and gender. Projected salary increases

They have been calculated based upon recent NYSTRS

member experience.

<u>Age</u>	<u>Female</u>	<u>Male</u>
25	10.35%	10.91%
35	6.26	6.27
45	5.39	5.04
55	4.42	4.01

Projected COLAs 1.625% compounded annually

Investment rate of return 8.0% compounded annually, net of pension plan investment

expense, including inflation.

See accompanying independent auditors' report.



<sup>\*</sup>The System is funded in accordance with the Aggregate Cost Method, which does not identify nor separately amortize unfunded actuarial liabilities. Costs are determined by amortizing the unfunded present value of benefits over the average future working lifetime of active plan members, which currently for NYSTRS is approximately 15 years.

# Schedule of Investment Returns (Unaudited)

Last Three Fiscal Years

	2015	2014	2013
Annual money-weighted rate of return, net of investment expense	5.18%	18.16%	13.73%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

# Schedule of NYSTRS' Proportionate Share of the Net Pension Liability (Unaudited)

New York State and Local Employees' Retirement System (ERS)

Last Two Fiscal Years

(dollars in thousands)

	2015	2014
System's proportion of the net pension liability	0.1028788%	0.1028788%
System's proportionate share of the net pension liability	\$ 3,475	\$ 4,649
System's covered-employee payroll	\$28,166	\$27,337
System's proportionate share of the net pension liability as a percentage of covered-employee payroll	12.3%	17.0%
ERS fiduciary net position as a percentage of the total pension liability	97.9%	97.2%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditors' report.



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## Schedule of NYSTRS' Contributions (Unaudited)

New York State and Local Employees' Retirement System (ERS)

Last 10 Fiscal Years

(dollars in thousands)

	2015	2014	2013	2012
Actuarially determined contribution	\$ 5,131	\$ 5,250	\$ 4,807	\$ 3,740
Contributions in relation to the actuarially determined contribution	5,131	5,250	4,807	3,740
Contribution deficiency	\$ -	\$ -	\$ -	\$ -
Covered-employee payroll	\$29.386	\$27,050	\$26,745	\$26,478
Contributions as a percentage of	, -,	, ,	, ,	, ,
covered-employee payroll	17.46%	19.41%	17.97%	14.12%

 $See\ accompanying\ independent\ auditors'\ report\ and\ notes\ to\ required\ supplementary\ information.$ 



## Schedule of NYSTRS' Contributions (Unaudited)

New York State and Local Employees' Retirement System (ERS)

Last 10 Fiscal Years

(dollars in thousands)

2011	2010	2009	2008	2007	2006
\$ 2,903	\$ 1,802	\$ 1,918	\$ 2,125	\$ 2,017	\$ 2,318
2,903	1,802	1,918	2,125	2,017	2,318
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$25,528	\$25,566	\$24,879	\$23,987	\$23,064	\$21,260
11.37%	7.05%	7.71%	8.86%	8.75%	10.90%

# Other Post-Employment Benefit Schedule of Funding Progress (Unaudited)

June 30, 2015 (dollars in thousands)

Actuarial valuation date	Actuarial value of assets (a)	Actuarial accrued liability (AAL) – entry age normal (b)	Unfunded AAL (UAAL) (b-a)	Funded ratio (a/b)	Covered payroll (c)	UAAL as a percentage of covered payroll ((b-a)/c)
July 1, 2012	\$12,020	\$81,838	\$69,818	14.7%	\$25,993	269%
July 1, 2013	16,779	74,479	57,700	22.5	26,500	218
July 1, 2014	23,100	77,131	54,031	29.9	25,556	211

In accordance with GASB Statement No. 45, Paragraph 26, the schedule of funding progress contains the required elements of information as of the most recent actuarial valuation date. The Trust is required to have an actuarial valuation performed at least biennially. The most recent actuarial valuation was completed as of July 1, 2014.

See accompanying independent auditors' report and notes to required supplementary information.



# Other Supplemental Schedules

# **Schedules of Administrative Expenses** Years ended June 30, 2015 and 2014

(dollars in thousands)

	2015	2014
Salaries and benefits:		
Salaries	\$ 29,406	\$ 27,055
Civil service	42	33
Employees retirement	5,172	5,295
Health and dental insurance	10,441	10,097
Overtime salaries Social security	55 2,079	60 1,929
•		
Total salaries and benefits	47,195	44,469
Building occupancy expenses:		
Building, grounds and equipment	1,472	1,233
Depreciation — building and improvements	1,475	1,417
Depreciation — equipment Office supplies and expenses	264 169	204 167
Utilities and municipal assessments	964	1,001
Total building occupancy expenses	4,344	4,002
Computer expenses:	1,011	1,002
Amortization/depreciation — computer micro	1,595	1,666
Computer hardware and software	2,199	2,201
Computer maintenance and supplies	30	72
Total computer expenses	3,824	3,939
Personnel and meeting expenses:		
Board — meetings, travel and education	92	134
Delegates meeting	62	52
Preretirement seminars	153	144
Professional development	609	523
Travel and automobile expense Other personnel expenses	163 39	229 40
Total personnel and meeting expenses	1,118	1,122
Professional and governmental services:	1,110	1,122
Auditors — financial	511	142
Auditors — insurance department Disability medical examinations	67 155	67 131
Postage and cartage	846	859
Professional fees and services	419	426
Publications	319	322
Statutory custodian charges	117	117
Total professional and governmental services	2,434	2,064
Total administrative fund expenses	58,915	55,616
Reconciliation of contribution expense to pension expense	(1,967)	
Total Administrative Expenses	\$56,948	\$55,616

See accompanying independent auditors' report.

## Other Supplemental Schedules (continued)

# **Schedule of Investment Expenses** Year ended June 30, 2015

(dollars in thousands)

Investment category	Assets serviced or under management	Expenses
Domestic fixed income securities	\$ 1,317,603	\$ 2,666
Global fixed income securities	1,565,394	3,069
Domestic equities	4,726,628	20,415
International equities	19,934,463	24,318
Mortgages	1,130,956	99
Real estate	8,226,139	61,884
Alternative investments	9,528,078	107,548
General	_	8,352
Totals	\$46,429,261	\$228,351

See accompanying independent auditors' report.

# Investments



NYSTRS' total fund return for the fiscal year was 5.2% net of fees. Our 25-year and 20-year rates of return are 8.9% and 8.4%, respectively.



The fund is managed at an average annual cost of 24 basis points, a very low cost compared to the value of assets. Approximately 62% of assets are managed internally.



System assets are broadly diversified among eight primary asset classes. Approximately 75% of assets are in equities, with the remainder committed to fixed income.

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## Report on Investment Activity for Fiscal Year Ended June 30, 2015

#### Overall Objectives and Performance

NYSTRS remains one of the best-funded public pension plans in the nation. Total net position was valued at \$109.7 billion as of June 30, 2015, an increase of \$1.6 billion from the previous year.

Market growth was tepid across the board as concerns over the Greek debt crisis, falling energy prices and a strong U.S. dollar dampened investor enthusiasm. The expectation that the Federal Reserve (Fed) would raise short-term interest rates for the first time in nearly a decade did not come to pass due to a winter economic slowdown.

Despite the market volatility, NYSTRS' total fund return for the fiscal year ended June 30, 2015 was 5.2% net of fees, the sixth consecutive year of positive returns and only the second time in that timeframe that returns did not reach double digits. Our continued success is attributable to the disciplined investment approach we use and the strong emphasis we place on maintaining a risk-controlled portfolio.

NYSTRS' long-term expected rate of return is 8.0% per annum. Our 25-year and 20-year annualized net rates of return are 8.9% and 8.4%, respectively.

The fund is managed at a very low cost compared to the value of assets. Approximately 62% of assets are managed internally by System staff. Investment management expenses and fees for the externally managed or serviced portfolio equate to an annual cost of about 47 basis points, while the internally managed portfolio operates at an annual cost of approximately 5 basis points. Combined, the investment portfolio operates at an average annual cost of 24 basis points.

Following is an overview of how each System asset class performed during the past fiscal year.

### **Public Equities**

Public equity market returns were driven by several major factors: A strong dollar in anticipation of higher interest rates in the United States; a potential Greek exit from the Eurozone; a sharp fall in the price of oil; and, a dramatic rise in Chinese equities. The result was a dispersion of global returns across geographic regions, industries and other segments of the market.

In the United States, the System's policy benchmark for domestic equities, the S&P 1500 index, rose 7.3% over the fiscal year driven by strong returns in healthcare, consumer cyclicals, technology and financials. The energy sector was a relative weak spot, falling by over 20.0% during the period. Investors generally favored large-cap stocks over small-caps, while also rewarding companies with expectations of higher earnings growth over those trading at relatively cheaper multiples. Market volatility remained mostly benign throughout the year as the economy continued to expand modestly.

In contrast, the strong dollar significantly impacted international equity returns for U.S. based investors. The System's policy benchmark for international equities, the MSCI All Country World Index Ex.-U.S., fell 5.3% during the year. The dollar appreciated by over 15.0% for the period against the major developed market currencies including the Euro, Japanese Yen and Australian Dollar, creating a significant headwind to equity returns from those regions. For U.S. based investors, the value of foreign stock holdings falls when the local currency depreciates relative to the dollar. Japan and Hong Kong were two of the best performing developed markets, but many other countries saw positive local market returns become negative returns when adjusted for these currency movements. Like in the U.S., energy stocks in developed markets fell by over 20.0% during the period.

Emerging market equities fared worse than their developed market counterparts, particularly those in oil sensitive countries such as Brazil and Colombia. In Europe, Greek stocks fell by over 50.0% during the period on fears the country would default and leave the Eurozone. Economic sanctions combined with falling oil prices caused Russian equities to fall by over 25.0%.

However, Asia was a relatively strong performer during the fiscal year, led by China. In response to a slowing economy and property market, the Chinese government encouraged greater stock market participation, highlighted by the November launch of the Shanghai-Hong Kong Stock Connect program. Chinese equities trading on the Hong Kong exchange (and therefore available to foreign investors) were up over 20.0% during the period. On the mainland, retail investors drove the index of locally listed shares to a seven-year high in June before selling off because China's regulatory authority tightened margin requirements.

NYSTRS' public equity portfolio is globally diversified with exposure to domestic, developed and emerging markets. Staff ensures the program's allocations to domestic and international equities are managed consistent with the System's asset allocation policy. Within the fiscal year, staff raised \$2.3 billion from domestic equities and \$550 million from international equities.

The public equity program's internally and externally managed strategies performed in-line with expectations during the fiscal year. Overall, the System's domestic equity portfolio generated a return of 7.3% for the fiscal year, while the international equity portfolio was down 4.8%. Combined, the NYSTRS public equity program returned 3.2% for the fiscal year. Over the past five years, the System's public equity program has generated an average return of 14.95% per year on an annualized basis.

#### Fixed Income

Central bank monetary policies worldwide kept interest rates low throughout the fiscal year, resulting in markets brimming with liquidity. In the U.S., the Fed continued its nearly seven-year run of a 0.00% - 0.25% federal funds rate. While the third round of the Fed's quantitative easing (QE) and bond buying program concluded in October 2014, coupon and principal reinvestment continued throughout the fiscal year, resulting in a Federal Reserve balance sheet of roughly \$4.5 trillion. Under this program, U.S. treasuries, agencies and mortgage backed securities were purchased in an effort to achieve full employment and to ensure price stability via inflation targeting.

U.S. monetary policy continued to be a tailwind for the nation's economy. Consumers benefitted through lower financing rates and reduced debt service costs. Many asset class valuations, such as those in equities, benefitted as investors searched for greater returns, creating a wealth effect from price appreciation.

Central banks in other developed nations, including the Bank of Japan and the European Central Bank, mimicked U.S. quantitative easing and accommodative monetary policy in order to stimulate their economies. During the fiscal year there was significant government bond market volatility, as evidenced by five-year government bonds of 10 different developed nations reaching negative yields at some point during the first six months of 2015. Greek two-year government bond yields spiked to over 29.0% in June due to a breakdown in negotiations over the Greek debt crisis. Conversely, in April, German 10-year government bonds reached a record-low yield of 0.075% after the European Central Bank underscored its commitment to buying large quantities of top-rated debt to stimulate the region's economy. After reaching that record-low yield, the 10-year German bond sold off and ended June at a yield of 0.764%.

Fed policy continued to make a favorable impact on key economic metrics such as the unemployment rate, manufacturing indices, and business and consumer confidence levels — each of which influenced the fixed income markets. The unemployment rate declined to 5.3%, down from 6.1% at the end of the 2014 fiscal year and its lowest level since September 2008. Despite this decline, additional labor market data were mixed. For instance although the underemployment rate continued to decline, at 10.5% it was still significantly higher than pre-recession lows. Also, the labor force participation rate remains on a downward trend, reaching its lowest level since 1977. Though both indices have improved, they indicate the labor market has not yet fully recovered.

Economic and business activity measured by the Institute for Supply Management indices were expansionary, with each month's data showing growth. For the second consecutive year weather conditions stifled growth and caused economic weakness during winter months, but the U.S. economy still expanded. Inflation remained contained, as the year-over-year change in the U.S. Personal Consumption Expenditure Core Price Index (PCE) slowed from 1.6% at the beginning of the 2015 fiscal year to 1.3% in June. The Federal Open Market Committee (FOMC) emphasized there was further improvement in the labor market and expressed reasonable confidence that inflation will return to the 2.0% objective over the medium term, both of which are viewed as preconditions to raising the target Federal Funds Rate. With the Fed signaling possible rate increases in the near term, it remains to be seen how the economy will respond.

Although the protracted period of low interest rates has been a challenge when managing fixed income, our focus remains on achieving the portfolio's primary objectives of generating cash flow to help meet the System's more than \$6.0 billion plus annual retirement benefit obligation while preserving capital and seeking returns commensurate with the risk taken. The System's internally and externally managed portfolios are all well diversified to mitigate risk. Additionally, portfolio managers actively monitor and manage risk while striving to generate cash flow in excess of what could be earned in risk-free fixed income investments. Emphasis is also placed on preserving the ability to respond to market opportunities as they arise.

At fiscal year-end, roughly 68.0% of the internally managed domestic fixed income portfolio consisted of Aaa securities, the highest credit quality rating granted. Approximately 46.0% was invested in U.S. Treasuries with the remaining 22.0% invested in very high-quality U.S. agencies, agency mortgage backed securities and supranational debt. A portion of the portfolio was invested in corporate bonds with a weighted average credit rating of mid-A. These positions, many of which are issued by multinational industry leaders, provide the System with yields greater than what could be gained by investing solely in the highest rated securities.

The externally managed global bond portfolios had a sizeable 29.0% allocation to the highest rated Aaa securities. These managers rely on their deep credit research resources to identify and invest in lower credit quality investment grade and non-investment grade bonds that provide additional yield. Roughly 94.0% of the combined portfolios were invested in investment grade bonds.

Domestic and global bond market performance during the fiscal year, as measured by the Barclays U.S. Aggregate Float Adjusted Bond Index and Barclays Global Aggregate Float Adjusted Index in U.S. dollars hedged to the U.S. dollar, returned 1.78% and 2.93%, respectively.

The best returns in the investment grade domestic fixed income market were rewarded to investors who avoided triple-B rated bonds as well as bonds with maturities of three years or less. Domestic bonds with maturities of one to three years returned 0.95% during the fiscal year, while the lowest rated investment grade bonds returned just 0.07% compared to the highest rated Aaa securities with a 2.19% return.

Reaping the best returns in the global bond market required investors to be hedged to the U.S. dollar as well as possess higher levels of interest rate risk but lower levels of credit risk. The unhedged Barclays Global Aggregate Float Adjusted Index returned negative 7.30%, vastly underperforming the positive return generated by the hedged version of the benchmark. Global bonds with maturities greater than 10 years and a higher level of interest rate risk returned 6.24%, while bonds in the double-A rated category outperformed with a 3.61% return during the fiscal year. The benefit of having a geographically diverse portfolio was apparent, as the European portion of the global benchmark returned over 4.0%, far outpacing Asia and the U.S.

As of June 30, 2015, 15.5% of System investments were in the internally managed domestic fixed income portfolio. For the one- and three-year periods ended June 30, 2015, the System's long-term bond portfolio's annual return was 1.93% and 1.75%, respectively, versus the 1.78% and 1.82% for the benchmark. The one year outperformance is attributable to assuming less credit risk as the portfolio was underweight to lower quality investment grade issues.

With respect to the externally managed global bond portfolios, as of June 30, 2015, 1.5% of System assets were invested in global bonds significantly hedged to U.S. dollars. Net of fees, global bonds returned 2.44%, compared to 2.93% for the benchmark. Country selection and currency positioning were the primary factors for underperforming the benchmark. The System's long-term expectation is these managers will add investment diversification and help generate greater risk-adjusted fixed income returns.

### Short Term (Cash Equivalents)

The System's short-term fixed income portfolio consists of high-quality securities which can easily be converted into cash to provide for the monthly payment of pension benefits, make investments in other asset classes and support operating commitments of the System. Securities held in this portfolio generally mature in 12 months or less. Securities that have maturities greater than 13 months at the time of purchase have a floating-rate coupon that resets every three months or less. The short-term portfolio has an asset allocation target of 1%. At 2015 fiscal year end, the portfolio represented 2.4% of total invested System assets, well within the allowable range of 0-4%.

As of June 30, 2015, the portfolio's weighted average duration and weighted average life were 32 and 34 days, respectively. For the 12 months ended June 30, 2015, the short-term portfolio returned 0.11%, versus the iMoneyNet Money Fund Averages/All-Taxable Index benchmark, which returned 0.02%.

The System's 2015 fiscal year marked the seventh year of a 0.00% – 0.25% federal funds target rate. The FOMC remained steadfast in its tapering of its QE asset purchase program. October 2014 was the last month for Treasury, agency, and agency mortgage purchases in this round of QE as the outlook for labor market conditions continued to improve. While no new asset purchases would be made beyond October 2014, the FOMC would continue the practice of reinvesting maturities and principal pay downs into Treasurys, agency and agency mortgages. This practice has resulted in maintaining a roughly \$4.5 trillion Federal Reserve balance sheet.

