

Teachers' Retirement System of the City of New York



# 2013 Comprehensive Annual Financial Report

For the Fiscal Years Ended June 30, 2013 and June 30, 2012



# **Comprehensive Annual Financial Report**

**Teachers' Retirement Board  
Teachers' Retirement System  
of the City of New York**

**Fiscal Years Ended  
June 30, 2013 and June 30, 2012**



**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**COMPREHENSIVE ANNUAL FINANCIAL REPORT  
A PENSION TRUST FUND OF THE CITY OF NEW YORK  
FOR FISCAL YEARS ENDED JUNE 30, 2013 AND JUNE 30, 2012**

Prepared by Accounting Units

**QUALIFIED PENSION PLAN**

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Chief Accountant  
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**MR. ROBERT C. NORTH, JR.**  
Chief Actuary

**TEACHERS' RETIREMENT SYSTEM  
OF THE CITY OF NEW YORK**  
55 Water Street  
New York, NY 10041

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# 1. Introduction





December 20, 2013

Dear Members of the Board of Trustees:

We are pleased to present the Comprehensive Annual Financial Report of the Teachers' Retirement System of the City of New York (TRS) for the fiscal year ended June 30, 2013. Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with TRS. To the best of our knowledge, the enclosed data is accurate in material respects and is reported in a manner designed to present fairly the financial position and results of the operations of TRS. All disclosures necessary to enable the reader to gain an understanding of the financial activities of TRS have been included.

The Comprehensive Annual Financial Report is presented in five sections: Introduction, Financial, Investment, Actuarial, and Statistical. The Introduction includes this transmittal letter, an organization chart, and a list of TRS' principal officials. The Financial Section includes Statements of Plan Net Position Available for Pension Benefits, Statements of Changes in Plan Net Position Available for Pension Benefits, the Independent Auditor's Report on the financial statements and schedules, and Management's Discussion and Analysis. The Investment Section includes investment information and tables that track investment yields and performance. The Actuarial Section contains the Actuary's certification letter, the Actuary's statements, a summary of actuarial assumptions and methods, and the actuarial tables. The Statistical Section includes financial and demographic information.

**HISTORY OF THE PLAN**—TRS was established as of August 1, 1917 under Chapter 303 of the Laws of 1917 and is governed by the Administrative Code of the City of New York and the New York State Retirement and Social Security Law. TRS covers all the teachers and administrative personnel employed by the Department of Education and certain employees of Charter Schools and the City University of New York.

**FINANCIAL INFORMATION**—The management of TRS is responsible for establishing and maintaining an internal control structure designed to ensure that TRS' assets are protected from loss, theft, or misuse, and to guarantee that adequate accounting data is compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The internal control structure is designed to provide reasonable assurance that these objectives are met. The concept of reasonable assurance recognizes that [1] the cost of a control should not exceed the benefits likely to be derived from it; and [2] the valuation of costs and benefits requires estimates and judgment by management.

**SOURCES OF REVENUES AND EXPENDITURES**—Funds needed to finance the Plan's long-term benefit promises are accumulated through the collection of employer and member contributions and through income from investments. Primary expenses include benefit and survivor payments as well as investment and administrative expenses and refunds of contributions to terminated employees. An overview of revenue and expenses as well as asset and liability information is provided in the Management Discussion and Analysis of the Financial Section. Additional revenue and expense disclosures and trend data is provided in the report's Statistical Section.

**FUNDING**—The Plan’s funding objective is to meet long-term benefit promises through employer and member contributions. Annual funding by employer contributions is determined through an actuarial valuation of all liabilities to the Plan with adjustments to allow for an incremental phase-in of newly assumed actuarial liabilities. As such, employer contributions have been increasing steadily in line with current membership liabilities.

The Plan’s funding ratios are also developed as part of the Plan’s actuarial valuation. The funding ratios are determined at specific points in time, are usually expressed in various relationships of assets to obligations, and, over time, can provide insight into the long-term financial trend of the Plan. One measure of the Plan’s funded status, the ratio of Actuarial Asset Value to Entry Age Actuarial Accrued Liability, determined as of June 30, 2012, is 58%. Please refer to the report’s Actuarial Section for a detailed discussion of the Plan’s measures of funded status.

**INVESTMENTS**—The Administrative Code of the City of New York authorizes the investments of plan assets subject to the terms, conditions, limitations, and restrictions imposed by law for investments by savings banks and domestic life insurance companies. The New York State Retirement and Social Security Law and the Administrative Code establish the criteria for permissible equity investments. Plan assets are diversified over a range of investments, and multiple investment strategies are used to limit risk. Details concerning the criteria for TRS’ investments may be found in the Notes to the Financial Statements. A detailed discussion of the Plan’s investment strategies, asset classes and yield information is provided in the report’s Investment Section.

The Plan’s investments consist of the combined assets of its individual investment programs. At fiscal year end June 30, 2013, the Plan’s investment programs consisted of the Fixed Return Fund (part of the New York City Pension Fund), the Diversified Equity Fund, the Bond Fund, the International Equity Fund, the Inflation Protection Fund, and the Socially Responsive Equity Fund. The six investment programs are collectively referred to as the TRS Passport Funds.

**PERFORMANCE SUMMARY**—The performance of the Pension Fund yielded an annual return of 11.90%. The monthly Unit Value for the Diversified Equity Fund increased from \$59.120 (July 2012) to \$68.243 (July 2013), for an annual return of 20.05%. The Unit Value for the Bond Fund decreased from \$19.239 (July 2012) to \$18.552 (July 2013), for an annual return of 0.29%. The Unit Value for the International Equity Fund increased from \$8.370 (July 2012) to \$9.404 (July 2013), for an annual return of 16.85%. The Unit Value for the Inflation Protection Fund increased from \$10.871 (July 2012) to \$11.031 (July 2013), for an annual return of 5.54%. The Unit Value for the Socially Responsive Equity Fund increased from \$10.120 (July 2012) to \$12.224 (July 2013), for an annual return of 25.63%. The annual returns include a 4% rate for the variable increment factor. The July Unit Value was based on the portfolio’s return as of June 30.

**PROFESSIONAL SERVICES**—Consultants are appointed by the Teachers’ Retirement Board to perform professional services that are essential to the effective and efficient operation of TRS. The Office of the Comptroller also provides investment services for the pension portfolio through independent advisors.

Actuarial services are provided by the Office of the Actuary of the City of New York, which is employed by the City’s five major pension systems. The Chief Actuary’s report and certifications are included in this Report.

The City’s Corporation Counsel provides legal services to TRS in addition to private legal counsel providing services to the Variable Annuity and Tax-Deferred Annuity Programs.

Rocaton Investment Advisors, LLC is working as investment consultant to TRS.

All investment decisions are reviewed and approved by the Teachers’ Retirement Board.

**INDEPENDENT AUDIT**—State statutes require an annual audit by independent certified public accountants. The accounting firm of Deloitte & Touche LLP was selected by the Teachers’ Retirement Board. The Independent Auditor’s Report on the financial statements and schedules is included in the Financial Section of this Report.

**AWARDS**—The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to TRS for its Comprehensive Annual Financial Report for the Fiscal Year ended June 30, 2012. This was the 25<sup>th</sup> consecutive year that TRS was accorded this prestigious award. In order to be awarded a Certificate of Achievement, TRS published an easily readable and efficiently organized Comprehensive Annual Financial Report. This Report satisfied both the generally accepted accounting principles and the applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current Comprehensive Annual Financial Report continues to meet the Certificate of Achievement Program’s requirements and are submitting it to the GFOA for consideration.

**ACKNOWLEDGEMENTS**—The compilation of the Report reflects the efforts of the TRS staff under the leadership of the Board of Trustees.

It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means for determining responsible stewardship for the assets contributed by the members and their employers.

The Report is available to both administrative personnel and members of TRS. We believe they will find this material informative and helpful.

Finally, we would like to take this opportunity to express our gratitude to the staff, the advisors, and the many people who have worked diligently to ensure the successful operation of TRS.

Sincerely,



Patricia M. Reilly  
Executive Director



Paul J. Raucci  
Chief Accountant

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Government Finance Officers Association

**Certificate of  
Achievement  
for Excellence  
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Presented to

**Teachers' Retirement System  
of the City of New York**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

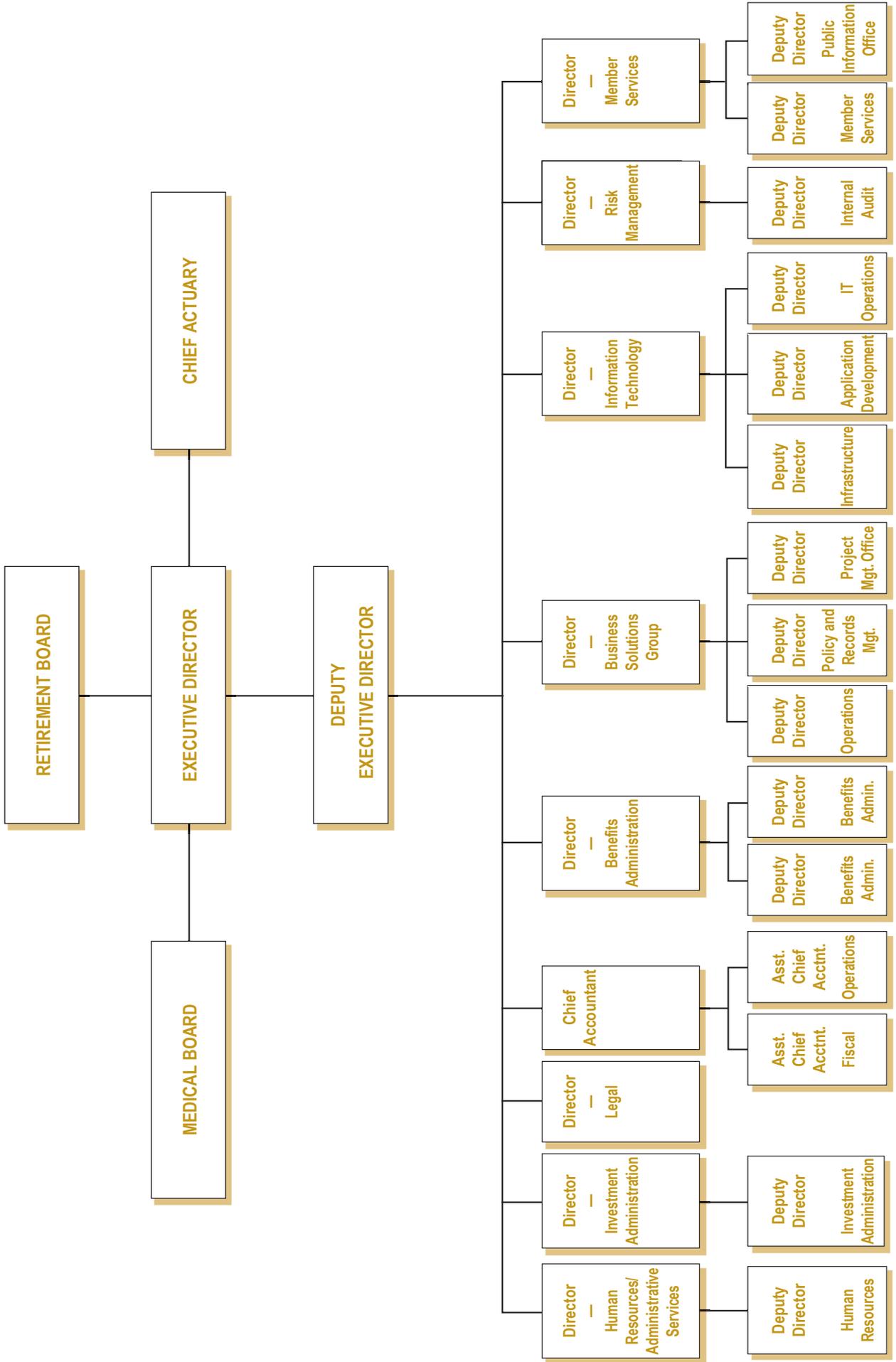
**June 30, 2012**

A handwritten signature in black ink, reading "Jeffrey R. Emswiler". The signature is written in a cursive, flowing style.