Continued labor market improvement throughout the 2015 fiscal year, as evident by a decline in the unemployment rate from 6.1% to 5.3%, has placed market expectations for a federal funds target rate hike into the second half of 2015. The primary caveat to a rate hike in this time frame remains subdued inflation as measured by the FOMC's preferred gauge, the U.S. Core Personal Consumption Expenditure Index (PCE). Annual Core PCE slowed from 1.6% at the beginning of the 2015 fiscal year to 1.3% in June 2015. Core PCE expectations also slowed for the coming year. The FOMC has emphasized further improvement in the labor market and reasonable confidence that inflation will return to the 2.0% objective over the medium term as preconditions to raising the target federal funds range.

Regulatory pressures continued to weigh on money markets, exerting downward pressure on rates. Global financial institutions are subject to regulations that require higher capital levels and more liquidity, with the goal to reduce the impact of market and economic shocks on the financial system. Financial institutions across the board sought to term out funding and lock in lower funding costs in anticipation of a federal funds target rate hike. Money market mutual funds (MMMFs), on the other hand, continued to adjust to existing and upcoming Securities and Exchange Commission reforms by increasing demand for short-dated, high-quality collateral at the same time the supply of such collateral remains depressed.

With the shortage of collateral in the money markets (e.g., Treasury bills) and increasing demand from investors, if the intention is for overnight rates to trade within their target range, the Fed may need to supply collateral when the time comes to raise the target rate.

#### Real Estate

Commercial real estate capital markets posted another strong year as global investors, buoyed by accommodative monetary policies in the United States and abroad, continued to focus on hard assets in major markets with stable currencies.

In the U.S., NYSTRS' portfolio continues to emphasize coastal gateway markets that attract multinational tenants and investors. Our concentrations in New York, Boston, Washington, D.C., San Francisco and Los Angeles benefit from world-class education and health care centers that are densely populated with diverse employment bases. Natural land limitations in these markets, as well as local development constraints, generally limit the amount of competing product that would put downward pressure on rents and property values.

U.S. markets with stable employment bases are the key focus for commercial investors at this time as demand for space and any corresponding rent growth are expected to be the drivers for returns going forward. This is especially true of primary markets where asset valuations and capitalization rates have now exceeded "Pre-Lehman" peak levels.

Although unemployment rates continue to drop, low labor participation numbers and high underemployment levels continue to limit growth in commercial space fundamentals throughout the country. The primary employment drivers have been health care, hospitality and retail jobs, none of which have created demand for office space or provided a great deal of discretionary capital for consumer spending at our shopping centers or the corresponding demand for warehouse inventories. More recently, however, professional and technical services employment has picked up, which should bode well for demand in office space, particularly in the technology-based markets.

Even with the end of the quantitative easing program, an anticipated move in the Fed Funds Rate in the near term and the specter of over a trillion dollars in commercial mortgage maturing over the next 30 months, all-in commercial lending rates continue to remain at historically low levels due to the relative strength of the U.S. currency and abundant global liquidity.

The primary drivers of supply for commercial mortgage product are U.S. banks that continue to tap reserves for core investments treated beneficially under capital regulatory requirements; life insurance companies that continue to have a large appetite for trophy assets to match long-term policyholder liabilities; and, a securitized market that is expected to issue over \$100 billion in commercial mortgage backed securities (CMBS) for calendar year 2015.

Multifamily properties continue to show strong numbers, although rents appear to be peaking in the primary markets. Developers looking to take advantage of escalated rents in the major markets and potential rent growth in secondary and tertiary markets are expected to deliver 450,000 units nationally over the next two years, or approximately 1.5% of existing stock — a figure significantly above the long-term trend.

The U.S. office market is finally showing signs of improvement. Growth in office-using jobs accelerated in 2015, led primarily by Western gateway markets anchored by technology, financial services, health care and life sciences. Unfortunately, the signs of improvement out West and in the major markets are not reflected in the smaller markets, where retail and service jobs prevail.

In the retail sector, top-tier centers have garnered the majority of rent growth to date. Overall consumer spending remains muted as wage levels have only ticked up slightly. Cheaper gasoline is providing consumers with extra cash, but benefits to retail sales have been slow to materialize. The retail development pipeline continues to be extraordinarily low as retailers and developers continue to sort out the multi-channel delivery solutions for Internet sales that are still picking up market share at an extraordinary pace.

Industrial market fundamentals have tightened and rent growth has picked up nationally despite an increased development pipeline. Internet retailer demand for new large warehouse centers (greater than 500,000 square feet) continues to grow.

The System has a globally diversified portfolio of public and private commercial real estate assets valued at \$16.9 billion. The portfolio is generally broken down into equity and debt components.

NYSTRS' \$11.3 billion equity portfolio consists primarily of core high-quality, cash-flowing properties, including apartment projects, regional shopping malls, open-air shopping centers, warehouses and office buildings located primarily in central business districts. For the year ended June 30, 2015, the core equity portfolio returned 20.2%. In all, the program has returned 10.6% over the last 10 years on an annualized basis.

In addition to the core portfolio, the System invests in global opportunistic strategies where non-stabilized assets are purchased at a discount and repositioned for sale as core cash-flowing assets. For the year ended June 30, 2015, the System's global value added/opportunistic portfolio returned 14.1%, compared to 7.2% over the last 10 years on an annualized basis.

NYSTRS' global real estate securities portfolio makes up 20.0% of the overall equity program. The portfolio consists of publicly traded real estate investment trusts and real estate operating companies that manage top-tier commercial properties throughout the world. These assets provide the System with daily liquidity through the public markets and ongoing cash flow through dividends. The portfolio consists of \$1.9 billion and \$417 million in domestic and international assets, respectively. For the year ended June 30, 2015, the domestic portfolio returned 6.9% and the international portfolio returned -2.2%. Over the last 10 years, domestic holdings returned 7.8% while the international portfolio, which began in December 2006, has lost 0.1% since inception. The loss is primarily the result of performance during the global financial crisis and more recently the relative weakness of international currencies versus the U.S. dollar.

NYSTRS' \$5.5 billion real estate debt portfolio consists primarily of domestic commercial mortgages where the System provides fixed-rate loans on high-quality, well-located, cash-flowing assets. At June 30, 2015, the System's mortgage portfolio returned 4.1% with a 10-year average annual return of 5.8%. The portfolio has a weighted average coupon of 4.7%, a yield to maturity of 3.6% and a duration of five years.

The System's CMBS program is comprised of investment-grade income securities that are collateralized by commercial properties to provide the System with a current yield in a publicly traded liquid environment. At June 30, 2015, the System's CMBS portfolio had a yield to maturity of 3.2% and duration of 4.7 years. The CMBS portfolio returned 2.7% for the year and has a 10-year average annual return of 4.5%.

NYSTRS' real estate debt funds consist of higher yielding strategies, including short-term mortgages on transitional properties and subordinate positions on commercial assets. For the year ended June 30, 2015, the System's real estate debt fund portfolio returned 8.8%. For the 10-year period, the portfolio lost 3.4%, primarily due to losses experienced during the post-Lehman U.S. banking crisis.

## Private Equity

NYSTRS made its first private equity investment in 1984 and formally committed to the asset class in 1999, establishing a target of 1.0% of investments. Today, the target allocation is 7.0% with an allocation range of 4.0% to 12.0%. The partnership structures generally cover periods of 10 years or more, with the goal to achieve higher long-term returns than available through marketable securities. The program seeks to outperform public equities by 500 basis points (S&P 500 plus 5.0%) over the long term.

#### Report on Investment Activity (continued)

Private equity activity continues to be characterized by a robust fundraising environment, largely driven by continued liquidity from strong public markets and increased interest by strategic buyers with strong balance sheets. Frothy capital markets and increased competition for assets continue to drive entry and leverage multiples higher. Given the current market environment, the System remains focused on investing with top-performing managers that have demonstrated an ability to prudently invest across varying macro-economic backdrops and cycles.

The Retirement System's private equity portfolio is comprised of buyout, growth, venture capital, fund of funds, secondary, co-investment, mezzanine, distressed/turnaround, special situation and real estate funds. For asset allocation purposes, the approximately \$854 million of private equity associated with real estate and timberland are categorized in this report as real estate equity.

The Retirement System has a mature and cash-flow positive private equity program diversified by both investment strategy and geographic focus. The program continues to focus on recommitting to its top-performing partnerships, while strategically adding new relationships that provide increased exposure to particular strategies and geographies. Specifically, NYSTRS continues to de-emphasize large and mega buyout exposure, while increasing small and medium buyout exposure in both North America and Europe. Additionally, the System will continue to marginally increase exposure to sector-focused opportunities and mid-size distressed/turnaround managers. The program also seeks to supplement its venture portfolio through selective commitments to growth strategies. Increased exposure to Asia and Latin America is expected over the next five to 10 years through selective commitments with top-performing country-specific and pan-regional managers.

By fiscal year-end, the System had active commitments of \$17.4 billion with 83 fund sponsors. The private equity portfolio was valued at \$8.3 billion, representing 7.47% of the System's total assets. Unfunded commitments totaled \$4.5 billion. Over the last 10 years, the private equity program has returned 13.2%, outperforming the benchmark of 12.9%.

#### Other Programs

#### Securities Lending

The System's securities lending program generates incremental income by lending in-demand domestic and international equity, and fixed income securities.

The System uses multiple agent lenders to manage the securities lending program. Each lending program is proactively monitored by System staff to ensure the program is managed in compliance with the System's contractual, statutory and risk guidelines.

The System earns a spread (the difference in income earned on reinvestment of cash collateral less the amount rebated to the borrower of the security) on loans collateralized by cash that consists of demand and reinvestment components. The reinvestment portion of the spread is generated by investing the cash collateral received for securities loaned into high-quality, short-term fixed income securities. The demand piece of the spread is a function of borrower interest. The System also enters into non-cash loans collateralized by U.S. government and agency securities, whereby the System earns income via a fee paid by the borrower.

During the System's 2015 fiscal year, the money markets continued to face numerous pressures. The FOMC ended its most-recent QE program after numerous months of tapering Treasury and agency mortgage purchases. Global financial institutions continued to be affected by enacted and pending regulations under Basel III and Dodd-Frank among others. The Federal Reserve Bank of New York continued to test its Reverse Repo facility in various tenors, attempting to put a floor under front end rates and ease pressures in the money markets. Numerous money market mutual fund families have announced upcoming changes to their product offerings in response to impending rules governing certain funds. Furthermore, front end investment opportunities remained elusive as Treasury bills outstanding as a percentage of overall Treasury debt are at historical lows and corporate issuers look to term out funding needs for regulatory purposes and/or to lock in lower funding costs in anticipation of the FOMC's first hike in over nine years.

#### Report on Investment Activity (continued)

The program also felt the impact of regulation as the counterparties' cost of borrowing became more expensive in the form of balance sheet costs. Borrowers continued to prefer pledging non-cash collateral over cash collateral in order to optimize their balance sheets and reduce capital charges. With the diminishing preference from borrowers for pledging cash collateral and the continued historically low yields providing limited opportunities to reinvest cash collateral, the lending agents have maintained a low level of loan balances, as the risk-return trade-off of higher balances at tighter spreads was not compelling.

The System's securities lending program continued to generate the majority of income from borrower demand, earning \$17.3 million for the fiscal year ended June 30, 2015, compared to \$9.1 million (after a \$5.4 million realized loss on the sale of impaired collateral investments) for the fiscal year ended June 30, 2014.

As of June 30, 2015, the securities lending portfolio was collateralized at approximately 102.4%, with 3.6% of the System's securities available to lend. This was down from 3.8% on loan at June 30, 2014, due to reduced borrower demand, as well as a lack of attractive cash collateral reinvestment opportunities.

The prior fiscal year's unrealized loss of \$1.2 million on investments in the System's cash collateral reinvestment portfolio was not repeated, as instead the portfolio posted an unrealized gain of \$3.4 million as of June 30, 2015 — a \$4.6 million improvement. The cash collateral appreciation was the result of a change in amortization methodology which more accurately reflects the securities value as provided by the trustee, as well as the continued receipt of principal payments at par on a security which is priced at a distressed level.

For information describing the securities lending process, please see the *Notes to Financial Statements* under the heading "Securities Lending Transactions."

Prepared by NYSTRS Investment Staff:

David C. Gillan

Managing Director of Real Estate

Frederick W. Herrmann

Managing Director of Public Equities

Michael A. Wolfe Ir.

Managing Director of Fixed Income

Gerald J. Yahoudy II \*

Managing Director of Private Equity

<sup>\*</sup> Mr. Yahoudy was appointed Managing Director of Private Equity on July 30, 2015, replacing John W. Virtanen who retired.

### Diversification of Investments June 30, 2015 and 2014

(dollars in thousands)

Investment type	2015	Percent	2014	Percent	Increase (Decrease)
Short-term:	¢ 70,000		\$ 85.666		¢ (F.600)
Government related*	\$ 79,998 2,473,632		\$ 85,666 2,065,694		\$ (5,668) 407,938
Corporate	2,553,630	2.39%	2,151,360	2.04%	402,270
Domestic fixed income securities:					
United States Treasury	7,559,009		6,405,951		1,153,058
Federal agency, notes & debentures	1,339,197		1,394,534		(55,337)
Federal agency mortgage backed	2,243,947 1,317,603		2,453,491 1,265,970		(209,544) 51,633
Commercial mortgage backed	5,438,227		4,727,878		710,349
Corporate	17,897,983	16.77	16,247,824	15.42	1,650,159
Global fixed income securities:	1,565,394		1,030,747		534,647
Global fixed freeling securities.	1,565,394	1.47	1,030,747	0.98	534,647
	1,303,334	1.47	1,030,747	0.30	334,047
Domestic equities:	E 450 400		F 120 040		210.500
Consumer Discretionary Consumer Staples	5,459,409 3,503,815		5,139,840 3,528,706		319,569 (24,891)
Energy	3,029,205		4,225,084		(1,195,879)
Financials	8,784,486		8,858,397		(73,911)
Health Care	6,217,205		5,392,097		825,108
Industrials	4,471,694		4,686,774		(215,080)
Information Technology	7,975,701		7,789,533		186,168
Materials	1,644,741		1,805,666		(160,925)
Telecommunication Services	826,298 1,164,689		878,658 1,287,959		(52,360) (123,270)
Utilities Miscellaneous	115,784		101,795		13,989
Miscendicods	43,193,027	40.47	43,694,509	41.46	(501,482)
International equities:					
Commingled investments	8,578,102		9,286,996		(708,894)
Direct investments	10,999,568		11,869,947		(870,379)
REITs	417,637		424,699		(7,062)
	19,995,307	18.73	21,581,642	20.48	(1,586,335)
Mortgages:	3,775,423		3,466,138		309,285
Conventional	1,379		1,853		(474)
Federal Housing Administration	3,776,802	3.54	3,467,991	3.29	308,811
Real estate:					
Direct equity real estate investments	4,852,370		4,280,539		571,831
Commingled real estate investments	3,373,769		3,293,654		80,115
Other real estate owned	5,000		5,000		
	8,231,139	7.71	7,579,193	7.19	651,946
Alternative investments:					
Private equity	8,258,252		8,383,165		(124,913)
Real estate equity funds	530,282		567,433		(37,151)
Real estate debt funds	421,586		403,242		18,344
Timberland	9,528,078	8.92	9,641,818	9.14	29,980 (113,740)
m . 11					
<b>Total investments</b>	\$106,741,360	100.00%	\$105,395,084	100.00%	\$ 1,346,276

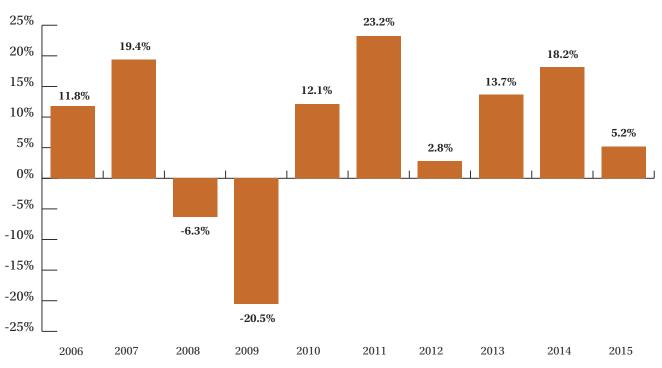
 $<sup>*</sup>U.S.\ Treasury,\ agency,\ supranational,\ and\ sovereign\ debt\ issues.$ 

### Asset Allocation — as of June 30, 2015

The most significant contributor to a fund's long-term investment performance is the allocation decision among the various asset classes, including equities, fixed income and real estate. The allocation process helps control risk and sets the guidelines to diversify the System's portfolio. The asset allocation policy adopted by the Board allows ranges around an optimal target allocation. The Retirement Board, with the assistance of an external consultant, reviews the asset allocation policy on an annual basis to analyze recent and historical investment experience. Since this is a long-term plan, adjustments to the allocation are usually made on an annual basis when necessary. The current targets, ranges and actual allocations are detailed below:

	Target	Range	Actual
Domestic Equity	37%	32-42%	38.7%
International Equity	18%	14-22%	18.4%
Real Estate	10%	6-14%	10.6%
Private Equity	7%	4-12%	7.7%
Total Equities	72%		75.4%
Domestic Fixed Income	17%	13-22%	15.5%
Global Bonds	2%	0-3%	1.5%
Mortgages	8%	5-11%	5.2%
Cash Equivalents	1%	0-4%	2.4%
Total Fixed Income	28%		24.6%

### **Annual Performance History**



Fiscal Year Ended June 30

### Investment Performance Results — as of June 30, 2015

The System is a long-term investor and therefore can withstand some short-term volatility. The liabilities are generally long-term in nature and may not become payable for 30 or more years in the future. The time-weighted performance (net of fees) and associated benchmark returns are shown in the following table:

		Annualized R	ates of Return	
	1-YR	3-YR	5-YR	10-YR
omestic Equities				
NYSTRS Growth Tilt2 Fund	7.7%	17.9%	17.7%	- %
NYSTRS Index2 Fund	7.4	17.5	17.5	-
NYSTRS Value Tilt2 Fund	8.0	18.1	17.9	-
Benchmark: S&P 1500*	7.3	17.5	17.4	-
NYSTRS S&P 100 Fund	7.3	16.0	16.8	-
Benchmark: S&P 100	7.3	16.0	16.8	-
NYSTRS S&P 500 Fund	7.4	17.3	17.4	-
Benchmark: S&P 500	7.4	17.3	17.3	-
NYSTRS S&P 600 Fund	6.8	18.8	18.5	-
Benchmark: S&P 600	6.7	18.8	18.4	-
Total Enhanced All Cap Management	4.6	16.5	-	-
Benchmark: Russell 3000	7.3	17.7	-	-
Total Active All Cap Management	5.0	17.2	-	-
Benchmark: S&P All Cap (Equal Weighted)	7.0	18.3	-	-
Total Enhanced Large Cap Management	7.9	17.6	17.4	-
Benchmark: S&P 500	7.4	17.3	17.3	-
Total Active Mid Cap Management	5.6	24.9	22.4	12.5
Benchmark: Russell Midcap*	6.6	19.3	18.2	8.8
Total Domestic Equities	7.3	17.7	17.5	8.3
Benchmark: Blended S&P/Russell*	7.3	17.5	17.4	8.2
ternational Equities				
NYSTRS Canadian Index	-14.8	4.2	-	-
Benchmark: MSCI Canada	-15.3	3.5	-	-
Total External Passive Management	-5.0	9.9	8.3	4.4
Total Active Management	-3.5	11.0	10.5	5.7
Total International Equities	-4.8	10.0	8.5	4.6
Benchmark: Blended MSCI ACWI (ex-US)/EAFE*	-5.3	9.6	8.1	4.4
eal Estate	15.6	14.5	15.7	9.0
Benchmark: Blended NCREIF/REIT*	12.0	11.6	13.3	6.3
ivate Equity	15.1	16.6	15.5	13.2
Benchmark: S&P 500 plus 5%	12.4	22.3	22.3	12.9
omestic Fixed Income	1.9	1.7	2.9	4.4
Benchmark: Barclays Capital Aggregate Float Adj*‡	1.8	1.8	3.4	4.5
obal Bonds	2.4	-	-	-
Benchmark: Barclays Global Agg. Hedged (Flt. Adj.)‡	2.9	3.4	-	-
ortgages	4.1	5.3	6.1	5.2
Benchmark: Blended GLCMPI/Barclays‡	3.6	4.4	5.1	5.4
ort-Term	0.1	0.1	0.2	1.6
Benchmark: iMoneyNet MONEY FUND AVERAGE <sup>TM</sup> /Taxable (All)	0.0	0.0	0.0	1.3
otal Fund	5.2%	12.2%	12.4%	7.2%

<sup>\*</sup>In a dynamic market, strategies and objectives evolve over time. Consequently, these benchmarks are blended due to historical investment strategy decisions.

*<sup>‡</sup>See footnote on the Investments Divider page.* 



### Manager Investment Performance Results — as of June 30, 2015

The assets under management (at market), time-weighted performance results (at market) and appropriate benchmark or equity multiple for each manager/advisor are summarized in the following table:

	Assets Managed	Rates of Return <sup>1</sup> from Inception		Inception
	(\$ millions)	Fund	Benchmark	Date
omestic Equities				
Enhanced All Cap Management				
Progress	\$ 769.7	13.9%	15.4%	Nov-10
Active All Cap Management				
Leading Edge	437.7	13.0	14.6	Dec-10
Enhanced Large Cap Management				
T. Rowe Price	564.0	17.6	17.4	Jan-09
Active Mid Cap Management				
Iridian	1,098.6	11.4	5.5	Apr-99
ternational Equities				
Passive Management				
BlackRock ACWI	7,942.5	10.0	9.8	Dec-11
State Street ACWI	7,933.9	9.4	9.2	Jul-12
Active Management				
Aberdeen	520.1	3.9	3.7	Dec-10
AQR	582.9	9.7	7.8	Feb-12
Baillie Gifford	595.8	10.6	8.3	Sep-11
DFA	153.5	-0.3	-0.8	Feb-13
FIS	108.6	4.5	4.0	May-13
LSV	588.8	4.9	3.2	Jul-11
Marathon	482.2	12.4	9.7	Jan-12
William Blair	608.5	7.9	4.4	Oct-10
obal Bonds				
Loomis Sayles	777.6	2.1	2.8	Nov-12
Wellington	787.8	4.2	4.6	Aug-13
ortgages				
BlackRock: CMBS	495.0	5.6	5.7	Apr-01
Prima: CMBS	360.5	5.8	4.9	Nov-03
Torchlight: CMBS	422.3	5.2	5.7	Apr-01
Torchlight: Torchlight Value Fund	39.7	4.4	-1.3	Sep-05
al Estate				
Direct Investments				
Clarion Partners	1,006.9	9.6	6.2	Jun-90
Invesco Realty Advisors (Industrial)	186.5	8.7	8.2	Nov-94
Invesco Realty Advisors (Multi-family)	86.6	11.3	7.4	Dec-98
JPMorgan Asset Management	3,120.1	11.2	6.4	Oct-90
Kennedy Associates	88.7	9.2	8.2	Apr-95
Sentinel Real Estate	363.6			Mar-96

 $<sup>^{1}</sup>$ Returns for periods over 1 year are annualized.

### Manager Investment Performance Results — as of June 30, 2015 (continued)

Direct Investments - Timber  Forest Investments: Adirondack Timber I  Domestic Public Securities  Adelante Capital Management  Cohen & Steers: Equity Income  Cohen & Steers: REIT Preferred  Cohen & Steers: Total Return	lanaged millions) \$318.0	Fund 4.6%	Benchmark 6.0%	Inception Date
Forest Investments: Adirondack Timber I  Domestic Public Securities  Adelante Capital Management Cohen & Steers: Equity Income Cohen & Steers: REIT Preferred Cohen & Steers: Total Return		4.6%	6.0%	
Domestic Public Securities  Adelante Capital Management Cohen & Steers: Equity Income Cohen & Steers: REIT Preferred Cohen & Steers: Total Return		4.6%	6.0%	
Adelante Capital Management Cohen & Steers: Equity Income Cohen & Steers: REIT Preferred Cohen & Steers: Total Return	350.2		0.070	Dec-98
Cohen & Steers: Equity Income Cohen & Steers: REIT Preferred Cohen & Steers: Total Return	350.2			
Cohen & Steers: REIT Preferred Cohen & Steers: Total Return		10.8	10.0	Aug-98
Cohen & Steers: Total Return	315.0	10.2	9.3	Jul-98
	165.6	9.5	7.8	Sep-07
	630.2	12.2	10.9	Jun-95
Deutsche Asset & Wealth Management	395.7	11.4	10.0	Aug-98
International Public Securities				
Deutsche Asset & Wealth Management	286.2	0.1	1.1	Dec-06
LaSalle Investment Management	\$131.3	-0.8%	1.1%	Dec-06
M	Assets lanaged millions)	Inception Rate of Return <sup>1</sup>	Equity Multiple	Inception Date
Commingled Funds				
Abacus: Multi-Family Partners II	\$20.2	31.9%	1.5	Apr-13
Abacus: Multi-Family Partners III	0.1	-	0.4	Jun-15
Angelo, Gordon & Co.: AG Core Plus Realty Fund IV	4.3	-3.7	1.0	Jun-15
Angelo, Gordon & Co.: AG Realty Fund V	0.3	25.4	1.6	Dec-01
Angelo, Gordon & Co.: AG Realty Fund VI	0.9	2.7	1.1	Sep-05
Angelo, Gordon & Co.: AG Realty Fund VII	15.8	14.3	1.6	Dec-07
Angelo, Gordon & Co.: AG Realty Fund VIII	45.2	16.6	1.4	Sep-11
Apollo: CPI Capital Partners North America	2.3	-7.3	0.7	Dec-06
Artemis: Real Estate Fund I	25.5	24.8	1.3	Jul-11
Artemis: Real Estate Fund II	8.9	5.8	1.0	May-14
BlackRock: Granite Property Fund	79.5	5.5	2.3	Dec-97
Blackstone RE Partners: Asia	108.7	16.1	1.2	Dec-13
Blackstone RE Partners: Europe IV	94.3	1.7	1.0	Apr-14
Blackstone RE Partners: Fund V TE.2	42.2	11.4	1.8	Jul-06
Blackstone RE Partners: Fund VI TE.2	80.3	13.8	1.9	Mar-07
Blackstone RE Partners: Fund VII	78.1	25.1	1.4	Dec-11
Brookfield Properties: DC Office Partners	64.4	-	1.0	Jun-15
Brookfield Properties: DTLA Holdings	216.2	26.7	1.6	Oct-13
Brookfield Properties: Office Partners	432.1	11.0	1.9	Oct-06
Cabot Properties: Industrial Value Fund II	51.1	1.9	1.1	Nov-05
Cabot Properties: Industrial Value Fund III	0.0	21.9	1.5	Dec-08
Cabot: Industrial Value Fund IV	23.9	4.9	1.0	Mar-14
CBRE: China Opportunity Fund	0.6	11.4	1.5	Dec-06
CBRE: Strategic Partners U.S. Value 7	23.7	0.3	1.0	Sep-14
	\$ 13.8	-18.1%	0.3	Apr-07

<sup>&</sup>lt;sup>1</sup>Returns for periods over 1 year are annualized.



### Manager Investment Performance Results — as of June 30, 2015 (continued)

	Assets Managed (\$ millions)	Inception Rate of Return <sup>1</sup>	Equity Multiple	Inception Date
Commingled Funds (continued)				
CBRE: Strategic Partners U.K. Fund III	\$ 2.1	-24.0%	0.2	May-07
CBRE: Strategic Partners U.S. Opport. 5	36.4	3.1	1.2	Dec-07
CBRE: Strategic Partners U.S. Value 6	52.4	14.5	1.3	Dec-11
Cerberus: Institutional Real Estate Partners	1.9	9.9	1.3	May-04
Cerberus: Institutional Real Estate Partners - Series Two	14.0	18.0	1.5	May-08
Cerberus: Institutional Real Estate Partners III	54.2	17.0	1.2	Dec-12
Clarion Partners: Development Ventures II	0.4	-9.1	0.7	Jun-05
Clarion Partners: Development Ventures III	19.6	9.4	1.4	Apr-09
Cornerstone: Apartment Fund I	0.0	19.9	2.1	Nov-00
Cornerstone: Apartment Venture I	0.3	65.2	2.5	Jul-03
Cornerstone: Apartment Venture III	0.2	4.4	1.2	Apr-07
Cornerstone: Patriot Fund	70.0	11.4	1.6	Oct-10
DLJ: Real Estate Capital Partners III	46.4	-0.5	1.0	Jun-05
DLJ: Real Estate Capital Partners IV	60.0	2.5	1.1	Feb-08
Essex Property Trust: Apartment Value Fund II	0.1	10.6	1.9	Nov-04
Exeter Property Group: Industrial Fund III	31.2	5.9	1.0	Sep-14
Exeter Property Group: Industrial Value Fund	34.6	9.5	1.6	Nov-07
Exeter Property Group: Industrial Value Fund II	77.6	22.7	1.5	Dec-11
FCP: Realty Fund II	39.6	19.2	1.3	Feb-12
FCP: Realty Fund III	6.7	-13.7	0.9	May-15
GAW Capital: Gateway Real Estate Fund IV	50.7	5.3	1.1	Jun-13
GCM Grosvenor: NYSTRS RE Investment Partners	23.9	0.2	1.0	Jul-14
Hines Interests: Emerging Markets	2.6	19.8	1.9	Oct-99
Hines Interests: U.S. Office Value Added	1.9	17.3	1.5	Jan-05
Hines Interests: U.S. Office Value Added II	13.4	-9.6	0.6	Aug-07
JPMorgan: Excelsior II	47.1	-2.6	8.0	Dec-05
Landmark Partners: Real Estate Trust IV	0.9	19.6	1.6	Mar-02
LaSalle: Asia Opportunity Fund III	11.3	0.4	1.0	Mar-08
Lone Star: Fund III	0.5	31.9	2.1	Oct-00
Lone Star: Fund IV	2.0	30.8	2.3	Dec-01
Lone Star: Fund V	33.0	-1.5	0.9	Jan-05
Lone Star: Fund VI	11.6	12.6	1.6	Jul-08
Lone Star: Fund VII	17.2	50.2	1.8	Jun-11
Lone Star: Fund IX (U.S.)	-0.3	-	-0.2	Mar-15
Lone Star: Real Estate Fund II	20.4	27.3	1.5	Jun-11
Lone Star: Real Estate Fund III (U.S.)	19.8	19.8	1.1	May-14
MGPA: Asia Fund II	12.9	-1.6	0.9	Apr-05
MGPA: Asia Fund III	48.6	6.2	1.4	May-07
MGPA: Europe Fund III	18.9	3.2	1.2	Jun-07
MGPA: Europe Parallel Fund II	\$ 0.3	-12.2%	0.5	Apr-05

 $<sup>{}^{\</sup>scriptscriptstyle 1} Returns \, for \, periods \, over \, 1 \, year \, are \, annualized.$ 

### Manager Investment Performance Results — as of June 30, 2015 (continued)

	Assets Managed (\$ millions)	Inception Rate of Return <sup>1</sup>	Equity Multiple	Inception Date
Commingled Funds (continued)				
MGPA: Lend Lease Global Properties	\$ 0.8	13.4%	2.0	May-99
O'Connor: North American Property Partners	27.8	-3.7	0.8	Sep-04
O'Connor: North American Property Partners II	13.1	-3.2	0.9	Oct-07
O'Connor: Peabody Global Real Estate	0.3	14.3	1.5	Jul-99
Penwood RE: Calif. Select Industrial Partners	21.4	-9.5	0.7	Dec-05
Penwood RE: Select Industrial Partners II	8.4	19.6	1.5	Aug-07
Penwood RE: Select Industrial Partners III	19.2	30.0	1.3	Jun-12
Penwood RE: Select Industrial Partners IV	2.3	-	0.9	Jun-15
Perella Weinberg: Real Estate Fund I	9.7	13.0	1.4	Jan-08
Perella Weinberg: Real Estate Fund II	22.1	-8.3	0.9	Sep-13
Prudential Latin America: PLA Residential Fund III	27.7	-4.3	0.8	Mar-08
Prudential: PRISA	286.6	6.4	4.4	Sep-85
Prudential: PRISA II	233.6	7.4	2.4	Sep-89
Prudential: PRISA III	92.3	7.6	1.6	Jun-03
Rockpoint: Core Plus RE Fund	12.8	5.5	1.1	Mar-15
Rockpoint: Finance Fund I	1.2	-7.9	0.6	Mar-07
Rockpoint: Heritage Fields	52.5	0.4	1.0	Jul-05
Rockpoint: Real Estate Fund I	0.3	11.9	1.2	Sep-04
Rockpoint: Real Estate Fund II	27.9	-3.5	0.8	Sep-05
Rockpoint: Real Estate Fund III	14.7	14.9	1.4	Dec-07
Rockpoint: Real Estate Fund IV	24.6	29.7	1.3	Dec-12
Rockwood: Fund V	1.5	12.5	1.4	Jul-03
Rockwood: Fund VI	34.9	2.7	1.2	Jun-05
Rockwood: Fund VII	39.7	-5.3	0.7	Oct-06
Rockwood: Fund VIII	27.1	20.9	1.7	Mar-09
Starwood: Distressed Opportunity Fund IX	39.6	33.1	1.5	Mar-13
Starwood: Opportunity Fund IV	0.8	16.9	2.2	Jan-97
Starwood: Opportunity Fund VII-A	24.6	-2.3	0.8	Jan-06
UBS Realty: Trumbull Prop. Fund	336.8	7.0	5.1	Sep-85
Walton Street: Real Estate Fund VI	54.7	9.4	1.4	Apr-09
Westbrook: Real Estate Fund V	11.4	44.0	1.9	Feb-05
Westbrook: Real Estate Fund VI	30.8	0.6	1.0	May-06
Westbrook: Real Estate Fund VII	40.0	2.6	1.1	Dec-07
Westbrook: Real Estate Fund IX	\$ 29.4	13.2%	1.1	Jun-13

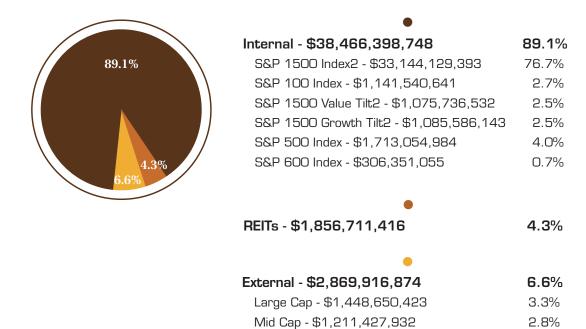
 $<sup>^{1}</sup>Returns$  for periods over 1 year are annualized.



0.5%

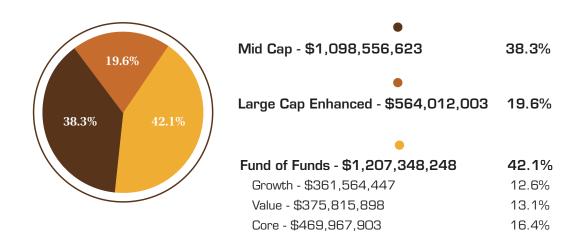
### Domestic Equity Distribution — as of June 30, 2015

\$43,193,027,038

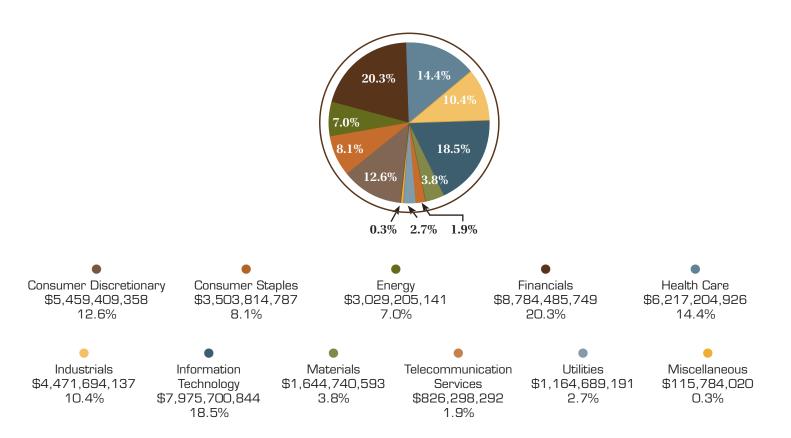


# Domestic Equity Externally Managed Style Distribution — as of June 30, 2015 \$2,869,916,874

Small Cap - \$209,838,519



# Domestic Equity Holdings by Industry Distribution — as of June 30, 2015 \$43,193,027,038



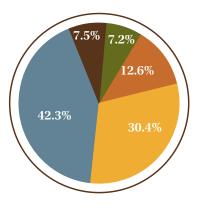
### Ten Largest Equity Holdings — as of June 30, 2015

Rank	Company	Cost	Market Value	Percent of Equities
1	Apple	\$ 94,599,707	\$ 1,440,969,320	2.7%
2	Microsoft	318,262,233	717,532,511	1.3%
3	Exxon Mobil Corp.	133,161,003	685,669,254	1.3%
4	Google	264,391,873	603,760,358	1.1%
5	Johnson & Johnson	116,316,712	533,906,152	1.0%
6	General Electric	179,543,541	527,439,609	1.0%
7	Wells Fargo	189,023,644	519,204,699	1.0%
8	JPMorgan Chase	149,632,050	509,710,370	0.9%
9	Berkshire Hathaway	272,393,422	481,167,497	0.9%
10	Pfizer	126,638,646	411,509,032	0.8%
Total		\$1,843,962,831	\$6,430,868,802	12.0%

A complete list of the System's holdings is available on our website (see "Investments" under the heading "About NYSTRS") or through the Public Information Office.

### Domestic Fixed Income Sector Distribution — as of June 30, 2015

\$17,858,270,734 Yield to Maturity 1.7%



**42.3%**U.S. Treasurys
\$7,559,009,377
Yield to Maturity - 1.1%

7.5%
Federal Agency,
Notes/Debentures
\$1,339,197,077
Yield to Maturity - 1.2%

7.2%
REIT & Commercial
Mortgage Backed,
Separate Account
\$1,277,890,812
Yield to Maturity - 3.2%

12.6%
Federal Agency,
Mortgage Backed &
Asset Backed
\$2,243,946,775
Yield to Maturity - 2.3%

**30.4%**Corporate
\$5,438,226,693
Yield to Maturity - 2.1%

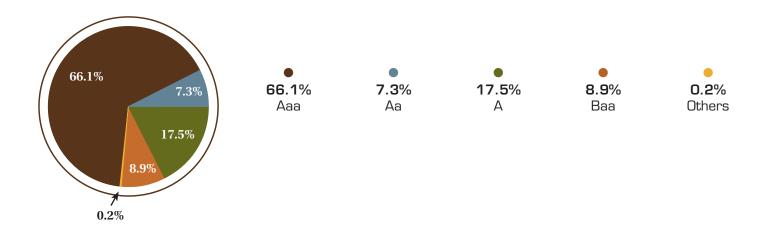
### Ten Largest Fixed Income Holdings\* — as of June 30, 2015

Rank	Issue	Market Value	Percent of Domestic Fixed Income Market Value
1	U.S. Treasury Note 0.625% Due 5/31/2017	\$125,646,895	0.6%
2	AID-Israel 5.50% Due 4/26/2024	122,964,656	0.6%
3	U.S. Treasury Note 3.625% Due 2/15/2020	110,572,778	0.6%
4	U.S. Treasury Note 2.75% Due 11/15/2023	78,228,242	0.4%
5	U.S. Treasury Note 0.75% Due 3/15/2017	75,428,782	0.4%
6	U.S. Treasury Note 0.875% Due 6/15/2017	75,368,514	0.4%
7	U.S. Treasury Note 0.50% Due 9/30/2016	75,193,862	0.4%
8	U.S. Treasury Note 0.375% Due 5/31/2016	75,076,547	0.4%
9	U.S. Treasury Note 1.75% Due 5/15/2022	73,720,354	0.4%
10	U.S. Treasury Note 1.50% Due 8/31/2018	71,264,241	0.3%
Total		\$883,464,871	4.5%

<sup>\*</sup> Includes all domestic and international long-term fixed income securities.

A complete list of the System's holdings is available on our website (see "Investments" under the heading "About NYSTRS") or through the Public Information Office.

### Domestic Fixed Income Quality Distribution — as of June 30, 2015

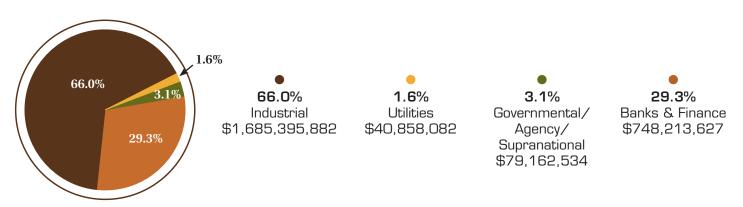


### Domestic Fixed Income Average Maturity — as of June 30, 2015

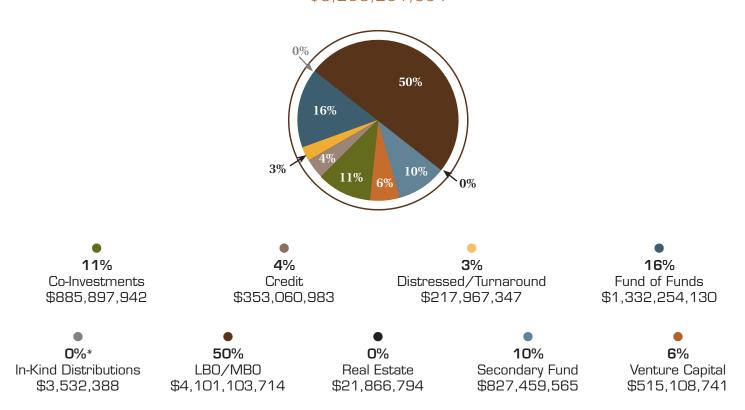
Internally Managed
Effective Duration 3.5 Years



# Short-Term Sector Distribution — as of June 30, 2015 \$2,553,630,125

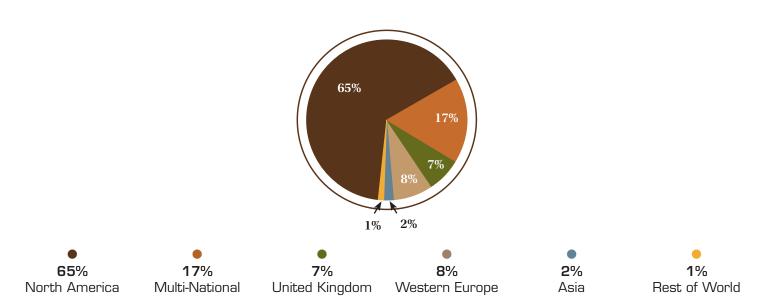


## Private Equity Net Asset Value by Investment Type — as of June 30, 2015 \$8,258,251,604



<sup>\*</sup>Stock distributions received from fund managers that have yet to be sold as of 6/30/2015.

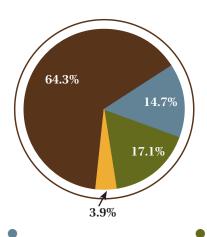
### Private Equity Net Asset Value by Geography\* — as of June 30, 2015



<sup>\*</sup>Excluding Fund of Funds and Secondary Funds.

### International Equity Style Distribution — as of June 30, 2015

\$19,577,669,682



**64.3**% Developed Markets - Passive \$12,591,255,045

**14.7%**Developed Markets - Active \$2,880,085,235

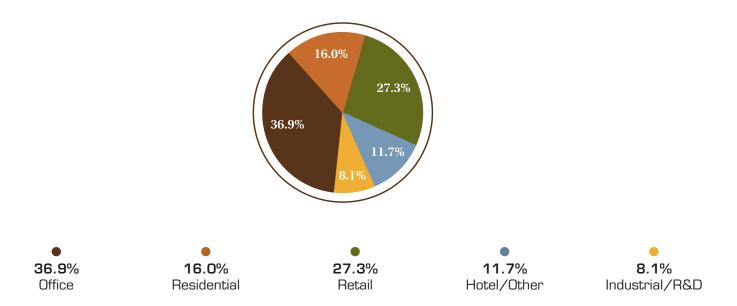
**17.1%** Emerging Markets - Passive \$3,345,973,697

3.9% Emerging & Frontier Markets - Active \$760,355,705

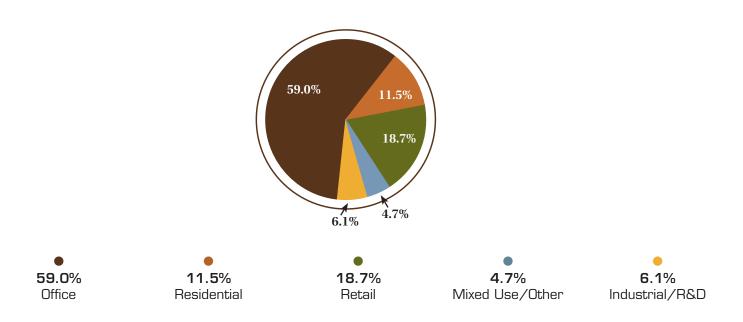
### International Equity Exposure Distribution — as of June 30, 2015

Percentage of Portfolio for Developed Countries Percentage of Portfolio for Emerging & Frontier Markets \$15,471,340,280 \$4,106,329,402 5.7% Australia 0.3% Argentina (Frontier Markets) 0.2% Austria 8.3% Brazil 1.3% Chile 1.1% Belgium 21.9% China 7.9% Canada - O.5% Colombia 1.6% Denmark - 0.2% Czech Republic 0.9% Finland O.2% Egypt 8.2% France - 0.3% Greece 7.7% Germany 0.3% Hungary 3.7% Hong Kong 7.6% India 0.9% Ireland 2.2% Indonesia - 0.6% Israel O.1% Macau 1.9% Italy 3.0% Malaysia 20.7% Japan 4.7% Mexico 0.2% Luxembourg - 0.5% Peru 2.4% Netherlands 1.3% Philippines O.1% New Zealand 1.5% Poland - 0.6% Norway - 0.7% Qatar 0.1% Portugal 3.6% Russia 1.4% Singapore 8.4% South Africa 3.0% Spain 15.2% South Korea 2.8% Sweden 13.4% Taiwan 8.5% Switzerland 2.4% Thailand 18.0% United Kingdom 1.5% Turkey 1.8% United States - 0.6% UAE

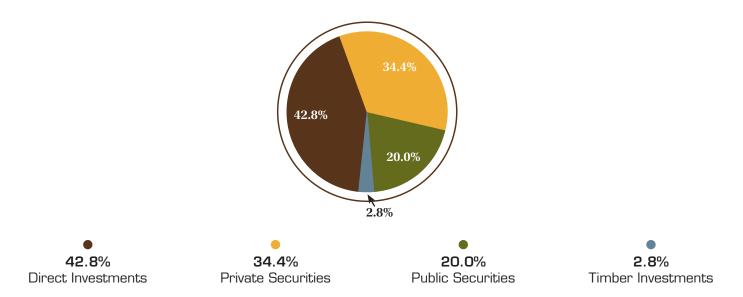
### Real Estate Equity by Property Type — as of June 30, 2015



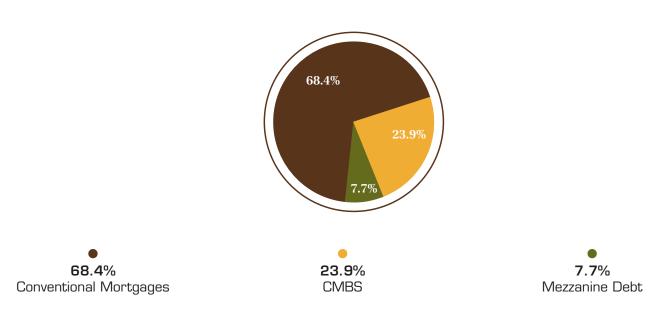
### Real Estate Debt by Property Type — as of June 30, 2015



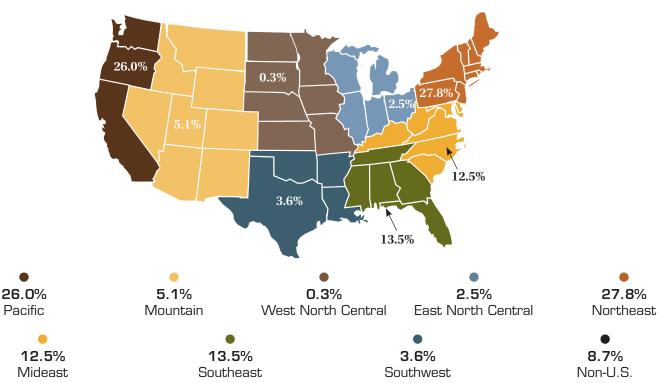
### Breakdown of Real Estate Equity Portfolio — as of June 30, 2015



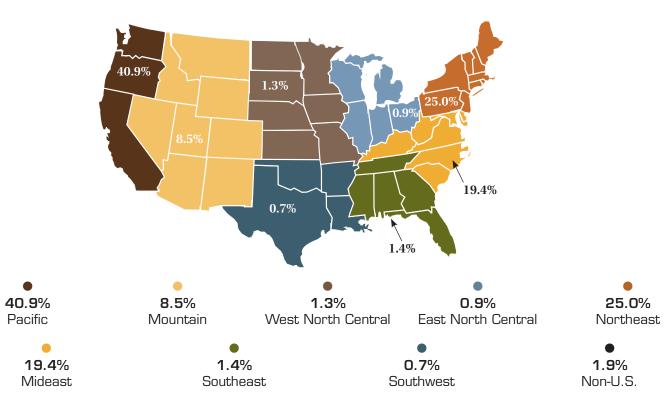
### Breakdown of Real Estate Debt Portfolio — as of June 30, 2015







# Geographic Distribution of the Real Estate Debt Portfolio — as of June 30, 2015



### Corporate Governance

Shareholder responsibility is fundamental to good corporate governance, which recognizes an appropriate balance between the rights of shareholders (the owners of the corporation) and the need for management and the board to direct the corporation's affairs with a long-term perspective. The System's shareholder voting rights must be managed with the same care as any of its other assets. Therefore, the Retirement Board has established a formal proxy voting policy reflecting three objectives: to protect the System's rights; to promote responsible corporate policies and activities; and, to enhance long-term value.

For the 2014 calendar year, a total of 19,728 proposals were voted on, representing 2,063 meetings for the companies it owns in the System's equity portfolio. Many of the proxies focused on auditors/CPA and board-related issues, and executive compensation. System policies generally support management if the position is reasonable, is not detrimental to the long-term economic prospects of the company, and does not tend to diminish the rights of shareholders.

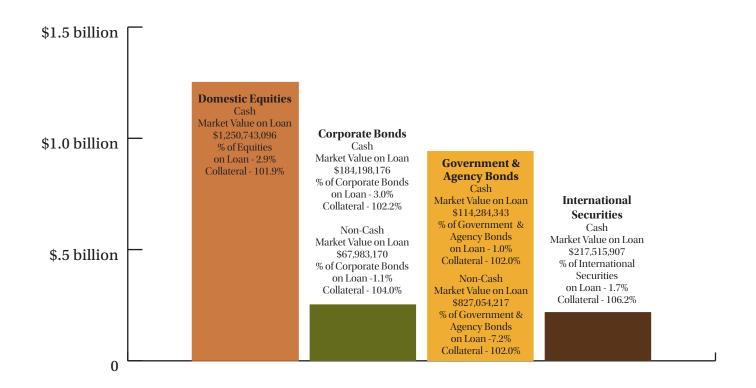
Management Proposals (19,171)				
Position	Number of Proposals	Percentage of Position		
For	17,030	88.8%		
Against	2,106	11.0%		
Abstain	35	0.2%		

Shareholder Proposals (557)					
Position	Number of Proposals	Percentage of Position			
For	206	37.0%			
Against	347	62.3%			
Abetain	4	0.7%			

### Securities Lending Program — as of June 30, 2015

Market Value on Loan

Cash: \$1,766,741,522 - Non-Cash: \$895,037,387 - Total: \$2,661,778,909



# Schedule of Investment Fees and Expenses Year ended June 30, 2015 (dollars in thousands)

	Investment Management
Fund Manager	Expenses 2014-2015
Domestic Fixed Income Securities:	
BlackRock Financial Management	\$ 913
Prima Capital Advisors	705
Torchlight Investors	1,048
Total Domestic Fixed Income:	\$ 2,666
Global Fixed Income Securities:	
Loomis, Sayles & Company	\$ 1,377
Wellington Management Company	1,692
Total Global Fixed Income:	\$ 3,069
Domestic Equities:	
Adelante Capital Management	\$ 1,347
Cohen & Steers	3,272
Iridian Asset Management	5,665
Leading Edge Investment Advisors	2,634
Progress	3,963
RREEF America	1,690
T. Rowe Price	1,844
Total Domestic Equities:	\$ 20,415
International Equities:	
Aberdeen Asset Management	\$ 2,878
AQR Capital Management	2,775
Baillie Gifford	2,278
BlackRock ACWI Index	2,420
Dimensional Fund Advisors	872
EII Capital Management	75
FIS Group	695
LaSalle Investment Management	715
LSV Asset Management	2,982
Marathon Asset Management	2,628
RREEF America	1,576
State Street Global Advisors	2,210
William Blair & Co.	2,214
Total International Equities:	\$24,318
Mortgages:	
Deutsche Bank	\$ 1
FHA Mortgages	1
GEMSA	39
NY Life	58
Total Mortgages:	\$ 99
	(continued)

Fund Manager	Investment Management Expenses 2014-2015
Real Estate:	
Clarion	\$ 3,059
Invesco	1,167
JPMorgan	8,771
Kennedy	397
Sentinel	2,222
Real Estate Separate Accounts/Commingled	46,268
Total Real Estate:	\$ 61,884
Alternative Investments:	
Private Equity	\$ 91,491
Real Estate	16,057
Total Alternative Investments:	\$ 107,548
General Expenses:	
Advisory Committee - Investment	\$ 64
Advisory Committee - Real Estate	58
Callan Associates	698
Hamilton Lane	136
Hewitt EnnisKnupp	508
Hirschler Fleischer	24
Investment Information Services	3,861
JPMorgan Chase	85
K&L Gates	7
Morgan, Lewis & Bockius	110
Nixon Peabody	39
Real Estate Origination Costs	176
Real Estate Professional Fees	348
Real Estate Service Costs	49
Seyfarth Shaw	36
State Street Corporation	1,299
Stockbridge Risk Management	22
TorreyCove	832
Total General Expenses:	\$ 8,352
<b>Total Investment Fees and Expenses:</b>	\$228,351

(continued)

### **Investment Advisory Committee**

#### David L. Brigham, Chairman

*Trustee* Church Pension Fund New York, New York

#### Howard J. Bicker

Executive Director/CIO (Retired)
Minnesota State Board of Investment
Saint Paul, Minnesota

#### Geoffrey Gerber, Ph.D.

President & Founder TWIN Capital Management, Inc. McMurry, Pennsylvania

#### Leonade D. Jones

Director American Funds Group Washington, D.C.