Executive Director/CEO

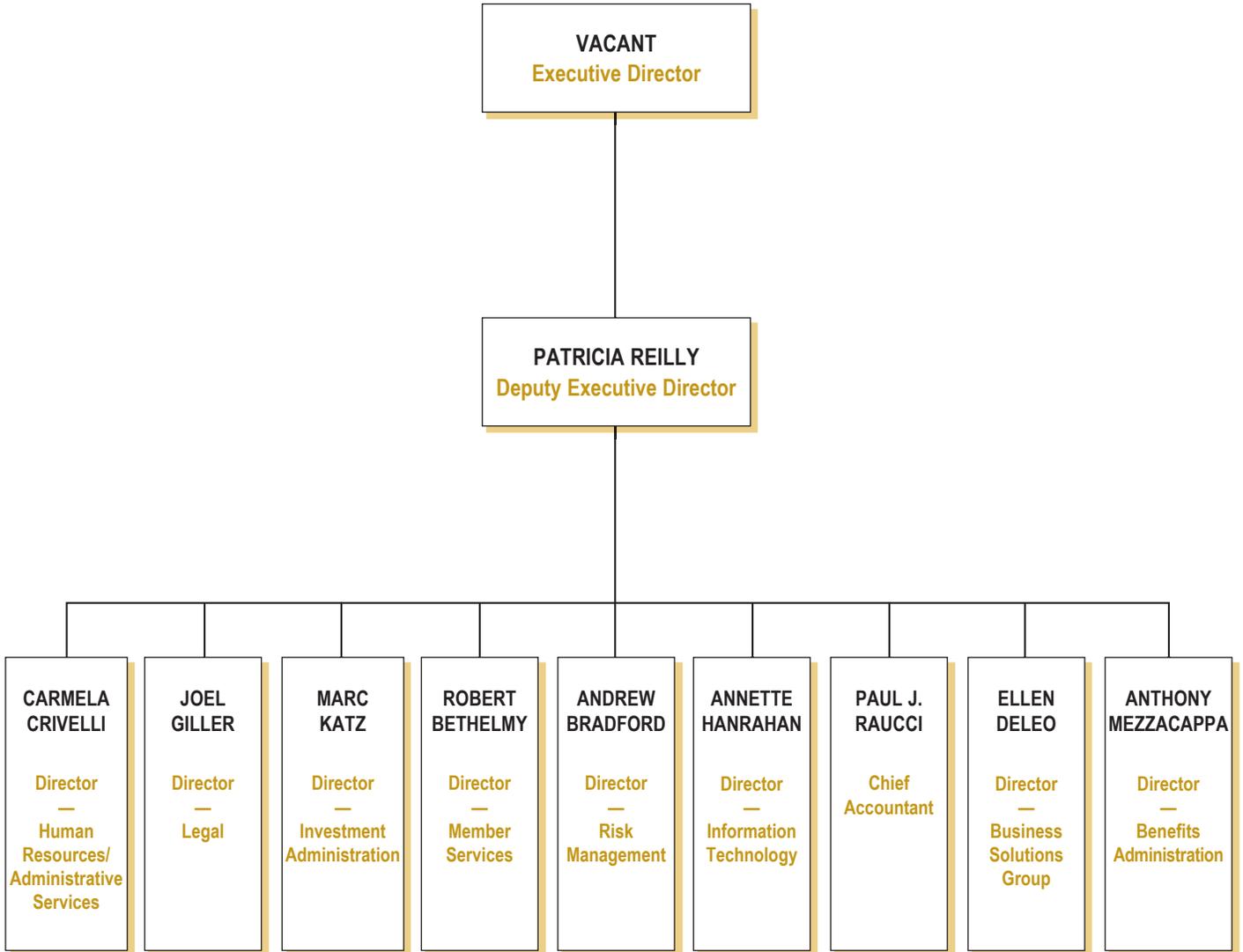
# ORGANIZATION CHART

as of June 30, 2013



# PRINCIPAL OFFICIALS

as of June 30, 2013







## 2. Financial



## INDEPENDENT AUDITORS' REPORT

To the Retirement Board of the  
Teachers' Retirement System of The City of New York:

### Report on the Financial Statements

We have audited the accompanying statements of plan net position of the Teachers' Retirement System of The City of New York Qualified Pension Plan (the "Plan") as of June 30, 2013 and 2012, and the related statements of changes in plan net position for the years then ended, and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements as listed in the table of contents.

### Management's Responsibility for the Financial Statements

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

### 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 auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Plan's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, we express no such opinion. An audit also includes 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 plan net position as of June 30, 2013 and 2012, and the changes in plan net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, Schedule 1, Schedule 2 and Schedule 3, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board 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 Supplementary Information*

Our audits were conducted for the purpose of forming an opinion on the basic financial statements. The Introduction Section, Additional Supplementary Information, Investment Section, Actuarial Section, and Statistical Section, as listed in the foregoing table of contents, are presented for the purpose of additional analysis and are not a required part of the basic financial statements.

The Additional Supplementary Information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America by us and the other auditors. In our opinion the Additional Supplementary Information is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

The Introduction Section, Investment Section, Actuarial Section, and Statistical Section have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

*Deloitte & Touche LLP*

October 29, 2013

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK QUALIFIED PENSION PLAN

### MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) JUNE 30, 2013 AND 2012

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This narrative discussion and analysis of the Teachers' Retirement System of The City of New York's ("TRS" or the "Plan") financial performance provides an overview of the Plan's financial activities for the fiscal years ended June 30, 2013 and 2012. It is meant to assist the reader in understanding TRS' financial statements by providing an overall review of the financial activities during the two years and the effects of significant changes, as well as a comparison with prior years' activity and results. This discussion and analysis is intended to be read in conjunction with the Plan's financial statements.

#### Overview of Basic Financial Statements

The following discussion and analysis is intended to serve as an introduction to the Plan's basic financial statements. The basic financial statements are as follows:

- **The Statement of Plan Net Position** — presents the financial position of the Plan at fiscal year-end. It provides information about the nature and amounts of resources with present service capacity that the Plan presently controls (assets), consumption of net assets by the Plan that is applicable to a future reporting period (deferred outflow of resources), present obligations to sacrifice resources that the Plan has little or no discretion to avoid (liabilities), and acquisition of net assets by the Plan that is applicable to a future reporting period (deferred inflow of resources) with the difference between assets/deferred outflow of resources and liabilities/deferred inflow of resources being reported as net position. Investments are shown at fair value. All other assets and liabilities are determined on an accrual basis.
- **The Statement of Changes in Plan Net Position** — presents the results of activities during the fiscal year. All changes affecting the assets and liabilities of the Plan are reflected on an accrual basis when the activity occurred, regardless of the timing of the related cash flows. In that regard, changes in the fair values of investments are included in the year's activity as net appreciation (depreciation) in fair value of investments.
- **The Notes to Financial Statements** — provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes present information about the Plan's accounting policies, significant account balances and activities, material risks, obligations, contingencies, and subsequent events, if any.

**Required Supplementary Information** — as required by the Governmental Accounting Standards Board (GASB) is presented after the Notes to the Financial Statements.

The financial statements are prepared in accordance with GASB Pronouncements.

**Funded Status**— Funding status information is found in the employer contribution note to the financial statements. Additional Funding Status information is found in the Actuarial Section of the Plan's Comprehensive Annual Financial Report (CAFR), TRS Annual Report, and the TRS New York State Annual Statement for Retirement Systems and Pension funds.

**Financial Highlights** — The Plan's net position is held in trust for the payment of future benefits to members and pensioners. The Plan's net position was \$36.9 billion, \$32.8 billion, and \$33.6 billion as of June 30, 2013,

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

2012, and 2011, respectively. The Plan's employer contributions amounted to \$2.9 billion, \$2.7 billion, and \$2.5 billion for Fiscal Years 2013, 2012, and 2011, respectively. The Plan's benefit payments and withdrawals totaled \$4.7 billion, \$4.5 billion, and \$4.3 billion for Fiscal Years 2013, 2012, and 2011, respectively. Benefit payments attributed to interest payments to the TDA Program's Fixed Return Fund totaled \$1,048.0 million, \$946.0 million and \$854.1 million for Fiscal Years 2013, 2012, and 2011, respectively.

**Plan Net Position**  
**June 30, 2013, 2012, and 2011**  
(In thousands)

	<b>2013</b>	<b>2012</b>	<b>2011</b>
Cash	\$ 76	\$ 117	\$ 91
Receivables for investments sold	1,909,897	792,459	985,004
Receivables for accrued interest and dividends	128,162	133,275	134,680
Member loan receivables	218,813	198,699	180,913
Investments, at fair value	38,290,184	34,243,267	35,618,133
Collateral from securities lending	3,577,442	3,009,895	3,067,615
Other assets	444,981	34,666	10,052
	<u>44,569,555</u>	<u>38,412,378</u>	<u>39,996,488</u>
<b>Total assets</b>			
Accounts payable	576,760	554,129	340,379
Payables for investments purchased	3,533,790	2,052,665	2,967,537
Accrued benefits payable	16,684	12,505	10,996
Payables for securities lending	3,585,865	3,018,318	3,076,039
	<u>7,713,099</u>	<u>5,637,617</u>	<u>6,394,951</u>
<b>Total liabilities</b>			
Net position held in trust for benefits	<u>\$ 36,856,456</u>	<u>\$ 32,774,761</u>	<u>\$ 33,601,537</u>

Cash balances amounted to \$76.4 thousand at June 30, 2013, a decrease of \$40.3 thousand (-34.5%) from June 30, 2012. Cash balances consist of accounts used to reimburse the funds of the variable-return programs or accounts used for advance funding of the variable-return programs' investment managers. Cash balances amounted to \$116.7 thousand at June 30, 2012, an increase of \$25.5 thousand (27.9%) from June 30, 2011.

Receivables for investment securities sold amounted to \$1.9 billion at June 30, 2013, an increase of \$1.1 billion (141.0%) from June 30, 2012. This balance is principally composed of receivables for securities that have been sold but have not yet settled (*i.e.*, the cash has not been collected). The increase resulted primarily from timing differences in settlement dates. Trades typically do not settle until a few days after the trade date. Receivables for investment securities sold amounted to \$792.5 million at June 30, 2012, a decrease of \$192.5 million (-19.5%) from June 30, 2011. The decrease resulted primarily from timing differences in settlement dates.

Receivables for accrued earnings amounted to \$128.2 million as of June 30, 2013, a decrease of \$5.1 million (-3.8%) from June 30, 2012. Changes in accrued earnings are impacted primarily by the cumulative value of the interest or dividend bearing securities, as well as by changes in discount rates, and interest-payable dates. Receivables for accrued earnings amounted to \$133.3 million as of June 30, 2012, a decrease of \$1.4 million (-1.0%) from June 30, 2011.

At June 30, 2013, member loan receivables amounted to \$218.8 million, an increase of \$20.1 million (10.1%) from the previous year. The increase primarily reflects additional new loans issued to Tier III or Tier IV members. There were 16,692 new loans issued to Tier III or Tier IV members in Fiscal Year 2013, with an

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

average loan amount of \$7,175, \$418 (6.2%) more than in Fiscal Year 2012. At June 30, 2012, member loan receivables amounted to \$198.7 million, an increase of \$17.8 million (9.8%) from the previous year. There were 16,862 new loans issued to Tier III or Tier IV members in Fiscal Year 2012, an increase of 1,255 (8.0%) from Fiscal Year 2011. The average loan amount in Fiscal Year 2011 was \$6,758, \$311 (4.8%) more than in Fiscal Year 2011.

Investments at June 30, 2013 were \$38.3 billion compared to \$34.2 billion at June 30, 2012, an increase of \$4.1 billion (11.8%) from June 30, 2012. The \$4.1 billion increase reflects the Plan's \$4.1 billion net income for Fiscal Year 2013. Investment assets as of June 30, 2013 also reflect higher equity-securities values and lower fixed-income-securities values, with equity investments being approximately 70% of the Plan's total investment portfolio and the balance primarily being fixed income investments. For the twelve month period, the Russell 3000 Index, a broad measure of U.S. equity markets, returned 21.5%. The Morgan Stanley Capital International Index for Europe, Australasia, and Far East (MSCI EAFE) Small Cap Index returned 18.6%. Conversely, for the twelve month period, the NYC Core + 5, a composite index maintained by New York City's Office of the Comptroller and a broad measure of the U.S. fixed income markets, returned -1.0%. Investments at June 30, 2012 were \$34.2 billion compared to \$35.6 billion at June 30, 2011, a decrease of \$1.4 billion (-3.9%) from June 30, 2011. The \$1.4 billion decrease reflects the Plan's \$826.8 million net loss for Fiscal Year 2012 and the \$531.7 million increase in the year over year amount of receivables for investment sold and other assets less payables of investment purchases and other payables. Investment assets as of June 30, 2012 also reflect tempered equity markets, with equity investments being approximately 70% of the Plan's total investment portfolio. For the twelve month period, the Russell 3000 Index, a broad measure of U.S. equity markets, returned 3.8%. The MSCI EAFE Small Cap Index returned -13.4%.