#### Robert Levine, CFA

Chief Investment Officer (Retired) Nomura Corporate Research and Asset Management Inc. New York, New York

#### James W. O'Keefe

Managing Director (Retired)
UBS Realty Investors, LLC
Hartford, Connecticut

#### Robert G. Wade Jr.

Director (Retired)
Chancellor LGT Asset Management
New York, New York

#### Carol A. Zipkin

Executive Vice President (Retired) Alliance Capital Management L.P. New York, New York (position vacated May 2015)

### **External Investment Managers**

#### **Domestic Equities:**

#### **Active All Cap**

Leading Edge Investment Advisors (Manager of Managers)

#### **Active Mid Cap**

Iridian Asset Management LLC

#### **Enhanced All Cap**

Progress Investment Management Co. (Manager of Managers)

#### **Enhanced Large Cap**

T. Rowe Price Associates Inc.

#### Global Fixed Income Securities:

#### Active

Loomis Sayles & Company Wellington Management Company LLP

#### International Equities:

#### Active

Aberdeen Asset Management, Inc.
AQR Capital Management, LLC
Baillie Gifford Overseas Ltd.
Dimensional Fund Advisors
FIS Group, Inc.
LSV Asset Management
Marathon Asset Management LLP (Marathon-London)
William Blair & Company

#### **Passive**

State Street Global Advisors BlackRock Institutional Trust Co. N.A.

#### Securities Lending:

JPMorgan Chase Bank N.A. State Street Bank & Trust Co.

#### External Investment Managers (continued)

#### Private Equity - Limited Partnerships:

Abbott Select Buyouts Fund II Abry Advanced Securities Fund II Abry Advanced Securities Fund III

ABRY Mezzanine Partners
ABRY Partners Fund V
ABRY Partners Fund VI
ABRY Partners Fund VII
ABRY Partners Fund VIII, L.P.
ABRY Senior Equity Fund II
ABRY Senior Equity Fund IV

AG Capital Recovery Partners VII, L.P.

Aisling Capital II, LP Aisling Capital III, LP Alchemy Plan (Empire)

Apex V

Apex V Secondary

Apex VI

Apollo Real Estate Fund IV

Ares Corporate Opportunities Fund II, L.P. Ares Corporate Opportunities Fund III, L.P. Ares Corporate Opportunities Fund IV, L.P. Avenue Special Situations Fund V, L.P. Blackstone Capital Partners Fund IV Blackstone Capital Partners Fund V

Caltius Partners IV CapStreet IV, LP

Carlyle Asia Partners IV, L.P. Carlyle European Partners III, L.P.

Carlyle Partners IV, L.P. Carlyle Partners V, L.P.

Carlyle/Riverstone Global Energy & Power Fund III

Charterhouse Capital Partners VII Charterhouse Capital Partners VIII Charterhouse Capital Partners IX

Chisholm Partners III Chisholm Partners IV

Cinven III Cinven IV Cinven V

Clayton Dubilier & Rice VI Clearlake Capital Partners III, L.P. Clearlake Capital Partners IV, L.P. Clearlake Opportunities Partners, L.P. Close Brothers Private Equity Fund VII Co-Investment Partners (NY), L.P. Co-Investment Partners (NY) II, L.P. Co-Investment Partners (NY) III, L.P.

Co-Investment Partners Europe, L.P.

Cortec Group Fund V, L.P. Cortec Group Fund VI, L.P. Cressey & Company V, L.P. CVC Capital Partners VI, L.P.

CVC Capital Partners Asia Pacific IV, L.P. CVC European Equity Partners V, L.P.

Doughty Hanson & Co. V Energy Capital Partners II, LP Energy Capital Partners III, LP Fairview Ventures Fund II Fairview Ventures Fund III FirstMark Capital II, L.P. FirstMark Capital III, L.P.

GCM Grosvenor Cleantech Fund

GCM Grosvenor Seasoned Primaries Fund, L.P. GCM Grosvenor Seasoned Primaries Fund II, L.P. GCM Grosvenor Seasoned Primaries Fund III, L.P.

General Catalyst Group VII, L.P. Green Equity Investors V GTCR Fund VIII

GTCR Fund IX GTCR Fund X GTCR Fund XI

HarbourVest International PEP IV HarbourVest International PEP V

HarbourVest International PEP VI - Asia Pacific Fund

HarbourVest/NYSTRS Co-Investment Fund HarbourVest/NYSTRS Co-Investment Fund II HarbourVest Partners VII-Mezzanine Fund HarbourVest Partners VIII-Venture Fund HarbourVest VI - Partnership Fund

Hellman & Friedman V Hellman & Friedman VI Hellman & Friedman VII

Hellman & Friedman Capital Partners VIII, L.P.

Highland Capital Partners IX, L.P. HIPEP Select Asia Fund, L.P. HIPEP Select Asia II, L.P. Horsley Bridge VII

Hutton Collins Capital Partners II LP Hutton Collins Capital Partners III LP

ICG Europe Fund V ICG Europe VI, L.P. IK Fund VII, L.P.

Industri Kapital 2007 Fund Inflexion 2010 Buyout Fund Inflexion Buyout Fund IV, L.P.

Inflexion Partnership Capital Fund, L.P. Institutional Venture Partners XIV, L.P.

#### External Investment Managers (continued)

#### Private Equity - Limited Partnerships: (continued)

Institutional Venture Partners XV, L.P.

I.C. Flowers II L.P.

ILL Partners Fund V. L.P.

JLL Partners Fund VI, L.P.

JPMorgan Venture Capital II

JPMorgan Venture Capital III

Kelso Investment Associates VII

Kelso Investment Associates VIII

KKR Asia Fund II. L.P.

KRG Capital Fund III

Lexington Capital Partners VI

Lexington Capital Partners VII

Lexington Emerging Partners, L.P.

Lexington Middle Market Investors

Lexington Middle Market Investors II

Lightspeed Venture Partners IX, L.P.

Lightspeed Venture Partners X, L.P.

Lightspeed Venture Partners Select, L.P.

Lyceum Capital Fund III, L.P.

Madison Dearborn Capital Partners IV

Madison Dearborn Capital Partners V

Madison Dearborn Capital Partners VI

Metalmark Capital Partners, L.P.

Monomoy Capital Partners III, L.P.

Nautic V

Nautic VI

Nautic VII

Oaktree European Principal Fund III, L.P.

Olympus Growth Fund IV

Olympus Growth Fund V

Olympus Growth Fund VI

P123 Ltd

Patria - Brazilian Private Equity Fund V, L.P.

Peninsula Fund V, L.P.

Permira IV

Phoenix Equity Partners 2010 Fund

Pine Brook Capital Partners, L.P.

Pine Brook Capital Partners II, L.P.

Rhone Partners IV, L.P.

Rhone Partners V, L.P.

Riverstone/Carlyle Global Energy and Power Fund IV

Silver Lake Partners II

Silver Lake Partners III

Silver Lake Partners IV. L.P.

Siris Partners III, L.P.

Spark Capital Partners IV, L.P.

StepStone Pioneer Capital Buyout Fund I, L.P.

StepStone Pioneer Capital Europe I, L.P.

StepStone Pioneer Capital Europe II, L.P.

StepStone Pioneer Capital Fund II, L.P.

StepStone Pioneer Capital Fund III, L.P.

Sterling Group Partners III, L.P.

Sterling Group Partners IV, L.P.

Strategic Partners II

Strategic Partners III

Strategic Partners IV, L.P.

Strategic Partners IV - VC, L.P.

Strategic Partners V, L.P.

Sun Capital Partners V, L.P.

Technology Crossover Ventures IV

Technology Crossover Ventures V

Technology Crossover Ventures VI

Technology Crossover Ventures VII

The First Capital Access Fund, L.P.

The Resolute Fund II. L.P.

The Resolute Fund III. L.P.

Thoma Bravo Fund X

Thoma Bravo Fund XI, L.P.

Thoma Bravo Special Opportunities Fund I, L.P.

Thoma Bravo Special Opportunities Fund II, L.P.

Thomas H. Lee V

Thomas H. Lee VI

TPG Partners III

TPG Partners IV

TPG Partners V

TPG Partners VI

TSG4 (TSG Consumer Partners)

TSG5

TSG6. L.P.

Valhalla Partners II, L.P.

VantagePoint NY Venture Partners

VantagePoint Venture Partners 2006

VantagePoint Venture Partners IV

VCFA Private Equity Partners IV

Vista Equity Partners Fund IV

Warburg Pincus Private Equity VIII

Waud Capital Partners III, L.P.

WCAS Capital Partners IV Welsh, Carson, Anderson & Stowe IX

Welsh, Carson, Anderson & Stowe X

Welsh, Carson, Anderson & Stowe XI

Wynnchurch Capital Partners III, L.P.

### Real Estate Advisory Committee

James O'Keefe, Chairman

Managing Director (Retired) UBS Realty Investors, LLC

Hartford, Connecticut

Herman Bulls

President & Chief Executive Officer Bulls Advisory Group, LLC

McLean, Virginia

Eileen Byrne

Managing Director (Retired)

BlackRock, Inc.

New York, New York

Paul J. Dolinoy

President (Retired)

Equitable Real Estate/Lend Lease

Atlanta, Georgia

Blake Eagle

Chief Executive Officer (Retired)

National Council of Real Estate Investment Fiduciaries

Chicago, Illinois

Maureen A. Ehrenberg

**Executive Managing Director** 

Jones Lang LaSalle

Chicago, Illinois

Jill S. Hatton

Managing Director (Retired)

BlackRock, Inc.

Boston, Massachusetts

Thomas P. Mahoney

Managing Director (Retired)

CIGNA Investments

Hartford, Connecticut

(position vacated December 2014)

#### Master Custodian

State Street Bank & Trust Co.

Boston, Massachusetts

#### **Investment Consultants**

Aon Hewitt Investment Consulting, Inc.

Chicago, Illinois

Callan Associates

San Francisco, California

Elkins/McSherry, LLC

New York, New York

TorreyCove Capital Partners

San Diego, California

#### Real Estate Advisors

#### Equity:

Bentall Kennedy Clarion Partners Forest Investment Associates Invesco Advisers, Inc.

JPMorgan Asset Management Sentinel Real Estate Corporation

#### Debt:

BlackRock Financial Management, Inc.

Blackstone Real Estate Advisors

Brookfield Real Estate Financial Partners LLC

Capri Capital Advisors, LLC

Carbon Capital Inc.

C-III Capital Partners LLC

Cornerstone Real Estate Advisers LLC

Latitude Management Real Estate Investors, Inc.

Madison Realty Capital

PCCP, LLC

Pramerica Real Estate Investors Prima Capital Advisors, LLC

Talmage

**Torchlight Investors** 

#### REITs:

Adelante Capital Management LLC Cohen & Steers Capital Management, Inc. Deutsche Asset & Wealth Management EII Capital Management, Inc. LaSalle Investment Management

#### Commingled:

Abacus Capital Group, LLC Angelo, Gordon & Co. Apollo Global Real Estate Artemis Real Estate Partners

BlackRock, Inc.

Blackstone Real Estate Advisors Brookfield Office Properties Inc.

Cabot Properties, Inc. CBRE Global Investors

Cerberus Capital Management, L.P.

Clarion Partners

Cornerstone Real Estate Advisers LLC DLJ Real Estate Capital Partners, Inc.

Essex Property Trust, Inc. Exeter Property Group Federal Capital Partners Gaw Capital Partners

Grosvenor Capital Management Hines Interests Limited Partnership JPMorgan Asset Management

Landmark Partners, Inc.

LaSalle Investment Management

Lone Star Funds

O'Connor Capital Partners

Penwood Real Estate Investment Management, LLC

Perella Weinberg Partners Prudential Real Estate Investors

Rockpoint Group, LLC

Rockwood Capital Corporation Starwood Capital Group LLC UBS Realty Investors LLC USAA Real Estate Company Walton Street Capital Westbrook Partners

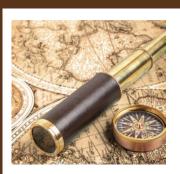
# Actuarial



The System's funded ratio was 92.9% as of the most recent valuation.



The most recent actuarial valuation produced a required employer contribution rate of 13.26% of payroll, a decrease of approximately 24% from the previous rate.



A net of 2,527 retired members and beneficiaries were added to the System's benefit payroll during the fiscal year.

### Page

99 Actuarial Certification Letter
101 Summary of Actuarial Methods and Assumptions
102 Actuarial Present Value of Future Benefits
Funding Progress
103 Funding Progress - Analysis of Funding Progress - Percent Funded
<ul> <li>104 Solvency Test</li> <li>104 Analysis of Financial Experience</li> <li>105 History of Member Payroll and the Employer Contribution Rate</li> <li>105 Schedule of Retired Members and Beneficiaries Added to and Removed from the Benefit Payroll</li> <li>106 Independent Actuarial Review</li> </ul>

#### **Actuarial Certification Letter**



New York State Teachers' Retirement System

10 Corporate Woods Drive Albany, NY 12211-2395 (800) 348-7298 or (518) 447-2900

**NYSTRS.**org

Thomas K. Lee, Executive Director & CIO

Office of the Actuary

October 2, 2015

Retirement Board New York State Teachers' Retirement System 10 Corporate Woods Drive Albany, New York 12211-2395

Dear Members of the Board:

The financial objective of the New York State Teachers' Retirement System is to properly fund the retirement and ancillary benefits of members in order to ensure sufficient assets are being accumulated in order to pay benefits as they become due. Employer contributions are made by participating employers in accordance with an actuarially determined employer contribution rate. This rate is determined by an actuarial valuation made as of each June 30th. Members contribute in accordance with a fixed rate schedule as required by statute.

The most recently completed actuarial valuation was made as of June 30, 2014. This valuation relies on member data provided by the participating employers to the Retirement System. The administrative and actuarial staffs review this data for reasonability as well as reconcile it against prior data. In addition, the valuation relies on financial data provided by the Retirement System's Finance Department. The Retirement System's independent auditors provide reasonable assurances of the data provided by the Finance Department as part of the annual audit.

Actuarial assumptions, as adopted by the Retirement Board, are reviewed each year against experience on both an annual and quinquennial basis and changes are recommended when warranted. The current actuarial assumptions were adopted by the Retirement Board in October 2011 and first effective with the June 30, 2011 actuarial valuation. The actuarial funding method is the Aggregate Cost Method and is specified in statute. In this method actuarial gains and losses are not separately amortized but are spread over the average future working lifetime of active members and included in the annual normal rate calculation. A summary of the actuarial methods and assumptions used in the actuarial valuation is included later in this section. More detail on the valuation and actuarial methods and assumptions is available in the System's Actuarial Valuation Report.

The System's market value rate of return on assets for the fiscal year ending June 30, 2014 was 18.2%. The System's five-year annualized rate of return increased to 13.8%. The June 30, 2014 actuarial valuation produced a required employer contribution rate of 13.26% of payroll, representing a decrease of approximately 24% over the prior year's rate of 17.53%. This was the first decrease in the employer contribution rate in the last six years. With the large 2009 fiscal year loss now out of the five year average for purposes of computing the actuarial value of assets, the System experienced a gain on investments in the 2014 valuation and this gain was the primary reason for the decrease in the employer contribution rate.

#### Actuarial Certification Letter (continued)

Looking ahead to next year, however, the picture is less clear. The capital markets produced weak returns during the fiscal year ending June 30, 2015, and the System achieved an annual net rate of return of 5.2% for the fiscal year. The System is also currently working on revising its actuarial assumptions to make them more reflective of recent experience and expectations, and to incorporate the Society of Actuaries new mortality improvement factors, released last year. These changes will be effective with the next valuation, that of June 30, 2015. Their cost impact is not yet known.

The plan's funded ratio as of June 30, 2014, calculated using the Actuarial Value of Assets (AVA) was 92.9% and calculated using the Market Value of Assets (MVA) was 111.6%. The primary reason for this healthy funded ratio is that the System has collected the actuarially-required contribution annually from employers. The significance of this cannot be overstated. Various exhibits in this section provide further information on the actuarial assets, liabilities, and the funding level.