Other assets at June 30, 2013 totaled \$445.0 million, a \$410.3 million (1,183.6 %) increase from June 30, 2012. The \$410.3 million increase was primarily due to \$410.4 million Fiscal Year 2013 employer contributions receivable at year end. Balances due from the NYC Department of Education and the City University of New York at June 30, 2013 of \$394.4 million and \$34.8 million, respectively, were received during July 2013 and August 2013, respectively. The Plan's other assets at June 30, 2012 totaled \$34.7 million, a \$24.6 million (244.9 %) increase from June 30, 2011. The \$24.6 million increase was primarily due to \$16.9 million Fiscal Year 2012 employer contributions receivable at year end and a \$7.9 million increase in funds due from the TDA program at year end.

Accounts payable at June 30, 2013 amounted to \$576.8 million, a \$22.6 million (4.1%) increase from June 30, 2012. The increase in accounts payable was due to a \$9.9 million net increase in balances due to depositories, a \$15.3 million increase in accrued investment expenses, and a \$2.5 million decrease in other payables. Accounts payable at June 30, 2012 amounted to \$554.1 million, a \$213.8 million (62.8%) increase from June 30, 2011. The increase in accounts payable was due to a \$192.5 million net increase in balances due to depositories, a \$7.6 million increase in accrued investment expenses, and a \$13.7 million increase in other payables.

Payables for investments purchased at June 30, 2013 amounted to \$3.5 billion, a \$1.5 billion (72.2%) increase from June 30, 2012. Investments purchased are accounted for on a trade-date basis. The increase resulted from timing differences in settlement dates, similar to receivables for investments sold discussed earlier. Payables for investments purchased at June 30, 2012 amounted to \$2.1 billion, a \$914.9 million (-30.8%) decrease from June 30, 2011. Investments purchased are accounted for on a trade-date basis.

Accrued benefits payable at June 30, 2013 amounted to \$16.7 million, a \$4.2 million (33.4%) increase from June 30, 2012. The \$4.2 million accrued benefits payable increase during Fiscal Year 2013 is attributed to an increase of pending benefits payable to beneficiaries at year end. Accrued benefits payable at June 30, 2012 amounted to \$12.5 million, a \$1.5 million (13.7%) increase from June 30, 2011. The \$1.5 million accrued

benefits payable increase during Fiscal Year 2012 is attributed to an increase of pending benefits payable to beneficiaries at year end.

**Changes in Plan Net Position**  
**Years Ended June 30, 2013, 2012, and 2011**  
(In thousands)

	2013	2012	2011
Additions:			
Member contributions	\$ 154,698	\$ 164,361	\$ 158,829
Employer contributions	2,912,844	2,732,263	2,525,111
Net receipts (payments to) from other retirement systems	(44)	853	737
Net investment income	5,688,774	772,818	8,865,552
Securities — lending income	<u>32,338</u>	<u>30,189</u>	<u>23,117</u>
Total additions	<u>8,788,610</u>	<u>3,700,484</u>	<u>11,573,346</u>
Deductions:			
Administrative expenses	39,682	39,713	39,549
Benefits payments and withdrawals	<u>4,667,233</u>	<u>4,487,547</u>	<u>4,330,670</u>
Total deductions	<u>4,706,915</u>	<u>4,527,260</u>	<u>4,370,219</u>
Net increase (decrease)	<u>\$ 4,081,695</u>	<u>\$ (826,776)</u>	<u>\$ 7,203,127</u>

TRS received \$154.7 million and \$164.4 million in member contributions during Fiscal Years 2013 and 2012, respectively. The \$154.7 million in member contributions represents a \$9.7 million (-5.9%) decrease from Fiscal Year 2012. The \$9.7 million decrease in member contributions is primarily attributed to a \$4.1 million decrease (-2.9%) in contributions received through members' payroll deductions, as Tier I/II members' retired and as Tier III/IV members reached their contributions requirements (Chapter 126 of Laws of 2000), a \$5.2 million increase (458.5%) in returned prior payroll deductions which were in excess to members' contribution requirements, and a decrease of \$0.9 million (-4.2%) in service buyback purchases. The \$164.4 million in Fiscal Year 2012 member contributions represents a \$5.5 million (3.5%) increase from Fiscal Year 2011. For Fiscal Year 2012, member contributions increased due to a \$6.1 million (38.6%) increase in service buyback purchases.

Employer contributions during Fiscal Year 2013 were \$2.9 billion, a \$180.6 million (6.6%) increase from Fiscal Year 2012 primarily due to the net result of actuarial gains and losses. The June 30, 2011 (Lag) actuarial valuation was used to determine the Fiscal Year 2013 employer contribution. Employer contributions during Fiscal Year 2012 were \$2.7 billion, a \$207.2 million (8.2%) increase from Fiscal Year 2011 due to changes in actuarial methods and assumptions for fiscal years beginning 2012.

The Plan's investment income for Fiscal Year 2013 was \$5.7 billion, a \$4.9 billion (636.1%) increase from Fiscal Year 2012. The Plan's investment income of \$5.7 billion consisted of \$1.5 billion in dividend and interest income and an aggregate gain of \$4.4 billion on the appreciation in fair value of the Plan's investments offset by \$139 million in investment expenses. Gains on the appreciation in fair value of the Plan's investments for the Pension Fund, Diversified Equity Fund, the International Equity Fund, and the Socially Responsive Equity Fund totaled \$3.9 billion, \$496.1 million, \$1.8 million and \$1.3 million respectively, whereas the Bond Fund and the Inflation Protection Fund had losses on the depreciation in fair value of investments of \$878.3 thousand and 82.6 thousand, respectively. The Plan's investment income for Fiscal Year 2012 was \$772.8 million, an \$8.1 billion (-91.3%) decrease from Fiscal Year 2011. The Plan's

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

investment income of \$772.8 million consisted of \$1.3 billion in dividend and interest income offset by an aggregate loss of \$385.4 million on the depreciation in fair value of the Plan's investments and \$110.4 million in investment expenses. Losses on the depreciation in fair value of the Plan's investments for the Pension Fund, the Diversified Equity Fund, the International Equity Fund, the Inflation Protection Fund, and the Socially Responsive Equity Fund totaled \$345.5 million, \$37.3 million, \$2.4 million, \$153.3 thousand and \$82.0 thousand respectively, whereas the Bond Fund (formerly the Stable-Value Fund) had a gain on the appreciation in fair value of investments of \$51.1 thousand.

Administrative expenses during Fiscal Year 2013 were \$39.7 million, a decrease of \$31 thousand (-0.1%) from Fiscal Year 2012. The decrease in administrative expenses reflects a decrease in the System's administrative expenses attributed to the Plan. (See notes to Financial Statements No. 7 Administrative Expenses.) The Plan's administrative expenses for Fiscal Year 2013 accounted for 75.8% of the System's administrative expenses. The System's administrative expenses have been \$52.3 million, \$52.5 million, and \$52.2 million for Fiscal Years 2013, 2012, and 2011, respectively. The System's administrative expenses for the several upcoming fiscal years are expected to increase as the System plans to embark on a modernization project. The project would replace its outdated IBM A/S 400 computer system with a Java based system with additional capabilities. Administrative expenses during Fiscal Year 2012 were \$39.7 million, an increase of \$164 thousand (0.4%) from Fiscal Year 2011. The increase in administrative expenses reflects an increase in the System's administrative expenses attributed to the Plan. The Plan's total administrative expenses for Fiscal Year 2012 accounted for 75.6% of the System's administrative expenses.

Benefits payments and withdrawals during Fiscal Year 2013 were \$4.7 billion, a \$179.7 million (4.0%) increase from Fiscal Year 2012. The \$179.7 million increase in benefits payments and withdrawals was primarily due to an increase in interest accumulated on behalf of and transferred monthly to the Tax-Deferred Annuity (TDA) Program of \$102.0 million (10.8%) from Fiscal Year 2012, a \$103.4 million (3.0%) increase in payments to retirees, and a \$25.7 million (-24.5%) decrease in refund/withdrawals and survivor benefits. In total, benefits payments and withdrawals distributed during Fiscal Year 2013 were composed of 75.8% retirement benefits, 22.5% interest that is accumulated on behalf of and transferred to the TDA Program, and 1.7% in refund/withdrawals and survivor benefits. Also, benefits payments and withdrawals account for the funds disbursed to members from the Plan's Passport Funds. Fiscal Year 2013 disbursements, excluding the interest transferred to the TDA Program, are composed of 86.0% from the Pension Fund, 13.4% from the Diversified Equity Fund, 0.5% from the Bond Fund, and 0.1% from the International Equity, Inflation Protection, and Socially Responsive Equity Funds. Benefits payments and withdrawals during Fiscal Year 2012 were \$4.5 billion, a \$156.9 million (3.6%) increase from Fiscal Year 2011. The \$156.9 million increase in benefits payments and withdrawals was primarily due to an increase in interest accumulated on behalf of and transferred monthly to the Tax-Deferred Annuity (TDA) Program of \$91.9 million (10.8%) from Fiscal Year 2011 and a \$55.1 million (1.6%) increase in payments to retirees. In total, benefits payments and withdrawals distributed during Fiscal Year 2012 were composed of 76.6% retirement benefits, 21.1% interest that is accumulated on behalf of and transferred to the TDA Program, and 2.3% in refund/withdrawals and survivor benefits. Also, benefits payments and withdrawals account for the funds disbursed to members from the Plan's Passport Funds. Fiscal Year 2012 disbursements, excluding the interest transferred to the TDA Program, are composed of 86.4% from the Pension Fund, 13.0% from the Diversified Equity Fund, 0.5% from the Bond Fund (formerly the Stable-Value Fund), and 0.1% from the International Equity, Inflation Protection, and Socially Responsive Equity Funds.

### Investments

TRS uses the Russell 3000 and S&P 500 indices to provide benchmarks for domestic and private equity investment returns, the MSCI EAFE index for international equity returns, and the Financial Times Stock Exchange (FTSE) Custom Index for emerging market returns. The National Council of Real Estate Investment Fiduciaries –open end – Diversity Core Equity (NFI-OCDE) is used as a benchmark for private

real estate. The Citigroup BB & B Rated, Barclays Capital U.S. Treasury Inflation-Protected Securities (TIPS) Index, United States Treasury bills, NYC indices, and Dow Jones U.S. Select Real Estate Securities Index are used to provide benchmarks for debt securities and mortgages. TRS does not use benchmarks for short-term investments.

TRS earns additional investment income by lending its investment securities. The borrowers provide collateral to TRS that is valued in excess of the securities loaned. For the fiscal year ended June 30, 2013, net securities lending income amounted to \$32.3 million compared with \$30.2 million for Fiscal Year 2012. For the fiscal year ended June 30, 2012, net securities lending income amounted to \$30.2 million compared with \$23.1 million for Fiscal Year 2011.

Investments held by TRS, including collateral from securities-lending transactions, are listed according to their investment classification in the following table:

<b>Type of Investment (in thousands)</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
Short-term investments	\$ 1,039,102	\$ 1,431,021	\$ 2,509,253
Debt securities	7,809,083	8,000,310	7,001,242
Equity securities	24,519,508	21,060,836	22,581,155
Private equity	3,013,208	2,515,964	2,238,281
Fixed income	1,902,437	1,222,520	1,208,410
Investment contracts	-	-	65,435
Promissory notes	6,846	12,616	14,357
Collateral from securities lending	<u>3,577,442</u>	<u>3,009,895</u>	<u>3,067,615</u>
Total	<u>\$41,867,626</u>	<u>\$37,253,162</u>	<u>\$38,685,748</u>

### **Contact Information**

This financial report is designed to provide a general overview of the Teachers' Retirement System's finances. Questions concerning any data provided in this report or requests for additional information should be directed to Mr. Paul J. Raucci, Chief Accountant, Teachers' Retirement System of The City of New York, 55 Water Street, New York, NY 10041.