As noted in the Financial Section of this report, the System is in its second year of implementation of Governmental Accounting Standards Board (GASB) Statement No. 67. As measured in accordance with this new accounting standard the school districts' Net Pension Liability as of June 30, 2015 is in fact a net asset in the amount of \$10.4 billion.

All actuarial calculations have been prepared in accordance with the Statements of the Governmental Accounting Standards Board, where applicable, and generally accepted actuarial principles, procedures, and standards of practice as prescribed by the Actuarial Standards Board. All schedules in the Actuarial and Statistical sections and the actuarial material in the Required Supplementary Information and the Notes to the Financial Statements in the Financial section were prepared under my direction. I meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Rul 1 a y

Richard A. Young, A.S.A., E.A., M.A.A.A., F.C.A. Actuary

cc: T. Lee

### Summary of Actuarial Methods and Assumptions — as of June 30, 2014

#### Methods

Actuarial funding method: Aggregate Cost Method (gains and losses are smoothed over the average future working lifetime of

active members).

All benefits are included in the actuarial valuation. See *Summary of Benefits* in the Introduction.

Actuarial asset valuation method: Five-year phased in deferred recognition of each year's actual gain or loss, above (or below)

an assumed inflationary gain of 3.0%.

#### **Assumptions**

Assumptions are computed by the Actuary and adopted by the Retirement Board. They are based upon recent NYSTRS member experience. Selected sample rates are shown below. Adoption dates shown in parentheses. Detailed assumption information may be found in

NYSTRS' annual Actuarial Valuation Report.

#### Economic

#### Valuation Rate of Interest (5/90)

8.0% compounded annually. The valuation rate of interest and the salary scale each contain a 3.0% assumed annual rate of inflation.

Rates of Salary Increase (10/11)						
<u>Age</u>	<u>Male</u>	<u>Female</u>				
25	10.91%	10.35%				
35	6.27	6.26				
45	5.04	5.39				
55	4.01	4.42				

#### Demographic

		Rates of	Mortality (10/11)				
Male <u>Age</u>	Active <u>Members</u>	Male <u>Age</u>	Retired Members & Beneficiaries	Male <u>Age</u>	Disabled <u>Members</u>		
30	0.02%	20	0.03%	30	2.10%		
40	0.04	40	0.10	40	6.61		
50	0.07	60	0.41	60	4.03		
60	0.17	80	4.17	80	7.51		
Female <u>Age</u>		Female <u>Age</u>		Female <u>Age</u>			
30	0.01%	20	0.02%	30	3.72%		
40	0.03	40	0.06	40	5.14		
50	0.05	60	0.33	60	3.41		
60	0.10	80	2.86	80	6.06		

Rates of Withdr Ten-Year Ultir	
Male Age	
35	0.74%
40	0.81
45	0.93
50	0.77
<u>Female Age</u>	
35	2.27%
40	1.45
45	0.96
50	0.87

Rates of Service Retirement (10/11 Tiers 1-5) (10/12 Tier 6)							
Male <u>Age</u>	Tier 1 & Tiers 2-4 age 62 or with 30 years of service & Tier 5 age 62	Tiers 2-4 less than age 62 & less than 30 years of service	Tier 5 less than age 62 & less than 30 years of service	Tier 5 less than age 62 & with 30 years of service	<u>Tier 6</u>		
55	31.18%	3.46%	1.73%	1.73%	1.73%		
60	22.55	4.72	2.36	20.12	2.36		
65	17.43	-	-	-	18.70		
70	13.43	-	-	-	21.14		
Female <u>Age</u>							
55	31.18%	4.22%	2.11%	2.11%	2.11%		
60	19.06	4.85	2.42	17.31	2.42		
65	20.06	-	-	-	16.37		
70	16.91	-	-	-	22.20		

Rates of Disability Retirement (10/11)					
	t (10/11)				
<u>Male Age</u>					
35	0.00%				
40	0.01				
45	0.04				
50	0.11				
<u>Female Age</u>					
35	0.01%				
40	0.02				
45	0.05				
50	0.12				

# Actuarial Present Value of Future Benefits — as of June 30, 2014 and June 30, 2013

(in thousands)

Each year an actuarial valuation determines the actuarial present value of future benefits, which is the current value of retirement and ancillary benefit payments that the Retirement System can expect to pay in the future to current retirees and members. The results of the two most recent actuarial valuations are displayed in the following table.

	2014	2013
Present Value of Benefits Presently Being Paid:		
Service Retirement Benefits	\$ 53,207,739	\$ 51,807,853
Disability Retirement Benefits	287,227	286,285
Death Benefits	3,039	2,375
Survivor Benefits	778,357	733,317
Cost-of-Living Allowance	4,695,873	4,665,647
Total Present Value of Benefits Presently Being Paid	58,972,236	57,495,477
Present Value of Benefits Payable in the Future to Present Active Members:		
Service Retirement Benefits	49,824,429	49,065,090
Disability Retirement Benefits	228,420	223,852
Termination Benefits	1,823,736	1,806,612
Death and Survivor Benefits	448,673	442,672
Cost-of-Living Allowance	1,027,072	1,024,222
Total Active Member Liabilities	53,352,330	52,562,450
Present Value of Benefits Payable in the Future to Present Inactive (Vested) Members:		
Retirement Benefits	265,413	246,725
Death Benefits	359	331
Cost-of-Living Allowance	5,471	5,150
Total Vested Liabilities	271,243	252,206
Unclaimed Funds	12,687	11,057
Total Actuarial Present Value of Future Benefits	\$112,608,496	\$110,321,190
Note: Totals may not sum due to rounding.		

NYS Teachers' Retirement System

### **Funding Progress**

The portion of the actuarial present value of future benefits that is attributed to service rendered as of the valuation date is known as the actuarial accrued liability. In order to effectively assess the funding progress of a retirement system, it is necessary to compare the ratio of plan assets to the actuarial accrued liability over a period of time. Plan assets can be expressed as the market value of assets or as the actuarial value of assets. The market value of assets represents the market value of investments as of a particular date. The actuarial value of assets smoothes the volatility inherent in the market value of assets by phasing in unexpected gains and losses over a period of five years, and represents more of an average value.

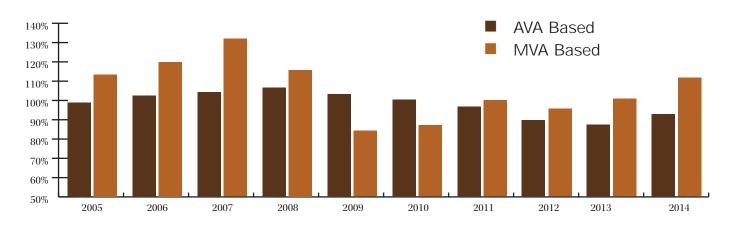
The Retirement System's funding method has allowed the accumulation of assets appropriate for the funding of its liabilities in a systematic and reasonable manner.

### **Analysis of Funding Progress**

(in millions)

Finant	Manket Value of	A-ti-  \/- f	Actuarial	Percent Funded based on	
Fiscal Year Ended	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	Accrued Liability <sup>1</sup>	MVA	AVA
2005	\$84,908.5	\$74,074.3	\$74,961.1	113.3%	98.8%
2006	91,492.2	78,335.8	76,353.0	119.8	102.6
2007	104,912.9	82,858.9	79,537.2	131.9	104.2
2008	95,769.3	88,254.7	82,777.5	115.7	106.6
2009	72,471.8	88,805.5	86,062.0	84.2	103.2
2010	76,844.9	88,544.4	88,318.8	87.0	100.3
2011	89,889.7	86,892.2	89,824.9	100.1	96.7
2012	88,056.3	82,871.4	92,250.9	95.5	89.8
2013	95,367.0	82,742.5	94,583.8	100.8	87.5
2014	108,155.1	90,007.1	96,904.5	111.6	92.9

#### Percent Funded



<sup>&</sup>lt;sup>1</sup> Effective June 30, 2006, the Actuarial Accrued Liability is calculated under the Entry Age Normal Cost Method as was required by Governmental Accounting Standards Board (GASB) Statement No. 50 prior to its replacement by GASB Statement No. 67. The Retirement System is funded in accordance with the Aggregate Cost Method. GASB Statement No. 50 required that the Entry Age Normal Cost Method be used to calculate the accrued liability for purposes of presenting the funded percentage.

### **Solvency Test**

(in millions)

	Aggre						
Fiscal Year Ended	Active Member Accumulated Contributions	Current Retired Members and Beneficiaries	Service Rendered by Active Members (Employer-Financed Portion)	Actuarial Value of Assets	Percentage of Aggregate Accrued Liabilities Covered Actuarial Value of Assets		ered by
	(A)	(B)	(C)	(D)	(A)	(B)	(C)
2009	\$3,665.9	\$49,091.3	\$33,304.8	\$88,805.5	100.0%	100.0%	108.2%
2010	4,016.4	50,546.3	33,756.1	88,544.4	100.0%	100.0%	100.7%
2011	4,111.2	54,635.2	31,078.5	86,892.2	100.0%	100.0%	90.6%
2012	4,256.4	56,197.6	31,796.9	82,871.4	100.0%	100.0%	70.5%
2013	4,366.3	57,681.9	32,535.6	82,742.5	100.0%	100.0%	63.6%
2014	4,457.8	59,190.2	33,256.5	90,007.1	100.0%	100.0%	79.3%

<sup>\*</sup>NYSTRS is funded in accordance with the Aggregate Cost Method. The accrued liabilities in this chart are calculated in accordance with the Entry Age Normal Cost Method for purposes of disclosing the funded ratio.

### **Analysis of Financial Experience**

The table below shows, for each potentially significant experience source, the effect on the employer contribution rate due to the difference between actual experience and that predicted by the actuarial assumptions.

Experience Source	Change in the Employer Contribution Rate During Fiscal Year Ended June 30, 2014
Salary/Service:	-0.51%
Net Investment Gain:	-3.52
New Entrants:	-0.19
Withdrawal:	-0.09
Mortality:	+0.04
Retirement:	+0.03
Pension Payments:	+0.03
Cost-of-Living Adjustment:	-0.07
Excess Benefit Plan Rate:	+0.01
<b>Total Change in Employer Contribution Rate</b>	-4.27%

### History of Member Payroll and the Employer Contribution Rate

Fiscal Year Ended	Active Members	Annual Member Payroll (in millions)	Percent Increase In Annual Member Payroll	Average Full-Time Member Salary	Employer Contribution Rate (Percent of Payroll)
2006	264,410	\$12,518.0	2.9%	\$62,549	7.97%
2007	270,045	13,083.0	4.5	64,651	8.60
2008	274,901	13,690.1	4.6	66,488	8.73
2009	280,338	14,366.4	4.9	68,737	7.63
2010	285,774	14,792.1	3.0	71,225	6.19
2011	280,435	14,732.9	-0.4	72,947	8.62
2012	277,273	14,640.8	-0.6	74,922	11.11
2013	273,328	14,647.8	0.0	76,348	11.84
2014	270,039	14,771.3	0.8	77,585	16.25
2015	267,715	15,021.4	1.7	N/A	17.53

# Schedule of Retired Members and Beneficiaries Added to and Removed from the Benefit Payroll\*

	Number of Retired Members and Beneficiaries		Annual Benefit of Retired Members and Beneficiaries		Total Number		Percentage Increase	
Fiscal Year Ended	Added During the Year	Removed During the Year	Added During the Year	Removed During the Year	of Retired Members and Beneficiaries	Total Annual Benefit	in Total Annual Benefit	Average Annual Benefit
2006	7,682	3,420	\$347,529,000	\$ 74,043,173	129,587	\$4,510,349,789	6.45%	\$34,806
2007	7,291	3,522	346,344,571	77,056,365	133,356	4,779,637,995	5.97	35,841
2008	6,711	3,361	330,202,139	76,893,575	136,706	5,032,946,559	5.30	36,816
2009	6,047	3,456	308,528,053	85,339,178	139,297	5,256,135,434	4.43	37,733
2010	5,879	3,460	287,886,459	88,868,015	141,716	5,455,153,878	3.79	38,494
2011	8,873	3,746	469,318,353	97,889,187	146,843	5,826,583,044	6.81	39,679
2012	6,463	3,494	319,324,379	96,522,713	149,812	6,049,384,710	3.82	40,380
2013	6,776	3,766	327,889,400	104,595,554	152,822	6,272,678,556	3.69	41,046
2014	7,003	3,894	332,495,800	110,681,561	155,931	6,494,492,795	3.54	41,650
2015	6,679	4,152	314,972,220	123,973,317	158,458	6,685,491,698	2.94	42,191

<sup>\*</sup>Computed on the Maximum annual benefit including supplementation and COLA.

### **Independent Actuarial Review**



KPMG LLP 345 Park Avenue New York City, NY 10154-0102 Telephone +1 212 758 9700 Fax +1 212 758 9819 Internet www.us.kpmg.com

October 29, 2015

Retirement Board New York State Teachers' Retirement System:

The New York State Teachers' Retirement System (the System), as part of the independent financial statement audit, has requested that KPMG LLP assess the actuarial assumptions, methods and procedures used by the System's Actuary to calculate the employer contributions for the plan. My assessment consisted of the following procedures:

- A review of the actuarial assumptions, methods and procedures stated in the system's Actuarial Valuation Report as of June 30, 2013 and the resultant employer contribution rate of 17.53% applied to the payroll for the fiscal year ended June 30, 2015.
- A review of the methodology used to estimate the payroll as of June 30, 2015, from which the employer and employee contribution receivable as of June 30, 2015 are derived.
- A review of the System's Experience Studies as of June 30, 2013, and the opinions of the Actuary presented thereon, to ascertain whether the actuarial assumptions are reasonable and appropriate.

In performing my review I compared the methods and procedures utilized by the System's Actuary with Actuarial Standard of Practice No. 4 (Measuring Pension Obligations) as adopted by the American Academy of Actuaries.

In my opinion, the methods, procedures and actuarial assumptions used by the System have been developed with appropriate oversight and judgment by the System's Actuary and comply with generally accepted actuarial principles and practices as set forth in Actuarial Standards of Practice No. 4. In addition, it is my opinion that the total pension liability was determined in accordance with my understanding of Statement No. 67 of the Governmental Accounting Standards Board.

This report is intended solely for the use of the New York State Teachers' Retirement System and should not be used for any other purpose.

Very truly yours,

KPMG LLP

Robert L. Mishler, ASA, MAAA, EA Senior Manager

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KPMG LLP is a Delaware limited liability partnership, the U.S. member firm of KPMG International Cooperative, ("KPMG International") a Swiss entity.



# Statistical



The average benefit for all service retirees is \$40,689.



Approximately 80% of NYSTRS benefits are paid to New York State residents.



As of June 30, 2015, 76% of System members were female.

The objective of the statistical section is to provide financial statement users with historical perspective, context and detail to assist in using the information in the financial statements, notes to financial statements, and required supplementary information to better understand and assess the economic condition of NYSTRS.

#### Demographic & Economic Information

The schedules on pages 109-120 are intended to assist users in understanding the environment within which NYSTRS operates and to provide information that facilitates comparisons of financial statement information over time and among similar entities. The demographic and economic information schedules presented are:

#### Page

109 Number of Active Members and Retired Members
110 Distribution of Active Members by Age and Years of Service
110 Distribution of Active Members by Age
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112 Active Members and Annuitants 1922-2015
113 Number of Active Members by Tier
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118 Retired Members — Remaining Purchasing Power Through 2015
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by Decade of Retirement
119 Distribution of the Annual Benefit of All Retired Members
120 Distribution of Monthly COLA Increase Commencing September 2015
120 Distribution of Cumulative Monthly COLA Commencing September 2015

#### Financial Trends Information

The schedules on pages 122-124 are intended to assist users in understanding and assessing how the financial position of NYSTRS has changed over time. The financial trend schedules presented are:

#### Page

122	Changes in Fiduciary Net Position	
124	Benefits and Return of Contributions by Typ	е

#### Operating Information

The schedules on pages 127-130 are intended to provide contextual information about the operations and resources of NYSTRS to assist readers in using financial statement information. The operating information schedules are:

### Page

127	. Average Benefit Payments
128	. Retired Members and Beneficiaries by Type of Benefit
130	. Principal Participating Employers

### $Demographic\ \&\ Economic\ Information$

### **Active Members:**

	Male	Female	Total
June 30, 2014	64,265	205,774	270,039
Changes During Year:			
Added	1,985	7,186	9,171
Withdrawn	1,334	3,828	5,162
Retired	1,331	4,830	6,161
Died	54	118	172
June 30, 2015	63,531	204,184	267,715

### Members Retired for:

	Service*				Disability			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
June 30, 2014	50,325	97,858	148,183	495	1,590	2,085	50,820	99,448	150,268	
Changes During Year:										
Retired	1,316	4,715	6,031	15	115	130	1,331	4,830	6,161	
Died	1,463	2,105	3,568	31	79	110	1,494	2,184	3,678	
Lump Sum	34	108	142	0	0	0	34	108	142	
Restored to Active										
Membership	0	0	0	0	1	1	0	1	1	
June 30, 2015	50,144	100,360	150,504	479	1,625	2,104**	50,623	101,985	152,608	

### Beneficiaries of Deceased:

	Service Annuitants			Disability Annuitants I		Active						
			Į.			ı	Members			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
June 30, 2014	1,159	4,088	5,247	95	170	265	28	123	151	1,282	4,381	5,663
Changes During Year:												
Added	145	361	506	8	4	12	0	0	0	153	365	518
Died	85	230	315	1	3	4	0	12	12	86	245	331
June 30, 2015	1,219	4,219	5,438	102	171	273	28	111	139	1,349	4,501	5,850

## Summary:

	Male	Female	Total
Active Members	63,531	204,184	267,715
Retired Members	50,623	101,985	152,608
Beneficiaries	1,349	4,501	5,850
Total	115,503	310,670	426,173

<sup>\*</sup>Also includes vested retirees.

<sup>\*\*</sup>Includes 28 males and 50 females retired for disability who receive a service benefit.