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TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK  
QUALIFIED PENSION PLAN**

**STATEMENTS OF PLAN NET POSITION**

**JUNE 30, 2013 AND 2012**

**(In thousands)**

	2013	2012
ASSETS:		
Cash	\$ 76	\$ 117
Receivables:		
Investment securities sold	1,909,897	792,459
Accrued interest and dividends	128,162	133,275
Member loans (Note 5)	218,813	198,699
Total receivables	<u>2,256,872</u>	<u>1,124,433</u>
Investments — at fair value (Notes 2 and 3):		
Fixed Return Fund:		
Short-term investment fund	1,008,220	1,397,351
Debt securities:		
U.S. Government	3,562,061	3,493,908
Corporate	4,018,841	4,222,534
Foreign	27,083	37,966
Equity securities:		
Domestic	14,734,722	12,244,485
Private equity	3,013,208	2,515,964
Mutual funds:		
International equity	6,656,640	5,782,171
Fixed Income	1,902,437	1,222,520
Promissory notes	6,846	12,616
Diversified Equity Fund:		
Short-term investments	30,565	31,812
Equity securities	3,104,060	3,010,046
Corporate bonds	134,980	162,899
Bond Fund:		
Short-term investments	25	1,595
Corporate bonds	66,118	83,003
International Equity Fund:		
Short-term investments	258	254
Equity securities	11,895	12,380
Inflation Protection Fund:		
Short-term investments	16	3
Equity securities	5,923	5,978
Socially Responsive Equity Fund:		
Short-term investments	18	6
Equity securities	6,268	5,776
Collateral from securities lending	3,577,442	3,009,895
Total investments	<u>41,867,626</u>	<u>37,253,162</u>
Other assets	444,981	34,666
Total assets	<u>44,569,555</u>	<u>38,412,378</u>
LIABILITIES:		
Accounts payable	576,760	554,129
Payables for investment securities purchased	3,533,790	2,052,665
Accrued benefits payable	16,684	12,505
Securities lending (Note 2)	3,585,865	3,018,318
Total liabilities	<u>7,713,099</u>	<u>5,637,617</u>
PLAN NET POSITION HELD IN TRUST FOR PENSION BENEFITS	<u>\$36,856,456</u>	<u>\$32,774,761</u>

See notes to financial statements.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK QUALIFIED PENSION PLAN

### STATEMENTS OF CHANGES IN PLAN NET POSITION YEARS ENDED JUNE 30, 2013 AND 2012

(In thousands)

	2013	2012
<b>ADDITIONS:</b>		
Contributions:		
Member contributions	\$ 154,698	\$ 164,361
Employer contributions (Note 4)	2,855,640	2,673,078
Other employer contributions	<u>57,204</u>	<u>59,185</u>
Total contributions	<u>3,067,542</u>	<u>2,896,624</u>
Investment income (Note 2):		
Interest income	660,118	561,666
Dividend income	811,982	706,921
Net appreciation (depreciation) in fair value of investments	<u>4,355,828</u>	<u>(385,387)</u>
Total investment income	5,827,928	883,200
Less:		
Investment expenses	<u>139,154</u>	<u>110,382</u>
Net investment income	<u>5,688,774</u>	<u>772,818</u>
Securities-lending transactions:		
Securities-lending income	37,705	32,664
Securities-lending fees	<u>(5,367)</u>	<u>(2,475)</u>
Net securities-lending income	<u>32,338</u>	<u>30,189</u>
Other:		
Net receipts (to) from other retirement systems	<u>(44)</u>	<u>853</u>
Total additions	<u>8,788,610</u>	<u>3,700,484</u>
<b>DEDUCTIONS:</b>		
Benefits payments and withdrawals (Notes 1 and 2)	4,667,233	4,487,547
Administrative expenses (Notes 6 and 7)	<u>39,682</u>	<u>39,713</u>
Total deductions	<u>4,706,915</u>	<u>4,527,260</u>
<b>INCREASE (DECREASE) IN PLAN NET POSITION</b>	4,081,695	(826,776)
<b>PLAN NET POSITION HELD IN TRUST FOR BENEFITS:</b>		
Beginning of year	<u>32,774,761</u>	<u>33,601,537</u>
End of year	<u>\$ 36,856,456</u>	<u>\$ 32,774,761</u>

See notes to financial statements.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK QUALIFIED PENSION PLAN

### NOTES TO FINANCIAL STATEMENTS YEARS ENDED JUNE 30, 2013 AND 2012

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#### 1. PLAN DESCRIPTION

The City of New York ("The City") maintains a number of pension systems providing benefits for employees of its various agencies (as defined within New York State (State) statutes and City laws). The City's five major actuarially-funded pension systems are the Teachers' Retirement System of The City of New York-Qualified Pension Plan (the "Plan"), the New York City Employees' Retirement System (NYCERS), the New York City Board of Education Retirement System-Qualified Pension Plan (BERS), the New York City Police Pension Fund (POLICE) and the New York Fire Department Pension Fund (FIRE). Each pension system is a separate Public Employee Retirement System (PERS) with a separate oversight body and is financially independent of the others.

The Plan is a cost-sharing, multiple-employer PERS. The Plan provides pension benefits for certain City public school teachers and certain other school and college teachers. The primary employers, in addition to The City, are The City University of New York and certain Charter Schools (collectively, the "Employer"). Substantially, all teachers in the public schools of The City become members of the Plan and certain other specified school and college personnel may become members on the first day of permanent employment.

The Plan functions in accordance with existing State statutes and certain City laws. It combines features of a defined benefit pension plan with those of a defined contribution pension plan. Contributions are made by the Employer and the members.

In June 1991, the Governmental Accounting Standards Board (GASB) issued Statement No. 14, *The Financial Reporting Entity*. The definition of the reporting entity is based primarily on the notion of financial accountability. In determining financial accountability for legally separate organizations, the Plan considered whether its officials appoint a voting majority of an organization's governing body and is either able to impose its will on that organization or if there is a potential for the organization to provide specific financial benefits to, or to impose specific financial burdens on, the Plan. The Plan also considered whether there are organizations that are fiscally dependent on it. It was determined that there are no component units of the Plan.

The Plan is included in the Pension and Other Employee Benefit Trust Funds section of The City's Comprehensive Annual Financial Report (CAFR).

Members of the Plan have the option to participate in a Tax-Deferred Annuity (TDA) Program, which provides members a means of deferring income tax payments on their voluntary tax-deferred contributions until the period after retirement or upon withdrawal of contributions. The TDA Program was created pursuant to Internal Revenue Code Section 403(b) and is not included in these financial statements.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

At June 30, 2011 and June 30, 2010, the dates of the Plan's most recent actuarial valuations, the Plan's membership consisted of:

	<b>2011</b>	<b>2010</b>
Retirees and beneficiaries receiving benefits	74,064	72,356
Terminated vested members not yet receiving benefits	8,932	8,170
Other inactives*	10,938	10,803
Active members receiving salaries	<u>109,636</u>	<u>111,647</u>
Total	<u>203,570</u>	<u>202,976</u>

\* Represents members who are no longer on payroll but not otherwise classified.

Under the One-Year Lag Methodology (OYLM) in effect for Fiscal Years beginning 2006, the actuarial valuation determines the Employer Contribution for the second following Fiscal Year. June 30, 2011 and June 30, 2010 are the dates used for calculating Fiscal Year 2013 and Fiscal Year 2012 Employer Contributions, respectively.

The State Constitution provides that the pension rights of public employees are contractual and shall not be diminished or impaired. In 1973, 1976, 1983 and 2012 significant amendments made to the State Retirement and Social Security Law (RSSL) modified certain benefits and member contributions for employees joining the Plan on or after the effective date of such amendments. A brief overview follows:

- Members who joined prior to July 1, 1973 (Tier I) are entitled to service retirement benefits of 50% of "final salary" (as defined within State statutes and City laws) after 20 years of service; a portion is provided from member contributions, plus additional benefits equal to specified percentages (as defined within State statutes and City laws) per year of service of "final salary" for years in excess of the 20-year minimum. These additional benefits are increased, where applicable, by an annuity attributable to accumulated member contributions in excess of the minimum required balance and by any benefits attributable to the Increased-Take-Home-Pay (ITHP) contributions accumulated after the twentieth year of member qualifying service. ITHP represents amounts contributed by The City in lieu of members' own contributions. These amounts reduce the contributions that members would have to make to the Plan during their service and thereby increase their take-home pay. Members have the choice of waiving their ITHP reduction, which would reduce their take-home pay, but provide them with increased benefits upon retirement.

In addition, these same members could elect a service retirement benefit with no minimum service requirement that provides an annual benefit for each year of service equal to a specified percentage (as described within State statutes and City laws) of "final salary" payable on attainment of age 55. This benefit is increased, where applicable, by an annuity attributable to the member's contributions and by any benefits attributable to the Employer's contributions with respect to such service under the ITHP contributions.

- Members who joined the Plan after June 30, 1973 and before July 27, 1976 (Tier II) have provisions similar to Tier I, except that the eligibility for retirement and the salary base for benefits are different and there is a limitation on the maximum benefit. This maximum limitation was subsequently eliminated under Chapter 574 of the Laws of 2000 for all Tier II members who retired after December 8, 2000. Members retiring prior to the age of 62 without 30 years of credited service experience an age-reduction factor in their retirement allowance. Effective February 27, 2008, active

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

members were eligible to enroll in a 55 retirement age minimum and 25 credited years of service retirement option ("55/25 retirement option") enabling them to eliminate any age-reduction factor in their retirement allowance (Chapter 19 of Laws of 2008). Those choosing the 55/25 retirement option are required to make additional contributions of 1.85% of salary from February 28, 2008 until June 29, 2008, or until they have accumulated 25 years of credited service, whichever is later.

For members enrolled in the Plan prior to July 27, 1976, ITHP contributions made on their behalf, as well as their own contributions, are invested, at their election, in a fixed-return fund or variable-return funds. Members can elect to invest in multiples of 5% and change their elections on a quarterly basis. The Plan guaranteed a 7.5% return on member contributions or ITHP contributions to the Fixed Return Fund (Fixed Annuity Program) until June 30, 1982, increased the guaranteed return to 8.0% as of July 1, 1982 and to 8.25% as of July 1, 1988 for members who enrolled in the Plan prior to July 27, 1976. All members represented by the UFT (regardless of membership date) who participate in the Tax-Deferred Annuity Program (TDA) will receive an interest rate of 7.0% per annum credited to their TDA Fixed Funds accounts beginning December 10, 2009. Members enrolled on or after July 27, 1976, receive a guaranteed return of 5.0% on member contributions. The variable-return funds include only member contributions and ITHP contributions made on their behalf, as described above, and are expressed in terms of units that are valued monthly based on investment experience. At retirement, monthly annuities attributable to member contributions and ITHP contributions can be paid in both fixed and variable amounts, based on the member's election, which can be changed quarterly. Other benefits are paid only in fixed amounts. Variable annuities are not fixed in amount, but are based on investment experience through the preceding month.

- Members who joined the Plan on or after July 27, 1976 and prior to September 1, 1983 (Tier III) were later mandated into Tier IV. However, these members retain their Tier III rights. Tier III requires member contributions of 3.0% of salary for a ten-year period (Chapter 126 of the Laws of 2000) and generally provides for reducing benefits by one-half of the primary Social Security benefit attributable to service with the Employer and for an annual cost-of-living escalator in pension benefits of not more than 3.0%. Members retiring prior to the age of 62 without 30 years of credited service experience an age-reduction factor in their retirement allowance.
- Members who joined the Plan on or after September 1, 1983 (Tier IV) are required to make contributions of 3.0% of salary until termination of service. As of October 1, 2000, these members are not required to make contributions after the tenth anniversary of their membership date or completion of ten years of credited service, whichever is earlier (Chapter 126 of Laws of 2000). The annual benefit is 1.67% of "final average salary" per year of service for members with less than 20 years of service and 2.0% of "final average salary" per year of service for members with 20 to 30 years of service, plus a 1.5% addition of "final average salary" per year of service for service in excess of 30 years of service. Members retiring prior to the age of 62 without 30 years of credited service experience an age-reduction factor in their retirement allowance. Effective February 27, 2008, active members were eligible to enroll in a 55 retirement age minimum and 25 credited years of service retirement option enabling them to eliminate any age-reduction factor in their retirement allowance. Those choosing the age 55 retirement option are required to make additional contributions of 1.85% of salary from February 28, 2008 until June 29, 2008, or until they have accumulated 25 years of credited service, whichever is later. Members joining after February 27, 2008 are automatically enrolled in a 55 retirement age minimum and 27 credited years of service retirement program ("55/27 retirement program"). These members are required to make additional plan contributions of 1.85% of salary until they have accumulated 27 years of credited service.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

After December 10, 2009 but before April 1, 2012, new members under the 55/27 retirement program were required to make contributions of 4.85% of salary until they have 27 years of credited service and contributions of 1.85% of salary thereafter.