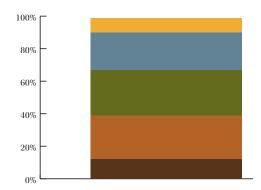
# Distribution of Active Members by Age and Years of Service\* — as of June 30, 2014

			Years	s of Credited Service		
Age		0-5	6-10	11-15	16-20	21-25
20-24	Number of Members	5,578	0	0	0	0
	Average Salary	\$35,857	\$0	\$0	\$0	\$0
25-29	Number of Members	25,411	2,191	3	0	0
	Average Salary	\$47,235	\$59,150	\$56,371	\$0	\$0
30-34	Number of Members	17,766	16,478	2,906	0	0
	Average Salary	\$51,148	\$64,541	\$75,485	\$0	\$0
35-39	Number of Members	8,897	10,408	17,275	1,799	0
	Average Salary	\$51,582	\$67,644	\$80,503	\$89,382	\$0
40-44	Number of Members	7,077	7,110	11,976	12,241	1,086
	Average Salary	\$49,059	\$64,237	\$82,432	\$91,359	\$95,276
45-49	Number of Members	6,583	6,079	7,176	8,341	7,485
	Average Salary	\$45,386	\$56,733	\$77,161	\$91,228	\$96,483
50-54	Number of Members	5,434	5,199	6,387	4,997	5,082
	Average Salary	\$42,852	\$52,722	\$68,423	\$83,175	\$94,599
55-59	Number of Members	3,603	3,203	4,685	4,454	3,751
	Average Salary	\$45,778	\$52,045	\$65,137	\$78,056	\$89,226
60-64	Number of Members	2,116	1,592	2,402	3,083	2,981
	Average Salary	\$53,079	\$52,321	\$66,695	\$78,698	\$89,029
65-69	Number of Members	852	439	571	652	655
	Average Salary	\$61,339	\$54,495	\$63,757	\$76,382	\$87,005
70+	Number of Members	428	116	127	132	99
	Average Salary	\$27,793	\$52,249	\$54,600	\$65,325	\$78,027
Total	Number of Members	83,745	52,815	53,508	35,699	21,139
	Average Salary	\$47,838	\$62,232	\$76,882	\$87,080	\$93,282
	9					

<sup>\*</sup>Average salary data is for the 182,071 members who earned a full year of service.

The average salary for all active members, full-time and part-time, is \$67,448.

# Distribution of Active Members by Age — as of June 30, 2014





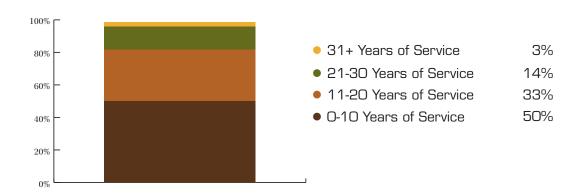
### Averages — as of June 30, 2014

Gender	Age	Years of Service
Female	43	11
Male	43	12

Distribution of Active Members by Age and Years of Service\* (continued)
— as of June 30, 2014

	Years of Credited Service							
26-30	31-35	36-40	41-45	46-50	51+	Total		
0	0	0	0	0	0	5,578		
\$0	\$0	\$0	\$0	\$0	\$0	\$35,857		
0	0	0	0	0	0	27,605		
\$0	\$0	\$0	\$0	\$0	\$0	\$49,574		
0	0	0	0	0	0	37,150		
\$0	\$0	\$0	\$0	\$0	\$0	\$63,266		
0	0	0	0	0	0	38,379		
\$0	\$0	\$0	\$0	\$0	\$0	\$75,611		
2	0	0	0	0	0	39,492		
\$65,971	\$0	\$0	\$0	\$0	\$0	\$82,214		
1,072	2	0	0	0	0	36,738		
\$97,666	\$123,767	\$0	\$0	\$0	\$0	\$83,293		
6,905	797	2	0	0	0	34,803		
\$99,731	\$100,870	\$167,219	\$0	\$0	\$0	\$82,478		
4,670	2,967	322	1	0	0	27,656		
\$100,520	\$105,959	\$112,711	\$122,518	\$0	\$0	\$83,763		
2,768	1,193	822	111	1	0	17,069		
\$97,775	\$108,670	\$114,033	\$125,825	\$91,379	\$0	\$86,190		
591	256	143	164	27	0	4,350		
\$91,761	\$107,766	\$117,301	\$121,624	\$143,905	\$0	\$85,243		
111	82	36	31	35	22	1,219		
\$73,034	\$90,677	\$97,569	\$109,783	\$122,787	\$112,741	\$77,085		
16,119	5,297	1,325	307	63	22	270,039		
\$99,018	\$105,671	\$113,721	\$121,952	\$131,339	\$112,741	\$77,585		

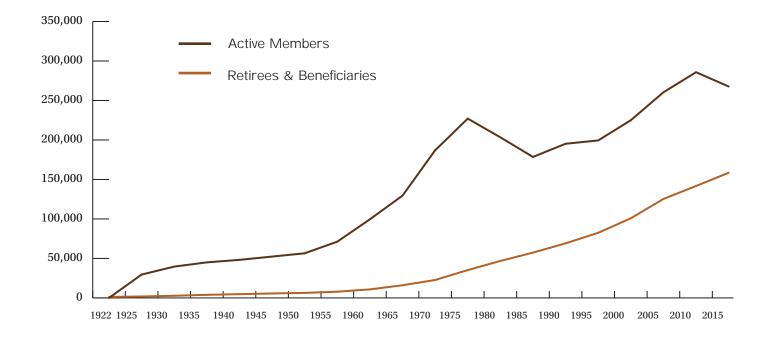
## Distribution of Active Members by Service — as of June 30, 2014



### Active Members and Annuitants 1922–2015

As of June 30	Active Members	Retirees & Beneficiaries	As of June 30	Active Members	Retirees & Beneficiaries
1922	-	1,296	1970	186,914	22,700
1925	29,057	1,815	1975	227,038	35,252
1930	39,663	2,732	1980	203,330	46,812
1935	45,031	3,919	1985	178,516	57,366
1940	48,193	4,771	1990	195,194	69,127
1945	52,359	5,637	1995	199,398	82,459
1950	56,504	6,374	2000	224,986	100,839
1955	71,273	7,897	2005	260,356	125,325
1960	99,555	10,796	2010	285,774	141,716
1965	129,543	16,043	2015	267,715	158,458

See related graph below.



## Number of Active Members by Tier

As of June 30	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Total
1996	58,850	16,596	24,546	100,926			200,918
1997	53,502	16,186	23,861	110,167			203,716
1998	49,266	15,860	23,302	120,652			209,080
1999	50,859	15,776	20,726	128,906			216,267
2000	47,234	15,700	20,159	141,893			224,986
2001	41,169	15,472	19,914	157,795			234,350
2002	35,601	15,121	19,674	172,438			242,834
2003	28,327	14,463	19,083	185,374			247,247
2004	22,986	13,947	18,835	198,747			254,515
2005	17,901	13,210	18,535	210,710			260,356
2006	13,621	12,084	18,173	220,532			264,410
2007	10,838	10,178	17,743	231,286			270,045
2008	8,630	8,171	17,007	241,093			274,901
2009	6,943	6,752	16,111	250,532			280,338
2010	5,582	5,706	14,942	255,966	3,578		285,774
2011	3,814	4,137	12,690	247,530	12,264		280,435
2012	2,756	3,253	11,180	239,199	19,969	916	277,273
2013	1,968	2,447	9,450	231,258	19,452	8,753	273,328
2014	1,439	1,810	7,753	222,545	19,124	17,368	270,039
2015	1,116	1,348	6,222	214,020	18,878	26,131	267,715

### Members Retired in 2014-2015 for:

	Service*	Disability
Number Retired	6,031	130
Age at Retirement:		
Average	60 yrs., 11 mos.	51 yrs., 2 mos.
Median	61 yrs., 3 mos.	51 yrs., 10 mos.
Years of Service:		
Average	25 yrs., 4 mos.	17 yrs., 6 mos.
Median	27 yrs., 2 mos.	16 yrs., 5 mos.
**Benefit:		
Average	\$44,487	\$24,971
Median	\$45,510	\$22,717
Final Average Salary (FAS):		
Average	\$84,362	\$70,817
Median	\$83,623	\$67,786
***Benefit as % of FAS:		
Average	47.62%	34.30%
Median	52.64%	33.33%

### Members Retired in 2014-2015 for Service\* With:

	Less Than 20 Yrs. N.Y.	Between 20 Yrs. N.Y. and 35 Yrs. Total	35 Yrs. Total or More
Number Retired	1,400	3,997	634
Age at Retirement:			
Average	61 yrs., 4 mos.	60 yrs., 7 mos.	62 yrs., 7 mos.
Median	61 yrs., 10 mos.	60 yrs., 10 mos.	62 yrs., 0 mos.
Years of Service:			
Average	12 yrs., 2 mos.	27 yrs., 8 mos.	38 yrs., 7 mos.
Median	12 yrs., 6 mos.	29 yrs., 2 mos.	37 yrs., 4 mos.
**Benefit:			
Average	\$9,393	\$50,818	\$82,065
Median	\$6,984	\$50,225	\$78,796
Final Average Salary (FAS):			
Average	\$48,076	\$92,909	\$110,603
Median	\$40,952	\$90,015	\$105,230
***Benefit as % of FAS:			
Average	18.03%	53.80%	73.97%
Median	18.03%	57.11%	72.44%

<sup>\*</sup>Also includes vested retirees.

<sup>\*\*\*</sup>The average and median of individual benefits as percentages of final average salary.



<sup>\*\*</sup>The Maximum, even though the member may have chosen an option.

### All Retirees as of June 30, 2015 Retired for:

	Service*	Disability
Number Retired	150,582	2,026
Age at Retirement:		
Average	58 yrs., 7 mos.	49 yrs., 6 mos.
Median	57 yrs., 6 mos.	50 yrs., 4 mos.
Years of Service:		
Average	28 yrs., 3 mos.	18 yrs., 5 mos.
Median	30 yrs., 4 mos.	17 yrs., 8 mos.
**Benefit:		
Average	\$40,689	\$19,549
Median	\$40,606	\$17,843
Final Average Salary (FAS):		
Average	\$68,832	\$53,599
Median	\$67,842	\$51,922
***Benefit as % of FAS:		
Average	54.70%	35.70%
Median	60.50%	33.33%

## All Retirees as of June 30, 2015 Retired for Service\* With:

	Less Than 20 Years N.Y.	Between 20 Yrs. N.Y. and 35 Yrs. Total	35 Yrs. Total or More
Number Retired	25,365	89,759	35,458
Age at Retirement:			
Average	58 yrs., 10 mos.	58 yrs., 4 mos.	58 yrs., 10 mos.
Median	57 yrs., 3 mos.	57 yrs., 1 mo.	58 yrs., 3 mos.
Years of Service:			
Average	13 yrs., 7 mos.	28 yrs., 7 mos.	37 yrs., 4 mos.
Median	13 yrs., 8 mos.	30 yrs., 0 mos.	36 yrs., 8 mos.
**Benefit:			
Average	\$8,111	\$40,500	\$64,473
Median	\$6,072	\$39,552	\$60,558
Final Average Salary (FAS):			
Average	\$38,265	\$70,462	\$86,570
Median	\$31,647	\$68,301	\$81,990
***Benefit as % of FAS:			
Average	20.80%	56.57%	74.22%
Median	19.60%	59.78%	73.56%

<sup>\*</sup>Also includes vested retirees.

<sup>\*\*</sup>The Maximum, even though the member may have chosen an option.

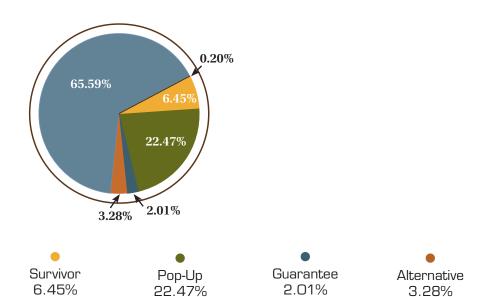
<sup>\*\*\*</sup>The average and median of individual benefits as percentages of final average salary.

Maximum

65.59%

## Retirement Benefit Options and Percent of Election

2011-2015 Retirees



Declining Reserve 0.20%

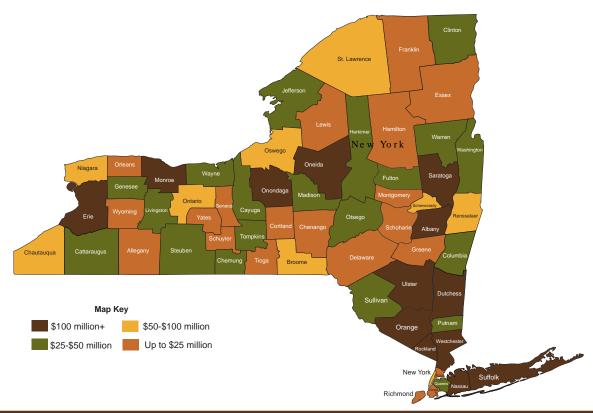
Annuity/

# Retired Members' Characteristics\* By Year of Retirement

Retired in Fiscal Year Ended	Number of Retired Members	Average Age at Retirement (yrs mos.)	Average Service at Retirement (yrs mos.)	Average Final Average Salary	Average Maximum Annual Benefit
2006	7,281	58-4	28-2	\$71,840	\$43,914
2007	6,900	58-7	28-1	74,185	44,204
2008	6,330	58-11	27-8	77,066	45,779
2009	5,644	59-6	27-7	78,050	46,061
2010	5,501	60-0	27-5	79,615	46,489
2011	8,423	60-3	28-7	85,010	51,200
2012	6,033	60-9	26-3	82,461	45,759
2013	6,330	60-10	25-6	81,987	44,768
2014	6,547	61-0	25-4	84,545	44,978
2015	6,161	60-11	25-4	84,362	44,487

<sup>\*</sup>Averages are for service and vested retirees.

## Distribution of Benefits Paid by County\*— as of June 30, 2015



County	Retired Members and Beneficiaries	Annual Benefit Paid	County	Retired Members and Beneficiaries	Annual Benefit Paid	County	Retired Members and Beneficiaries	Annual Benefit Paid
Albany	2,901	\$112,371,682	Jefferson	1,256	\$45,256,760	St. Lawrence	1,589	\$53,867,648
Allegany	636	\$20,699,863	Kings	211	\$8,923,123	Saratoga	3,191	\$128,246,908
Bronx	249	\$11,892,966	Lewis	326	\$11,026,370	Schenectady	1,683	\$63,674,866
Broome	2,284	\$81,943,167	Livingston	895	\$33,098,050	Schoharie	389	\$13,998,230
Cattaraugus	921	\$34,204,017	Madison	931	\$33,755,117	Schuyler	249	\$8,061,050
Cayuga	982	\$35,142,554	Monroe	8,200	\$319,020,984	Seneca	420	\$14,762,042
Chautauqua	1,844	\$70,199,753	Montgomery	552	\$20,012,703	Steuben	1,329	\$45,971,766
Chemung	1,064	\$36,857,274	Nassau	9,014	\$479,212,137	Suffolk	16,358	\$920,292,040
Chenango	662	\$21,426,753	New York	1,250	\$55,564,245	Sullivan	799	\$33,795,042
Clinton	1,142	\$41,157,507	Niagara	2,194	\$90,849,386	Tioga	530	\$18,894,200
Columbia	738	\$28,428,317	Oneida	3,022	\$109,999,776	Tompkins	955	\$30,101,276
Cortland	677	\$23,866,958	Onondaga	6,341	\$228,620,933	Ulster	2,486	\$104,401,375
Delaware	603	\$19,661,125	Ontario	1,739	\$64,973,525	Warren	1,309	\$49,738,119
Dutchess	3,032	\$133,172,955	Orange	3,018	\$137,316,128	Washington	742	\$25,989,285
Erie	10,291	\$431,243,040	Orleans	438	\$17,588,463	Wayne	1,221	\$44,279,788
Essex	597	\$19,588,388	Oswego	1,542	\$54,632,723	Westchester	6,285	\$326,411,628
Franklin	656	\$22,564,642	Otsego	1,047	\$33,950,021	Wyoming	479	\$17,349,999
Fulton	793	\$29,401,662	Putnam	903	\$46,786,390	Yates	418	\$14,548,138
Genesee	747	\$28,803,841	Queens	835	\$41,311,225			
Greene	477	\$17,329,227	Rensselaer	1,521	\$57,548,052	Out of State	38,016	\$1,270,860,516
Hamilton	135	\$4,991,386	Richmond	46	\$1,904,766			
Herkimer	1,026	\$34,367,213	Rockland	2,272	\$110,296,565	<b>Grand Total</b>	158,458	\$6,446,205,648

<sup>\*</sup>Computed on the optional annual benefit including supplementation and COLA.

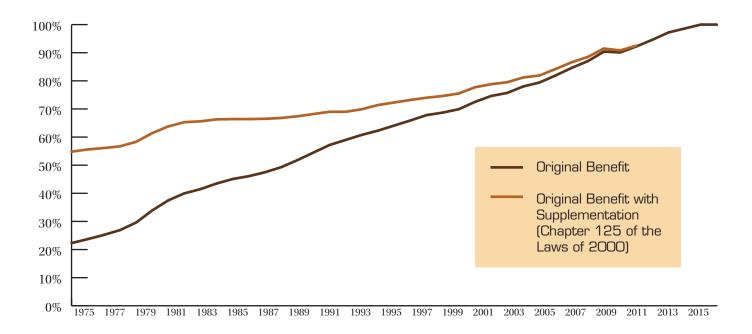
# Distribution of Retired Members and Beneficiaries by Tier — as of June 30, 2015

	Tier 1	Tier 2	Ti	ier 3	Tier 4	Tier 5	Tier 6	Total
Members Retired for:								
Service*	95,982	16,518	15,919	(237)**	22,080	4	1	150,504
Disability	744	187	264	(33)**	909	0	0	2,104
Beneficiaries of Deceased:								
Service Annuitants	4,789	249	192	(4)**	208	0	0	5,438
Disability Annuitants	176	24	26	(5)**	47	0	0	273
Active Members	137	1	1	(0)**	0	0	0	139
Total	101,828	16,979	16,402	(279)**	23,244	4	1	158,458

<sup>\*</sup>Also includes vested retirees.