- Members who join on and after April 1, 2012 (Tier VI) are required to make contributions of 3.0% per year through March 31, 2013. Thereafter, contributions range from 3.0% to 6.0% in accordance with a schedule based on salary. Salary is limited to the New York State Governor's salary. Tier VI members are generally eligible to retire with unreduced benefits beginning at age 63 or with reduced benefits beginning at age 55, if vested.

Under all service retirement categories, annuities attributable to member contributions are reduced on an actuarial basis for any loans with unpaid balances outstanding at the date of retirement.

Subject to certain conditions, members become fully vested and eligible for benefits upon the completion of five years of service. After December 10, 2009, new members who belong to the UFT, and all Tier VI members, become fully vested upon the completion of ten years of service.

The Plan provides death benefits and retirement benefits on the occurrence of accidental or ordinary disability.

During the Spring 2000 session, the State Legislature approved and the State Governor ("Governor") authorized automatic Cost-of-Living Adjustments (COLA) for certain retirees and beneficiaries (Chapter 125 of the Laws of 2000).

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS

**Basis of Accounting** — The Plan uses the accrual basis of accounting where the measurement focus is on the flow of economic resources. Revenues are recognized in the accounting period in which they are earned and expenses are recognized in the period incurred. Contributions from members are recognized when the Employer makes payroll deductions from Plan members' salary. Employer contributions are recognized when due and the Employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

**Investment Valuation** — Investments are reported at fair value. Securities purchased pursuant to agreements to resell are carried at the contract price, exclusive of interest, at which the securities will be resold. Fair value is defined as the quoted market value on the last trading day of the period, except for the Short-Term Investment Fund (STIF) (a money market fund), International Investment funds (the "IIF"), and Alternative Investment funds (the "ALTINVF"). The IIF are private funds of publicly traded securities that are managed by various investment managers on behalf of the Plan. Fair value is determined by Plan management based on information provided by the various investment managers. The investment managers determine fair value using the last available quoted price for each security owned adjusted by any contributions to or withdrawals from the fund during the period. The ALTINVF are investments for which exchange quotations are not readily available and are valued at estimated fair value as determined in good faith by the General Partner (GP). These investments are initially valued at cost with subsequent adjustments that reflect third party transactions, financial operating results and other factors deemed relevant by the GP. Fair value is determined by plan management based on information provided by the various GPs after review by an independent consultant and the custodian bank for the fund.

Purchases and sales of securities are reflected on the trade date. Dividend income is recorded on the ex-dividend date. Interest income is recorded as earned on an accrual basis.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

The Plan does not possess an investment risk policy statement nor does it actively manage Plan assets to specified risk targets. Rather, investment risk management is an inherent function of our asset allocation process. Plan assets are diversified over a broad range of asset classes and encompass multiple investment strategies aimed at limiting concentration risk.

**Investment Programs** — Prior to July 1, 2008, the Plan's investments were composed of the assets of the following investment programs: the New York City Pension Fund (which includes a component, the Fixed Return Fund) and two variable-return funds — the Diversified Equity Fund and the Stable-Value Fund. As of July 1, 2008, the Plan's investment programs were expanded to include three new variable-return funds — the International Equity Fund, the Inflation Protection Fund, and the Socially Responsive Equity Fund. The six investment programs are collectively referred to as the TRS Passport Funds. As of January 1, 2012, the Stable-Value Fund became the Bond Fund. The Bond Fund objective is to seek current income by investing primarily in a portfolio of high quality bonds.

Assets of the New York City Pension Fund of the Plan are co-invested with certain assets of the TDA Program. The TDA Program is funded by voluntary member contributions. Assets of the variable-return funds of the Plan are co-invested with certain assets of the TDA Program and BERS. These financial statements reflect the Plan's proportionate share of the investments and the related activity of each of these programs.

**Income Taxes** — Income earned by the Plan is not subject to Federal income tax.

**Accounts Payable** — Accounts payable is principally comprised of a reserve for investment and administrative expenses for the variable-return funds, investment expenses accrued to the Pension Fund and amounts owed to the Plan's banks for overdrawn bank balances. The Plan's practice is to fully invest cash balances in most bank accounts on a daily basis. Overdrawn balances result primarily from outstanding benefit checks that are presented to the banks for payment on a daily basis and these balances are routinely settled each day.

**Benefits Payments and Withdrawals** — Plan deductions are primarily due to benefits payments and withdrawals. Included in withdrawals is the fixed interest credited on TDA member account balances (7.0% APR for UFT members after 12/10/09, 8.25% APR for non-UFT members and for UFT members prior to 12/10/09) owed and transferred to the TDA program. TDA interest payments of \$1.0 billion and \$946.0 million were classified as part of the benefit payments and withdrawals for Fiscal Year 2013 and Fiscal Year 2012.

**Securities-Lending Transactions** — State statutes and Board policies permit the Plan to lend its investments to broker-dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities in the future. The Plan's custodian lends the following types of securities: short-term securities; common stock; long-term corporate bonds; U.S. Government and U.S. Government agency bonds; asset-backed securities; and international equities and bonds held in collective investment funds. In return, it receives collateral in the form of cash and U.S. Treasury and U.S. Government agency securities at 100% to 105% of the principal plus accrued interest for reinvestment. Management believes the Plan has limited credit risk exposure to borrowers because the amounts the Plan owed the borrowers equaled or exceeded the amounts the borrowers owed the Plan. In addition, the contracts with the Plan's custodian require borrowers to indemnify the Plan if the borrowers fail to return the securities and if the collateral is inadequate to replace the securities loaned or fail to pay the Plan for income distributions by the securities' issuers while the securities are on loan. All securities loans can be terminated on demand within a period specified in each agreement by either the Plan or the borrowers. Cash collateral is invested in the lending agents' short-term investment pools,

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

which have a weighted average maturity of 90 days. Underlying fixed income securities have an average maturity of ten years.

During Fiscal Year 2003, the value of certain underlying securities became impaired because of the credit failure of the issuer. Accordingly, the carrying amount of the collateral reported in the Plan's Statements of Plan Net Position for Fiscal Year 2003 was reduced by \$25 million to reflect this impairment and reflect the net realizable value of the securities purchased with collateral from securities lending transactions. In May 2004, the Plan received \$1.8 million from a distribution in bankruptcy proceeds from the defaulted issuer. Also, in Fiscal Years 2004, 2006, 2007, 2008, and 2009, the Plan received \$5.7 million, \$1.5 million, \$2.2 million, \$5.4 million, and \$1.9 thousand partial settlements from parties involved in the initial purchase of the impaired security.

The securities lending program in which the Plan participates only allows pledging or selling securities in the case of borrower default.

GASB Statement No. 28, *Accounting and Financial Reporting for Securities-Lending Transactions*, requires that securities loaned as assets and related liabilities be reported in the Statements of Plan Net Position. Cash received as collateral on securities-lending transactions and investments made with that cash are reported as assets. As of balance sheet date, the maturities of the investments made with cash collateral on average exceed the maturities of the securities loans by approximately 30 days. Securities received as collateral are also reported as assets if the government entity has the ability to pledge or sell them with a borrower default. Accordingly, the Plan recorded the investments purchased with the cash collateral from securities lending with a corresponding liability for securities lending. Securities on loan are carried at market value; the values as of June 30, 2013 and 2012 are \$3.6 billion and \$3.0 billion, respectively.

**New Accounting Standards Adopted** — In fiscal year 2013, the Plan adopted Governmental Accounting Standards Board ("GASB") Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*. The Statement's objective is to provide a new statement of net position format to report all assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position (which is the net residual amount of the other elements). The Statement requires that deferred outflows of resources and deferred inflows of resources be reported separately from assets and liabilities. The Plan concluded that except for the change in nomenclature, the adoption of GASB Statement No. 63 had no impact on its financial position and results from operations.

The Plan has adopted GASB Statement No. 65, *Items Previously Reported as Assets and Liabilities*. GASB Statement No. 65 reclassifies certain items currently being reported as assets and liabilities as deferred outflows of resources and deferred inflows of resources. In addition, this Statement recognizes certain items currently being reported as assets and liabilities as outflows of resources and inflows of resources. The Plan has determined that GASB Statement No. 65 had no impact on its financial position or results of operations and therefore it is not applicable to its operation at the present time.

**New Accounting Standard Issued but Not Yet Effective-** In June of 2012, GASB issued Statement No. 67, *Financial Reporting for Pension Plans*. This Statement establishes financial reporting standards for state and local governmental pension plans, defined benefit pension plans and defined contribution pension plans that are administered through trusts or equivalent arrangements in which: (1) contributions from employers and nonemployer contributing entities to the pension plan and earnings on those contributions are irrevocable (2) pension plan assets are dedicated to providing pensions to plan members in accordance with the benefit terms and (3) pension plan assets are legally protected from the creditors of employers, nonemployer contributing entities, and the pension plan administrator. If the plan

is a defined benefit pension plan, plan assets are also legally protected from creditors of the plan members. For defined benefit pension plans, this statement establishes standards of financial reporting for separately issued financial reports and specifies the required approach to measuring the pension liability of employers and nonemployer contributing entities for benefits provided through the pension plan (the net pension liability), about which information is required to be presented. Distinctions are made regarding the particular requirements depending upon the type of pension plan administered. This Statement replaces the requirements of Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, and Statement No. 50, *Pension Disclosures*, as they relate to pension plans that are administered through trusts or equivalent arrangements that meet certain criteria. The requirements of Statement No. 25 and Statement No. 50 remain applicable to pension plans that are not administered through trusts covered by the scope of this Statement and to defined contribution plans that provide postemployment benefits other than pensions. The provisions of Statement No. 67 are effective for financial statements for fiscal years beginning after June 15, 2013. Earlier application is encouraged. The Plan has not completed the process of evaluating the impact of Statement No. 67 on its financial statements.

### 3. INVESTMENTS AND DEPOSITS

The Comptroller of The City of New York (the “Comptroller”) acts as an investment advisor to the Plan. In addition, the Plan employs an independent investment consultant as an investment advisor. The Plan utilizes several investment managers to manage the long-term debt and equity portfolios. The managers are regularly reviewed, with regard to both their investment performance and their adherence to investment guidelines.

#### **Concentration of Credit Risk**

The Plan does not have any investments in any one entity that represent 5% or more of the assets in the Plan’s net position.

The legal requirements for Plan investments are as follows:

- a. Fixed-income, equity and other investments may be made as permitted by New York State RSSL §§ 176-178(a) and Banking Law § 235, the New York City Administrative Code, and the Legal Investments for New York Savings Banks list as published by The New York State Banking Department, subject to Note 3(b).
- b. Investments up to 25% of total Pension Fund assets may be made in instruments not expressly permitted by the State RSSL.

The Bank of New York Mellon (BNYM) is the primary custodian for significantly all securities of the Plan.

Cash deposits are insured by the Federal Deposit Insurance Corporation for up to \$250,000 per Plan member and are, therefore, fully insured.

The information reflected in the Credit Ratings and in the Years to Maturity is derived from the Custodian’s Risk and Performance Analytics Reporting System.