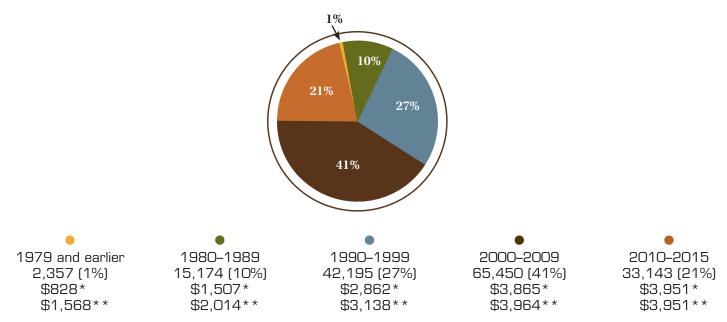
## Retired Members — Remaining Purchasing Power Through 2015

Inflation annually erodes the purchasing power of our retired members' benefits. The chart below illustrates the percentage of purchasing power remaining of the original benefit, and the original benefit plus supplementation including the cost-of-living adjustment, payable beginning September 2015 in accordance with Chapter 125 of the Laws of 2000.



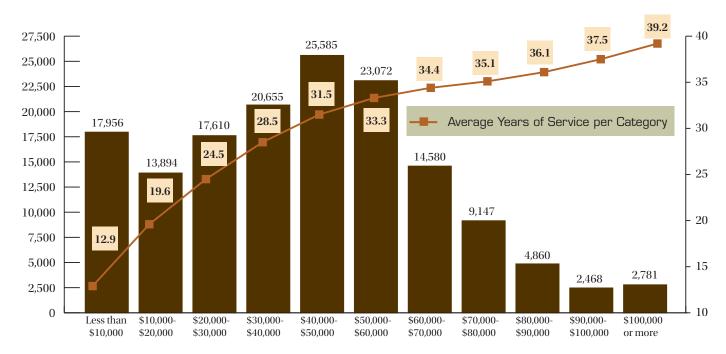
<sup>\*\*</sup>Those receiving an Article 14 (Tier 3) benefit. The remainder are receiving an Article 15 (Tier 4) benefit. Tier 3 members receive the better of the two benefits.

### Retired Members and Beneficiaries With Monthly Benefits by Decade of Retirement — as of June 30, 2015



<sup>\*</sup>Average monthly benefit (based on the Maximum benefit).

# Distribution of the Annual Benefit\* of All Retired Members — as of June 30, 2015



<sup>\*</sup>Maximum annual retirement benefit including supplementation and COLA.

<sup>\*\*</sup>Average total monthly benefit including supplementation and COLA (based on the Maximum benefit).

## Distribution of Monthly COLA Increase Commencing September 2015

Monthly COLA Increase	Number of Retired Members and Beneficiaries
\$15.00	102,401
\$12.50 - \$14.99	3,257
\$10.00 - \$12.49	3,116
\$7.50 - \$9.99	7,579
\$5.00 - \$7.49	4,142
\$2.50 - \$4.99	5,929
\$0.01 - \$2.49	3,054
\$0 (currently ineligible)	28,980
Total	158,458

Commencing September	Year Ended March 31 CPI Percentage Change	Applicable COLA Percentage	Maximum Annual Base Benefit Amount	Maximum Monthly COLA Increase	Cumulative Maximum Monthly COLA	Average Monthly COLA Increase	Cumulative Average Monthly COLA
2001	2.92%	1.5%	\$18,000	\$22.50	\$22.50	\$18.80	\$18.80
2002	1.48%	1.0%	\$18,000	\$15.00	\$37.50	\$12.64	\$31.44
2003	3.02%	1.6%	\$18,000	\$24.00	\$61.50	\$20.32	\$51.76
2004	1.74%	1.0%	\$18,000	\$15.00	\$76.50	\$12.85	\$64.61
2005	3.15%	1.6%	\$18,000	\$24.00	\$100.50	\$20.68	\$85.29
2006	3.36%	1.7%	\$18,000	\$25.50	\$126.00	\$22.09	\$107.38
2007	2.78%	1.4%	\$18,000	\$21.00	\$147.00	\$18.29	\$125.67
2008	3.98%	2.0%	\$18,000	\$30.00	\$177.00	\$26.24	\$151.91
2009	-0.38%	1.0%	\$18,000	\$15.00	\$192.00	\$13.17	\$165.08
2010	2.31%	1.2%	\$18,000	\$18.00	\$210.00	\$15.86	\$180.94
2011	2.68%	1.4%	\$18,000	\$21.00	\$231.00	\$18.55	\$199.49
2012	2.65%	1.4%	\$18,000	\$21.00	\$252.00	\$18.59	\$218.08
2013	1.47%	1.0%	\$18,000	\$15.00	\$267.00	\$13.30	\$231.38
2014	1.51%	1.0%	\$18,000	\$15.00	\$282.00	\$13.32	\$244.70
2015	-0.07%	1.0%	\$18,000	\$15.00	\$297.00	\$13.36	\$258.06

## Distribution of Cumulative Monthly COLA Commencing September 2015

Number of Retired Members and Beneficiaries
29,007
10,679
12,100
23,383
16,307
17,076
20,926
28,980
158,458

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## Financial Trends Information

### Changes in Fiduciary Net Position Last Ten Fiscal Years

(dollars in thousands)

Additions:	2006	2007	2008	2009
Net investment income (loss)	\$ 9,893,833	\$16,863,349	\$(5,531,807)	\$(19,363,140)
Employer contributions	997,032	1,104,010	1,188,140	1,096,117
Member contributions	161,738	168,462	177,959	181,723
Transfers	15,807	7,260	2,349	5,665
Total additions (reductions) to fiduciary net position	11,068,410	18,143,081	(4,163,359)	(18,079,635)
Deductions: (See Benefits and Return of Contributio	ns by Type on pag	ges 124-125)		
Benefit payments	4,426,416	4,661,665	4,908,446	5,151,463
Return of contributions	15,600	16,819	22,792	17,080
Administrative expenses	42,668	43,893	49,016	49,401
Total deductions from fiduciary net position	4,484,684	4,722,377	4,980,254	5,217,944
Change in fiduciary net position	\$ 6,583,726	\$13,420,704	\$(9,143,613)	\$(23,297,579)

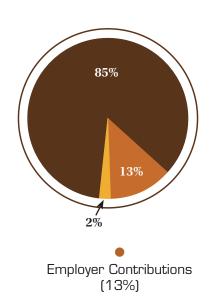
### Changes in Fiduciary Net Position (continued) Last Ten Fiscal Years

(dollars in thousands)

2010	2011	2012	2013	2014	2015
\$8,702,215	\$17,250,415	\$ 2,375,262	\$11,636,480	\$16,664,703	\$5,400,265
925,506	1,389,415	1,628,491	1,734,908	2,400,386	2,633,682
139,369	154,327	138,583	128,903	120,762	119,411
6,037	2,144	4,188	4,522	1,365	3,213
9,773,127	18,796,301	4,146,524	13,504,813	19,187,216	8,156,571
5,333,788	5,681,007	5,907,795	6,118,849	6,324,546	6,513,931
17,071	20,348	19,732	20,869	18,992	17,209
49,088	50,159	52,457	54,338	55,616	56,948
5,399,947	5,751,514	5,979,984	6,194,056	6,399,154	6,588,088
\$4,373,180	\$13,044,787	\$(1,833,460)	\$ 7,310,757	\$12,788,062	\$1,568,483

## **Breakdown of Income Sources**

Fiscal Years Ended 1996-2015



Investment Income (85%)

NYSTRS.org 123

Member Contributions (2%)

### Benefits and Return of Contributions by Type Last Ten Fiscal Years

(dollars in thousands)

Type of Benefit	2006	2007	2008	2009
Age and service benefits:				
Retirees	\$4,335,475	\$4,579,829	\$4,817,594	\$5,045,738
Survivors	37,232	26,964	30,500	27,674
Death in service benefits	17,321	17,033	21,382	38,119
Disability benefits:				
Ordinary	36,079	37,544	38,671	39,565
Accidental	309	295	299	367
Total benefits	\$4,426,416	\$4,661,665	\$4,908,446	\$5,151,463
Type of Return of Contributions				
Death	\$ 1,394	\$ 1,609	\$ 1,735	\$ 1,905
Separation from service	14,206	15,210	21,057	15,175
Total return of contributions	\$ 15,600	\$ 16,819	\$ 22,792	\$ 17,080

# Benefits and Return of Contributions by Type (continued) Last Ten Fiscal Years

(dollars in thousands)

2010	2011	2012	2013	2014	2015
\$5,237,032	\$5,593,968	\$5,811,739	\$6,023,506	\$6,233,619	\$6,419,576
38,516	28,237	29,153	32,879	28,918	31,888
20,244	22,852	29,266	23,666	21,634	20,730
37,628	35,667	37,350	38,507	39,871	41,251
368	283	287	291	504	486
\$5,333,788	\$5,681,007	\$5,907,795	\$6,118,849	\$6,324,546	\$6,513,931
\$ 2,287	\$ 2,240	\$ 2,393	\$ 2,434	\$ 2,325	\$ 2,350
14,784	18,108	17,339	18,435	16,667	14,859
\$ 17,071	\$ 20,348	\$ 19,732	\$ 20,869	\$ 18,992	\$ 17,209

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## Average Benefit Payments — July 1, 2005 - June 30, 2015

	Years of Credited Service							
Retirement Effective Dates	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35+
Period 7/1/2005 to 6/30/2006								
Average monthly benefit	\$131	\$227	\$503	\$1,245	\$2,414	\$3,359	\$4,569	\$5,657
Average final average salary	\$21,859	\$27,506	\$34,427	\$50,742	\$64,892	\$74,120	\$81,845	\$90,272
Number of retired members	60	451	547	486	756	865	2,377	1,739
Period 7/1/2006 to 6/30/2007								
Average monthly benefit	\$118	\$257	\$558	\$1,264	\$2,222	\$3,336	\$4,629	\$5,831
Average final average salary	\$24,409	\$28,422	\$37,416	\$52,612	\$65,663	\$76,566	\$84,377	\$94,039
Number of retired members	65	415	537	491	722	831	2,152	1,687
Period 7/1/2007 to 6/30/2008								
Average monthly benefit	\$136	\$264	\$559	\$1,326	\$2,358	\$3,587	\$4,767	\$6,064
Average final average salary	\$25,781	\$30,873	\$38,528	\$55,668	\$69,848	\$81,072	\$87,087	\$97,266
Number of retired members	67	397	529	422	721	761	1,753	1,680
Period 7/1/2008 to 6/30/2009								
Average monthly benefit	\$153	\$255	\$654	\$1,343	\$2,427	\$3,632	\$4,780	\$6,169
Average final average salary	\$25,513	\$29,713	\$42,093	\$56,606	\$71,239	\$81,388	\$88,817	\$98,228
Number of retired members	38	369	455	359	739	717	1,505	1,462
Period 7/1/2009 to 6/30/2010								
Average monthly benefit	\$146	\$298	\$736	\$1,419	\$2,405	\$3,839	\$4,779	\$6,361
Average final average salary	\$29,089	\$32,606	\$46,779	\$58,769	\$69,544	\$85,340	\$90,489	\$100,436
Number of retired members	46	377	438	360	770	752	1,351	1,407
Period 7/1/2010 to 6/30/2011								
Average monthly benefit	\$166	\$301	\$710	\$1,386	\$2,571	\$3,924	\$5,017	\$6,877
Average final average salary	\$38,073	\$33,593	\$44,505	\$58,067	\$72,641	\$86,710	\$94,654	\$106,004
Number of retired members	38	403	507	431	1,128	1,705	2,103	2,108
Period 7/1/2011 to 6/30/2012								
Average monthly benefit	\$196	\$371	\$818	\$1,402	\$2,748	\$3,807	\$5,142	\$6,992
Average final average salary	\$43,570	\$39,131	\$50,185	\$59,356	\$77,772	\$85,469	\$96,934	\$108,825
Number of retired members	44	431	571	444	1,079	840	1,604	1,020
Period 7/1/2012 to 6/30/2013								
Average monthly benefit	\$201	\$326	\$782	\$1,513	\$2,721	\$3,910	\$5,285	\$7,061
Average final average salary	\$33,171	\$34,780	\$47,730	\$62,797	\$76,501	\$89,200	\$100,095	\$110,455
Number of retired members	48	501	705	452	1,061	954	1,709	900
Period 7/1/2013 to 6/30/2014								
Average monthly benefit	\$221	\$367	\$837	\$1,571	\$2,836	\$4,140	\$5,275	\$7,305
Average final average salary	\$41,966	\$38,623	\$51,493	\$65,104	\$80,215	\$93,124	\$100,079	\$115,852
Number of retired members	47	484	649	562	1,133	1,161	1,778	733
Period 7/1/2014 to 6/30/2015								
Average monthly benefit	\$255	\$306	\$842	\$1,543	\$2,879	\$4,163	\$5,277	\$6,887
Average final average salary	\$35,508	\$33,815	\$51,353	\$64,139	\$82,057	\$92,745	\$100,927	\$110,667
Number of retired members	37	400	615	521	1,081	1,255	1,660	592

## Retired Members and Beneficiaries by Type of Benefit — as of June 30, 2015

Amount of	Number of Retired	Type of Retirement					
Monthly Benefit	Members	1	2	3	4	5	6
\$1 - \$500	13,484	8,067	4,822	154	305	28	108
\$501 - \$1,000	12,359	7,215	4,083	431	537	80	13
\$1,001 - \$1,500	11,173	7,576	2,357	461	705	66	8
\$1,501 - \$2,000	10,952	7,887	2,006	388	626	43	2
\$2,001 - \$2,500	11,405	8,832	1,705	305	535	25	3
\$2,501 - \$3,000	11,760	9,666	1,370	172	535	13	4
\$3,001 - \$3,500	13,416	11,812	1,026	92	476	9	1
\$3,501 - \$4,000	15,185	13,985	702	52	443	3	0
\$4,001 - \$4,500	14,902	13,996	480	28	393	5	0
\$4,501 - \$5,000	11,992	11,383	312	10	287	0	0
over \$5,000	31,830	30,810	412	11	596	1	0
Total	158,458	131,229	19,275	2,104	5,438	273	139

#### Type of retirement:

- 1 Normal retirement for age and service
- 2 Early retirement\*
- 3 Disability retirement
- 4 Beneficiary payment, normal or early retirement
- 5 Beneficiary payment, disability retirement
- 6 Beneficiary payment, death in service

Tier 6: retirement at age less than 63.

<sup>\*</sup>Tiers 2-5: retirement at age less than 62 and service less than 30 years.

### Retired Members and Beneficiaries by Type of Benefit — as of June 30, 2015 (continued)

Option Selected					
1	2	3	4	5	6
10,166	752	1,008	655	616	287
8,624	889	1,521	594	533	198
7,653	886	1,549	502	433	150
7,672	878	1,557	410	296	139
8,065	897	1,699	377	226	141
8,167	995	1,924	316	199	159
9,284	1,101	2,339	346	128	218
10,314	1,154	2,989	350	132	246
9,882	1,135	3,169	320	106	290
7,730	1,011	2,688	227	75	261
19,183	2,938	7,921	588	150	1,050
106,740	12,636	28,364	4,685	2,894	3,139

#### Option selected:

- 1 Unmodified; Single life annuity (Maximum)
- 2 Joint and survivor
- 3 Joint and survivor with pop-up  $\,$
- 4 Guarantee period
- 5 Declining reserve / Annuity reserve
- 6 Alternative

## **Principal Participating Employers**

Current Year and Nine Years Ago

		2015	
Participating Employer	Covered Employees	Rank	Percentage of Total System**
Buffalo Public Schools	4,664	1	1.74%
Rochester City School District	3,878	2	1.45%
Syracuse City School District	2,659	3	0.99%
Yonkers Public Schools	2,052	4	0.77%
Brentwood Union Free Schools	1,744	5	0.65%
Greece Central Schools	1,418	6	0.53%
Sachem Central Schools	1,396	7	0.52%
Newburgh City School District	1,259	8	0.47%
Wappingers Central Schools	1,193	9	0.45%
Eastern Suffolk 1 BOCES	1,175	10	0.44%
All Other*	246,277		91.99%
Total	267,715		100.00%

\*In 2015, "All Other" consisted of:

Туре	Number	Covered Employees
Public School Districts	671	225,078
BOCES	36	13,201
SUNY	31	2,417
Community Colleges	30	3,110
Charter Schools	25	1,265
Special Act Districts	10	702
Other	9	504
Total "All Other"	812	246,277
Top 10 Participating Employers	10	21,438
Total	822	267,715

<sup>\*\*</sup>Percentages may not sum to 100% due to rounding.

# Principal Participating Employers Current Year and Nine Years Ago (continued)

		2006	
Participating Employer	Covered Employees	Rank	Percentage of Total System**
Buffalo Public Schools	4,338	1	1.64%
Rochester City School District	4,328	2	1.64%
Syracuse City School District	3,462	3	1.31%
Suffolk 1 BOCES	2,393	4	0.91%
Yonkers Public Schools	2,329	5	0.88%
Brentwood Union Free Schools	2,069	6	0.78%
Sachem Central Schools	1,745	7	0.66%
Greece Central Schools	1,739	8	0.66%
Newburgh City School District	1,433	9	0.54%
Clarkstown Central Schools	1,306	10	0.49%
All Other	239,268		90.49%
Total	264,410		100.00%

<sup>\*\*</sup>Percentages may not sum to 100% due to rounding.

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- Real Estate



## New York State Teachers' Retirement System

Address

| 10 Corporate Woods Drive Albany, NY 12211-2395 Email Phone Web communit@nystrs.org (800) 348-7298 NYSTRS.org