**Credit Risk** — Portfolios other than U.S. Government and related portfolios have credit rating limitations. Investment Grade portfolios are limited to mostly ratings of BBB and above except that they are also permitted a 10% maximum exposure to BB & B rated securities. While non-investment grade managers are primarily invested in BB & B rated securities, they can also invest up to 7% of their

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portfolio in securities rated CCC or lower. Not-rated securities are considered to be non-investment grade. The quality ratings of investments, by percentage of the rated portfolio, as described by nationally recognized statistical rating organizations, are as follows:

Investment Type* Pension Fund June 30, 2013	S&P Quality Ratings									
	AAA	AA	A	BBB	BB	B	CCC & Below	Short term	Not Rated	Total
U.S. Government	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %
Corporate bonds	0.89	2.11	10.94	22.37	10.32	15.32	4.83	-	13.83	80.61
Yankee bonds	0.17	0.24		0.14						0.55
Short-term:										
Commercial paper	-	-	-	-	-	-	-	4.11	-	4.11
Pooled funds	-	-	-	-	-	-	-	10.31	-	10.31
U.S. Treasuries	-	-	-	-	-	-	-	3.49	-	3.49
U.S. Agencies	-	-	-	-	-	-	-	0.93	-	0.93
Master Notes	-	-	-	-	-	-	-	-	-	-
Percent of rated portfolio	<u>1.06 %</u>	<u>2.35 %</u>	<u>10.94 %</u>	<u>22.51 %</u>	<u>10.32 %</u>	<u>15.32 %</u>	<u>4.83 %</u>	<u>18.84 %</u>	<u>13.83 %</u>	<u>100.00 %</u>

Investment Type* Pension Fund June 30, 2012	S&P Quality Ratings									
	AAA	AA	A	BBB	BB	B	CCC & Below	Short term	Not Rated	Total
U.S. Government	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %
Corporate bonds	1.35	3.35	13.28	20.19	14.22	15.28	3.65	-	5.82	77.14
Yankee bonds	0.02	0.37	0.17	0.12	0.02	-	-	-	-	0.70
Short-term:										
Commercial paper	-	-	-	0.08	0.12	-	-	12.05	-	12.25
Pooled funds	-	-	-	-	-	-	-	-	9.91	9.91
U.S. Treasuries	-	-	-	-	-	-	-	-	-	-
U.S. Agencies	-	-	-	-	-	-	-	-	-	-
Master Notes	-	-	-	-	-	-	-	-	-	-
Percent of rated portfolio	<u>1.37 %</u>	<u>3.72 %</u>	<u>13.45 %</u>	<u>20.39 %</u>	<u>14.36 %</u>	<u>15.28 %</u>	<u>3.65 %</u>	<u>12.05 %</u>	<u>15.73 %</u>	<u>100.00 %</u>

\* U.S. Treasury Bonds, Notes and Treasury-inflation protected securities are obligations of the U.S. government or explicitly guaranteed the U.S. government and therefore not considered to have credit risk and are not included above.

Investment Type* Variable Funds June 30, 2013	S&P Quality Ratings									
	AAA	AA	A	BBB	BB	B	CCC & Below	Short term	Not Rated	Total
Government	- %	27.36%	0.13%	- %	- %	- %	- %	- %	- %	27.49%
Corporate bonds	0.82	1.88	8.57	9.58	5.04	2.42	0.82	-	8.44	37.57
Yankee bonds	0.09	0.20	0.01	0.03	-	-	-	-	0.10	0.43
Short-term:										
Money Market Func	-	-	-	-	-	-	-	-	34.51	34.51
Percent of rated portfolio	<u>0.91 %</u>	<u>29.44 %</u>	<u>8.71 %</u>	<u>9.61 %</u>	<u>5.04 %</u>	<u>2.42 %</u>	<u>0.82 %</u>	<u>- %</u>	<u>43.05 %</u>	<u>100.00 %</u>

Investment Type* Variable Funds June 30, 2012	S&P Quality Ratings									
	AAA	AA	A	BBB	BB	B	CCC & Below	Short term	Not Rated	Total
Government	- %	27.46%	- %	- %	- %	- %	- %	- %	- %	27.46%
Corporate bonds	1.38	1.02	8.19	8.30	7.84	3.10	0.52	-	8.83	39.18
Yankee bonds	0.08	0.23	0.38	1.06	-	0.03	-	-	0.14	1.92
Short-term:										
Money Market Func	-	-	-	-	-	-	-	-	31.44	31.44
Percent of rated portfolio	<u>1.46 %</u>	<u>28.71 %</u>	<u>8.57 %</u>	<u>9.36 %</u>	<u>7.84 %</u>	<u>3.13 %</u>	<u>0.52 %</u>	<u>- %</u>	<u>40.41 %</u>	<u>100.00 %</u>

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**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 Plan 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 Plan, and are held by either the counterparty or the counterparty's trust department or agent, but not in the Plan's name.

Consistent with the Plan's investment policy, the investments are held by the Plan's custodian and registered in the Plan's name.

All of the Plan's deposits are insured and/or collateralized by securities held by a financial institution separate from the Plan's depository financial institution.

All of the Plan's securities are held by the Plan's custodial bank in the Plan's name.

**Interest Rate Risk** — Interest rate risk is the risk that the fair value of investments could be adversely affected by the change in interest rates. Duration limits are used to control the portfolios exposure to interest rate changes. In the investment grade core Fixed Income portfolios duration is limited to a range of one year shorter than the benchmark duration to 0.75 years longer than the duration of the benchmark indices. Duration range is a measure of the overall portfolio, while statements of the stated maturity reflect the specific maturities of the individual securities held. The Plan has no formal risk policy. The lengths of investment maturities (in years), as shown by the percent of the rated portfolio, are as follows:

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**Years to Maturity  
June 30, 2013**

<b>Investment Type Pension Fund</b>	<b>Investment Maturities</b>				
	<b>Fair Value</b>	<b>Less than One Year</b>	<b>One to Five Years</b>	<b>Six to Ten Years</b>	<b>More than Ten Years</b>
U.S. Government	41.70 %	0.70 %	1.30 %	5.60 %	34.10 %
Corporate	47.01	2.32	11.95	22.92	9.82
Yankee bonds	0.31	-	0.18	0.06	0.07
Short term:					
Commercial paper	2.40	2.40	-	-	-
Pooled funds	6.01	6.01	-	-	-
U.S. Treasuries	2.03	2.03	-	-	-
U.S. Agencies	0.54	0.54	-	-	-
Percent of rated portfolio	<u>100.00 %</u>	<u>14.00 %</u>	<u>13.43 %</u>	<u>28.58 %</u>	<u>43.99 %</u>

**June 30, 2012**

<b>Investment Type Pension Fund</b>	<b>Investment Maturities</b>				
	<b>Fair Value</b>	<b>Less than One Year</b>	<b>One to Five Years</b>	<b>Six to Ten Years</b>	<b>More than Ten Years</b>
U.S. Government	38.18 %	0.28 %	1.37 %	4.53 %	32.00 %
Corporate	46.16	1.36	12.50	21.61	10.69
Yankee bonds	0.42	0.03	0.19	0.05	0.15
Short term:					
Commercial paper	7.33	7.21	-	-	0.12
Pooled funds	5.93	5.93	-	-	-
U.S. Treasuries	-	-	-	-	-
U.S. Agencies	1.98	1.98	-	-	-
Percent of rated portfolio	<u>100.00 %</u>	<u>16.79 %</u>	<u>14.06 %</u>	<u>26.19 %</u>	<u>42.96 %</u>

**June 30, 2013**

<b>Investment Type Variable Funds</b>	<b>Investment Maturities</b>				
	<b>Fair Value</b>	<b>Less than One Year</b>	<b>One to Five Years</b>	<b>Six to Ten Years</b>	<b>More than Ten Years</b>
Government	27.49 %	3.40 %	24.09 %	- %	- %
Corporate	37.57	3.56	23.93	2.09	8.00
Yankee bonds	0.43	0.04	0.35	0.03	-
Short term:					
Money Market	34.51	34.51	-	-	-
Percent of rated portfolio	<u>100.00 %</u>	<u>41.51 %</u>	<u>48.37 %</u>	<u>2.12 %</u>	<u>8.00 %</u>

**June 30, 2012**

<b>Investment Type Variable Funds</b>	<b>Investment Maturities</b>				
	<b>Fair Value</b>	<b>Less than One Year</b>	<b>One to Five Years</b>	<b>Six to Ten Years</b>	<b>More than Ten Years</b>
Government	27.46 %	2.62 %	24.26 %	0.25 %	0.33 %
Corporate	39.18	3.90	21.81	3.11	10.36
Yankee bonds	1.92	0.06	1.54	-	0.32
Short term:					
Money Market	31.44	31.44	-	-	-
Percent of rated portfolio	<u>100.00 %</u>	<u>38.02 %</u>	<u>47.61 %</u>	<u>3.36 %</u>	<u>11.01 %</u>

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**Foreign Currency Risk** — Foreign currency risk is the risk that changes in the exchange rates will adversely impact the fair value of an investment. Currency risk is present in underlying portfolios that invest in foreign stock and/or bonds. The currency markets have proven to be good diversifiers in a total portfolio context; therefore, the Plan has numerous managers that invest globally. In general, currency exposure is viewed as a benefit for its diversification reasons and not as an inherent risk within the portfolio. The Plan has no formal risk policy.

In addition, the Plan has investments in foreign stocks and /or bonds denominated in foreign currencies. The Plan's foreign currency exposures as of June 30, 2013 and 2012 are as follows (amounts in U.S. dollars, in thousands):

	Pension Fund (Equity) <b>2013</b>	Diversified & Int'l Funds (Equity) <b>2013</b>	Pension Fund (Equity) <b>2012</b>	Diversified & Int'l Funds (Equity) <b>2012</b>
<b>Trade Currency</b>				
Euro Currency	\$ 785,916	\$ 52,007	\$ 721,280	\$ 48,865
British Pnd Sterling	661,835	46,970	720,209	48,119
Japanese Yen	626,441	46,657	653,854	39,261
South Korean Won	377,774	-	271,285	-
New Taiwan Dollar	377,085	-	247,316	-
Swiss Franc	293,059	22,201	289,387	18,324
Brazilian Real	286,076	-	227,185	-
South African Rand	263,785	1,520	197,003	1,571
Indian Rupee	240,534	-	159,950	-
Malaysian Ringgit	237,984	-	167,322	-
Mexican Nuevo Peso	173,260	-	122,594	-
Hong Kong Dollar	155,733	11,419	143,467	10,140
Australian Dollar	147,568	6,231	199,681	8,507
Indonesian Rupiah	115,508	-	75,115	-
Thai Baht	106,840	-	57,298	-
Swedish Krona	101,810	4,397	106,050	5,974
Singapore Dollar	97,544	5,328	91,393	5,212
Polish Zloty	77,925	-	52,567	-
New Turkish Lira	77,020	-	-	-
Chilean Peso	66,512	-	46,630	-
Canadian Dollar	61,973	9,049	75,595	10,036
Philippines Peso	51,364	-	28,383	-
Danish Krone	39,595	2,600	56,623	2,397
Colombian Peso	36,094	-	21,596	-
Czech Koruna	34,710	-	29,388	-
Hungarian Forint	27,863	267	17,286	316
Egyptian Pound	17,036	-	15,226	-
Norwegian Krone	15,697	2,475	15,312	3,301
Nuevo Sol	8,740	-	2,503	-
Israeli Shekel	2,448	773	5,138	365
Moroccan Dirham	690	-	8,394	-
Other	375	-	2,509	-
<b>Total</b>	<u>\$ 5,566,794</u>	<u>\$ 211,894</u>	<u>\$ 4,827,539</u>	<u>\$ 202,388</u>

**Securities Lending Transactions**

*Credit Risk* — The quality ratings of investments held as collateral for Securities Lending at June 30, 2013 and 2012, are as follows (in thousands):

Investment Type and Fair Value of Securities Lending Transactions	S&P Quality Ratings										CCC & Below	Short Term	Not Rated	Total	
	AAA	AA	A	BBB	BB	B			Not Rated	Total					
<b>June 30, 2013</b>															
Government Corporate	\$ 550,320	\$ 1,096,881	\$ -	\$ -	\$ -	\$ -	3					\$ -	\$ 33,338	\$ -	\$ 2,306,997
Short-term:															
Repurchase agreements	-	-	-	-	-	-	-	-	-	-	-	-	-	762	762
Reverse repurchase agreements	-	-	-	-	-	-	-	-	-	-	-	-	-	528,424	528,424
Certificates of deposit	-	-	305,088	-	-	-	-	-	-	-	-	-	-	-	305,088
Commercial paper	-	-	233,169	-	-	-	-	-	-	-	-	-	-	233,169	233,169
U.S. Agency	-	-	-	-	-	-	-	-	-	-	-	-	228,922	228,922	228,922
Time deposit	493	-	-	-	-	-	-	-	-	-	-	-	-	493	493
Uninvested	-	-	-	-	-	-	-	-	-	-	-	-	(26,413)	(26,413)	(26,413)
<b>Total</b>	<b>\$ 550,813</b>	<b>\$ 1,096,881</b>	<b>\$ 1,164,712</b>	<b>\$ 3</b>	<b>\$ -</b>	<b>\$ -</b>	<b>3</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 765,033</b>	<b>\$ 3,577,442</b>	<b>\$ 3,577,442</b>
Percent of Securities Lending Portfolio	15.40 %	30.66 %	32.56 %	- %	- %	- %	- %	- %	- %	- %	- %	- %	21.38 %	100.00 %	100.00 %
<b>June 30, 2012</b>															
Government Corporate	\$ 335,917	\$ 777,400	\$ 642,864	\$ -	\$ -	\$ -		\$ 28,438				\$ -	\$ 14,688	\$ -	\$ 1,799,307
Short-term:															
Repurchase agreements	-	-	-	-	-	-	-	-	-	-	-	-	-	27,799	27,799
Reverse repurchase agreements	-	-	1,306	-	-	-	-	-	-	-	-	-	-	727,204	728,510
Certificates of deposit	-	-	257,951	-	-	-	-	-	-	-	-	-	-	257,951	257,951
Medium term notes	-	-	162	-	-	-	-	-	-	-	-	-	3	165	165
Commercial paper	-	-	84,475	-	-	-	-	-	-	-	-	-	-	84,475	84,475
Variable rate demand notes	-	-	4	-	-	-	-	-	-	-	-	-	-	4	4
U.S. Treasury	-	-	69	-	-	-	-	-	-	-	-	-	-	69	69
U.S. Agency	-	-	117	-	-	-	-	-	-	-	-	-	114,923	115,040	115,040
Time deposit	-	-	46	-	-	-	-	-	-	-	-	-	-	46	46
Uninvested	-	-	-	-	-	-	-	-	-	-	-	-	(3,471)	(3,471)	(3,471)
<b>Total</b>	<b>\$ 335,917</b>	<b>\$ 777,400</b>	<b>\$ 986,994</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>3</b>	<b>\$ 28,438</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 881,146</b>	<b>\$ 3,009,895</b>	<b>\$ 3,009,895</b>
Percent of Securities Lending Portfolio	11.16 %	25.83 %	32.80 %	- %	- %	- %	0.94 %	- %	- %	- %	- %	- %	29.27 %	100.00 %	100.00 %

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*Interest Rate Risk* — The lengths of investment maturities (in years) of the collateral for Securities Lending are as follows (in thousands):

**Years to Maturity**

<b>Investment Type June 30, 2013</b>	<b>Investment Maturities</b>				
	<b>Fair Value</b>	<b>Less Than One Year</b>	<b>One to Five Years</b>	<b>Six to Ten Years</b>	<b>More Than Ten Years</b>
Government	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate	2,306,997	1,235,182	1,071,815	-	-
Short-term					
Repurchase agreements	762	762	-	-	-
Reverse repurchase agreements	528,424	528,424	-	-	-
Certificates of deposit	305,088	305,088	-	-	-
Commercial paper	233,169	233,169	-	-	-
U.S. Agency	228,922	174,833	54,089	-	-
Time deposit	493	493	-	-	-
Uninvested	(26,413)	(26,413)	-	-	-
<b>Total</b>	<b>\$3,577,442</b>	<b>\$2,451,538</b>	<b>\$ 1,125,904</b>	<b>\$ -</b>	<b>\$ -</b>
Percent of Securities Lending Portfolio	100.00 %	68.53 %	31.47 %	- %	- %

<b>Investment Type June 30, 2012</b>	<b>Investment Maturities</b>				
	<b>Fair Value</b>	<b>Less Than One Year</b>	<b>One to Five Years</b>	<b>Six to Ten Years</b>	<b>More Than Ten Years</b>
Government	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate	1,799,307	1,208,538	590,769	-	-
Short-term					
Repurchase agreements	27,799	27,799	-	-	-
Reverse repurchase agreements	728,510	728,510	-	-	-
Certificates of deposit	257,951	257,951	-	-	-
Medium term notes	165	110	55	-	-
Commercial paper	84,475	84,475	-	-	-
Variable rate demand notes	4	4	-	-	-
U.S. Treasury	69	69	-	-	-
U.S. Agency	115,040	35,245	79,795	-	-
Time deposit	46	46	-	-	-
Uninvested	(3,471)	(3,471)	-	-	-
<b>Total</b>	<b>\$3,009,895</b>	<b>\$2,339,276</b>	<b>\$ 670,619</b>	<b>\$ -</b>	<b>\$ -</b>
Percent of Securities Lending Portfolio	100.00 %	69.58 %	30.42 %	- %	- %

**4. CONTRIBUTIONS AND ACTUARIAL ASSUMPTIONS**

The financial objective of the Plan is to fund members' retirement benefits during their active service and to establish Employer contribution rates that, expressed as a percentage of annualized covered payroll, will remain approximately level from year to year. The Employer contributes amounts that, together with Member Contributions and investment income, are intended to ultimately be sufficient to accumulate assets to pay benefits when due.

**Member Contributions** — Members who joined prior to July 27, 1976, contribute by salary deductions on the basis of a normal rate of contribution that is assigned by the Plan at membership. This member normal rate, which is dependent upon age, years of prior service, and actuarial tables in effect at the time of membership, is determined so as to provide approximately one-fourth of the service retirement allowance at the earliest age for service retirement. For age at membership equal to 20 and with no prior service, the member normal rate is equal to 4.6%. For age at membership equal to 40 with no prior service, the member normal rate is equal to 3.6%.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Members who joined on or after July 27, 1976 are mandated to contribute 3% of salary. Effective October 1, 2000, these members are not required to make contributions after the tenth anniversary of their membership date or completion of ten years of credited service, whichever is earlier.

Effective February 27, 2008, active members were eligible to enroll in a 55 retirement age minimum and 25 credited years of service retirement option ("55/25 retirement option") enabling them to eliminate any age-reduction factor in their retirement allowance. Those choosing the age 55/25 retirement option are required to make additional contributions of 1.85% of salary from February 28, 2008 until June 29, 2008, or until they have accumulated 25 years of credited service, whichever is later. Members joining after February 27, 2008 are automatically enrolled in a 55 retirement age minimum and 27 credited years of service retirement program ("55/27 retirement program"). These members are required to make additional plan contributions of 1.85% of salary until they have accumulated 27 years of credited service. Chapter 504 of the Laws of 2009 ("Chapter 504/09") provides that individuals joining after December 10, 2009, who participate in the 55/27 retirement program, are required to make pension contributions of 4.85% of salary until they have 27 years of credited service and contributions of 1.85% of salary thereafter.

Also, under Chapter 504/09, all members represented by the UFT who join the Plan on and after December 10, 2009 will become vested after ten years of credited service.

Under Chapter 18 of the Laws of 2012, members who join on and after April 1, 2012 are automatically enrolled in Tier VI. These members are required to make contributions ranging from 3.0% (based on a salary of \$45,000 and less) to 6.0% (based on a salary above \$100,000) until separation from service or retirement.

**Employer Contributions** — Statutorily-required contributions ("Statutory Contributions") to the Plan, determined by the Plan's Chief Actuary of the Office of the Actuary (the "Actuary") in accordance with the State statutes and City laws, are generally funded by the Employer within the appropriate fiscal year.

The June 30, 2011 (Lag) actuarial valuation was used to determine the Fiscal Year 2013 Employer Contributions. There were no changes in actuarial assumptions and methods from the prior actuarial valuation.

The June 30, 2010 (Lag) actuarial valuation used to determine the Fiscal Year 2012 Employer Contribution was based on revised actuarial assumptions and methods proposed by the Actuary (the "2012 A&M"). The Retirement Board of the Plan adopted those changes to the actuarial assumptions and methods that require Board approval during Fiscal Year 2012. The New York State Legislature and the Governor enacted Chapter 3 of the Laws of 2013 ("Chapter 3/13") to provide for those changes in actuarial assumptions and methods that require legislation, including the Actuarial Interest Rate (AIR) assumption of 7.0% per annum, net of expenses, the Entry Age Actuarial Cost Method and the amortization of Unfunded Actuarial Accrued Liabilities.

Beginning with the June 30, 2010 (Lag) actuarial valuation under the 2012 A&M, the Entry Age Actuarial Cost Method (EAACM) of funding is utilized by the Plan's Actuary to calculate the contribution required of the Employer.

Under this method, the Actuarial Present Value (APV) of Benefits (APVB) of each individual included in the actuarial valuation is allocated on a level basis over the earnings (or service) of the individual between entry age and assumed exit age(s). The employer portion of this APV allocated to a valuation year is the Normal Cost. The portion of this APV not provided for at a valuation date by the APV of Future Normal Costs or future member contributions is the Actuarial Accrued Liability (AAL).

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

The excess, if any, of the AAL over the Actuarial Asset Value (AAV) is the Unfunded Actuarial Accrued Liability (UAAL).

Under this method, actuarial gains (losses), as they occur, reduce (increase) the UAAL and are explicitly identified and amortized.

Increases (decreases) in obligations due to benefit changes, actuarial assumption changes and/or actuarial method changes are also explicitly identified and amortized.

Beginning with the June 30, 2008 (Lag) actuarial valuation, the AAV was recomputed retroactive to June 30, 1999, by re-characterizing amounts credited as interest on TDA Fixed Fund account balances as payouts instead of investment losses.

The concept in use for the Actuarial Asset Valuation Method (AAVM) for actuarial valuations on and after June 30, 2012 is the same as that in use for the June 30, 2009 (Lag) actuarial valuation.

In accordance with this AAVM, actual Unexpected Investment Returns (UIR) for Fiscal Years 2012, 2013, etc. are phased into the Actuarial Asset Value (AAV) beginning June 30, 2012, 2013, etc. at rates of 15%, 15%, 15%, 15%, 20% and 20% per year (i.e., cumulative rates of 15%, 30%, 45%, 60%, 80% and 100% over a period of six years).

The Actuary reset the Actuarial Asset Value to the Market Value of Assets (MVA) as of June 30, 2011 (i.e., "Market Value Restart").

For the June 30, 2010 (Lag) actuarial valuation, the AAV is defined to recognize Fiscal Year 2011 investment performance. The June 30, 2010 AAV is derived as equal to the June 30, 2011 MVA, discounted by the AIR assumption (adjusted for cash flow) to June 30, 2010.

For assets of the variable-return programs, current market value is used.

Chapter 125 of the Laws of 2000 ("Chapter 125/00") provided eligible retirees and eligible beneficiaries with increased Supplementation as of September 2000 and with automatic Cost-of-Living Adjustments (COLA) beginning September 2001. Chapter 125/00 also provided for a five-year phase-in schedule for funding the additional actuarial liabilities created by the benefits provided by this law. Chapter 278 of the Laws of 2002 ("Chapter 278/02") required the Actuary to revise the methodology and timing for determining the Statutory Contributions on account of the additional actuarial liabilities attributable to the benefits provided under Chapter 125/00 by extending the phase-in period for funding these liabilities from five years to ten years.

The impact of the ten-year phase-in of Chapter 278/02 was to postpone funding of the additional actuarial liabilities attributable to Chapter 125/00 resulting in greater Employer Contributions in later years.

Chapter 152 of the Laws of 2006 ("Chapter 152/06") eliminated the ten-year phase-in. All actuarial liabilities attributable to Chapter 125/00 are now recognized in the actuarial valuation.

Chapter 85 of the Laws of 2000 ("Chapter 85/00") re-established the UAAL and eliminated the Balance Sheet Liability (BSL) for actuarial purposes as of June 30, 1999. The schedule of payments toward the reestablished UAAL provided that the UAAL, if any, be amortized over a period of 11 years beginning Fiscal Year 2000, where each annual payment after the first equals 103% of its preceding annual payment.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

The Statutory Contributions for Fiscal Years 2013 and 2012 were equal to the Actuarial Contributions.

**Funded Status and Funding Progress** — One measure of the funded status of the Plan as of June 30, 2011, the most recent actuarial valuation date, based on the Entry Age Actuarial Cost Method, the plan's funding method, is as follows (dollar amounts in thousands):

<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b-a)</b>	<b>Funded Ratio (a/b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a)/c)</b>
\$33,601,537	\$57,702,731	\$24,101,194	58.2%	\$7,888,204	305.5%

The schedule of funding progress, presented as required supplementary information (RSI) following the notes to the financial statements, presents multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the Actuarial Accrued Liabilities (AAL) for benefits under the Plan's Actuarial Cost Method.

An additional schedule of funding progress, presented as supplementary information following the notes to the financial statements, presents multiyear trend information about whether actuarial values of plan assets are increasing or decreasing over time relative to AALs for benefits under the Entry Age Actuarial Cost Method.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Additional information as of the latest actuarial valuation follows:

Valuation Date	June 30, 2011 (Lag).
Actuarial Cost Method	Entry Age.
Amortization Method	
Initial Unfunded	Increasing Dollar.
Post-2010 Unfundeds	Level Dollar.
Remaining Amortization Period	
Initial Unfunded	21 Years (Closed).
Post-2010 Unfundeds	
2010 ERI	5 Years (Closed).
2011 UAAL	15 Years (Closed).
Asset Valuation Method	6-Year Smoothed Market <sup>1</sup> .
Actuarial Assumptions	
Projected Salary Increases <sup>2</sup>	In general, merit and promotion increases plus assumed general wage increases of 3.0% per year.
Investment Rate of Return <sup>2</sup>	7.0% per annum, net of Investment Expenses.
COLAs <sup>2</sup>	1.5% per annum.

<sup>1</sup> With the June 30, 2011 Actuarial Asset Value reset to Market Value of Assets.

<sup>2</sup> Developed assuming a long-term Consumer Price Inflation assumption of 2.5% per annum.

### 5. MEMBER LOANS

The balance of member loans receivable at June 30, 2013 and 2012 is \$218.8 million and \$198.7 million, respectively. Members are permitted to borrow up to 75% of their own contributions, including accumulated interest. Outstanding loan balances are insured in order to protect members' balances in case of death. In return for insurance coverage, Tier III and Tier IV members supplement their loan interest payments 7.0% APR for Fiscal Year 2013 with a 0.2% (APR) insurance fee. Upon termination of employment before retirement, certain members are entitled to refunds of their own contributions, including accumulated interest, less any loans outstanding.

### 6. RELATED PARTIES

The Comptroller has been appointed by law as custodian for Pension Fund assets with discretionary authority. Securities are held by certain banks under custodial agreements with the Comptroller. The Comptroller, Financial Information Services Agency (FISA) and Office of Payroll Administration (OPA) provide cash receipt and cash disbursement services to the Plan. Actuarial services are provided to the Plan by the Office of the Actuary employed by the Boards of Trustees of The City's main pension systems. The City's Corporation Counsel provides legal services to the Plan. The City also provides other administrative services. The cost of providing such services amounted to \$9.9 million and \$8.9 million in Fiscal Years 2013 and 2012.

### 7. ADMINISTRATIVE EXPENSES

Chapter 593 of the Laws of 1996 ("Chapter 593/96"), effective July 1, 1996, authorized the Board of Trustees to draw upon its assets to pay the administrative expenses incurred by the Plan. Prior to Fiscal

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Year 1997, The City and Variable Annuity Programs had paid all administrative expenses. After Chapter 593/96, net administrative expenses incurred by the System are attributed to the Plan and the variable-return funds of the TDA program; the TDA program is not represented in these financial statements. The cost sharing is weighted and depends on an assessment of the prior year's administrative activities. The System's administrative expenses have been \$52.3 million and \$52.5 million for Fiscal Years 2013 and 2012, respectively. In addition to these System administrative expenses, other City agencies attribute the cost for services rendered by them during the fiscal year. In Fiscal Year 2013, \$9.9 million were incurred on behalf of the Plan by other City agencies, primarily the Comptroller's office. In Fiscal Year 2012, \$8.9 million were incurred on behalf of the Plan by other City agencies, primarily the Comptroller's office.

### 8. CONTINGENT LIABILITIES AND OTHER MATTERS

**Contingent Liabilities** — In August 2002, a lawsuit was instituted on behalf of retired Plan members seeking service credit for work performed as “per session employment.” In January 2004, Plaintiffs' request to proceed as a class action was granted by the lower court. Subsequently, the parties reached an initial settlement in September 2007 and a final agreement in February 2010. In December 2010 the settlement was implemented resulting in substantial costs to the Employer.

In March 2005, the President of the UFT and three retired teachers commenced two related lawsuits alleging miscalculation of the retirement formula applicable to TRS members who retire under the 20-Year Pension Plan. Subsequently, the parties have settled with the Employer, agreeing to pay a sum of \$160 million allocated to the plaintiffs according to a negotiated algorithm. In February 2010, the settlement was implemented.

Another Plan adjustment implemented in Fiscal Year 2011 is the inclusion of wages for class coverage into the calculation of retirement benefits. This also adds substantial cost to the Employer.

The Plan also has certain other contingent liabilities. Management of the Plan, on advice from legal counsel, believes that such proceedings and contingencies will not have a material effect on Plan net position or cause changes in Plan net position. Under the State statutes and City laws that govern the functioning of the Plan, increases in the obligation of the Plan to members and beneficiaries ordinarily result in increases in the obligations of the Employer to the Plan.

**Other Matters** — During Fiscal Years 2013 and 2012, certain events described below took place that, in the opinion of Plan management, could have the effect of increasing benefits to members and/or their beneficiaries, and therefore, would increase the obligations of the Plan. The effect of such events has not been fully quantified. However, it is the opinion of Plan management that such developments would not have a material effect on Plan net position held in trust for pension benefits or cause changes in Plan net position held in trust for pension benefits.

**Actuarial Audit** — Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded New York City Retirement Systems (NYCRS) are conducted every two years.

The most recently completed study was published by The Hay Group (Hay), dated December 2011, and analyzed experience for Fiscal Years 2006 through 2009. Hay made recommendations with respect to the actuarial assumptions and methods based on their analysis.

The previously completed study was published by The Segal Company (Segal), dated November 2006, and analyzed experience for Fiscal Years 2002 through 2005. Segal made recommendations with respect to the actuarial assumptions and methods based on their analysis.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Currently, Gabriel, Roeder, Smith & Company (GRS) has been retained to study the actuarial assumptions for Fiscal Years 2010 through 2013.

**Revised Actuarial Assumptions and Methods** — In accordance with the ACNY and with appropriate practice, the Boards of Trustees of the five actuarially-funded NYCERS are to periodically review and adopt actuarial assumptions as proposed by the Actuary for use in the determination of Employer Contributions.

Based, in part, upon a review of the Segal and Hay studies, the Actuary issued a February 10, 2012 Report entitled "Proposed Changes in Actuarial Assumptions and Methods for Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2011 for the New York City Teachers' Retirement System" ("February 2012 Report").

The Retirement Board of the Plan adopted those changes to actuarial assumptions that require Board approval. The State Legislature and the Governor enacted Chapter 3/13 to provide for those changes to the actuarial assumptions and methods that require legislation, including the AIR assumption of 7.0% per annum, net of expenses.

**New York State Legislation** (only significant laws included) — Chapter 104 of the Laws of 2005, as amended by Chapter 93 of the Laws of 2005, created a presumptive eligibility for accidental disability in connection with the World Trade Center attack on September 11, 2001.

Chapter 105 of the Laws of 2005 states that a member killed in the U.S. Armed Forces on and after June 14, 2005 is deemed a Line-of-Duty death while on active payroll.

Chapter 152/06 provided for the changes in actuarial assumptions and methods that require legislation, including the continuation of the AIR assumption of 8.0% per annum and continuation of the current Frozen Initial Liability (FIL) Actuarial Cost Method and the existing Unfunded Actuarial Accrued Liability (UAAL). In addition, Chapter 152/06 provides for elimination of the use of the ten-year phase-in of Chapter 278/02 for funding the additional actuarial liabilities created by the benefits provided by Chapter 125/00.

Chapter 445 of the Laws of 2006 ("Chapter 445/06") created a presumptive eligibility for accidental death benefits in connection with the World Trade Center attack on September 11, 2001.

Chapter 5 of the Laws of 2007 amended Chapter 445/06 to clarify the World Trade Center accidental disability benefits payable to retirees who die in the first 25 years of retirement. It also amended Chapter 445/06 to include World Trade Center deaths as presumptive accidental death benefits in the Line-of-Duty.

Chapter 19 of the Laws of 2008 ("Chapter 19/08") established retirement programs to permit Tier II and Tier IV current members of TRS to elect to retire between ages 55 and 62 without reduction provided they have 25 years of service, by paying an additional contribution of 1.85% of future pay. New members after February 27, 2008, are mandated into this plan and are required to have 27 years of service.

Chapter 489 of the Laws of 2008 expanded and redefined the eligibility provisions of the accidental disability and accidental death benefits that arise in connection with the World Trade Center attack on September 11, 2001.

Chapter 211 of the Laws of 2009 continued the valuation and other interest rates for one year to June 30, 2010 from June 30, 2009.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Chapter 504 of the Laws of 2009 provided that individuals joining TRS after December 10, 2009, who participate in the 55/27 retirement program, are required to make pension contributions of 4.85% of salary until they have 27 years of credited service and contributions of 1.85% of salary thereafter.

Also, under Chapter 504/09, these members of TRS who are represented by the UFT will become vested after ten years of credited service. In addition all members represented by the UFT who participate in the Tax-Deferred Annuity Program (TDA), will receive an interest rate of 7.0% per annum credited to their TDA Fixed Funds accounts beginning December 10, 2009.

Chapter 105 of the Laws of 2010 ("Chapter 105/10") provided an Early Retirement Incentive ("ERI") program for certain members.

Chapter 265 of the Laws of 2010 continued the valuation and other interest rates for one year to June 30, 2011 from June 30, 2010.

Chapter 286 of the Laws of 2010 technically corrected the definition of Final Average Salary (FAS) for certain TRS members to conform with current administrative practice.

Chapter 180 of the Laws of 2011 continued the valuation and other interest rates for one year to June 30, 2012 from June 30, 2011.

Chapter 18 of the Laws of 2012 placed certain limitations on the Tier III and Tier IV benefits available to participants hired on and after April 1, 2012 in most New York State PERS, including TRS. These changes are sometimes referred to as Tier VI.

Chapter 3 of the Laws of 2013 ("Chapter 3/13") implemented changes in the actuarial procedures for determining Employer Contributions beginning Fiscal Year 2012. In particular, Chapter 3/13 continued the One-Year Lag Methodology (OYLM), employed the Entry Age Actuarial Cost Method (EAACM), an Actuarial Interest Rate (AIR) assumption of 7.0% per annum, net of expenses, and defined the amortization of Unfunded Actuarial Accrued Liabilities (UAAL).

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**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK  
QUALIFIED PENSION FUND**

**REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
SCHEDULE OF FUNDING PROGRESS  
(IN CONFORMITY WITH THE PLAN'S FUNDING METHOD)  
(In thousands)**

<b>Actuarial Valuation Date June 30</b>	<b>(1) Actuarial Asset Value (AAV) (A)</b>	<b>(2) Actuarial Accrued Liability (AAL)<sup>1</sup> (A)&amp;(B)</b>	<b>(3) Unfunded AAL (UAAL) (C)(2)-(1)</b>	<b>(4) Funded Ratio (1)÷(2)</b>	<b>(5) Covered Payroll</b>	<b>(6) UAAL as a Percentage of Covered Payroll (3)÷(5)</b>
2011 (Lag) <sup>2</sup>	\$33,601,537	\$57,702,731	\$24,101,194	58.2%	\$7,888,204	305.5%
2010 (Lag) <sup>2</sup>	32,477,527	55,138,366	22,660,839	58.9	7,979,671	284.0
2009 (Lag)	30,774,981	30,774,981	-	100.0	8,016,636	0.0
2008 (Lag)	32,227,375	32,227,375	-	100.0	7,926,648	0.0
2007 (Lag)	33,854,152	33,856,737	2,585	100.0	7,222,471	0.0
2006 (Lag)	32,405,645	32,410,624	4,979	100.0	6,978,726	0.0

<sup>1</sup> Effective June 30, 2010, based on Entry Age Actuarial Cost Method (EAACM). Previously, based on the Frozen Initial Liability Actuarial Cost Method.

<sup>2</sup> Reflects revised actuarial assumptions and methods based on experience review.

Notes:

A. For the June 30, 2011 (Lag) actuarial valuation, the AAV is reset to the MVA (*i.e.*, "Market Value Restart").

For the June 30, 2010 (Lag) actuarial valuation, the AAV is defined to recognize Fiscal Year 2011 investment performance. The June 30, 2010 AAV is derived as equal to the June 30, 2011 MVA, discounted by the AIR assumption (adjusted for cash flow) to June 30, 2010.

The Actuarial Asset Valuation Method (AAVM) in use for actuarial valuations after the June 30, 2011 (Lag) actuarial valuation is unchanged from the AAVM in use for the June 30, 2009 (Lag) actuarial valuation.

Beginning with the June 30, 2004 (Lag) actuarial valuation, the Actuarial Asset Valuation Method (AAVM) was changed to a method which reset the AAV to Market Value (*i.e.*, "Market Value Restart") as of June 30, 1999. As of each June 30 thereafter the AAVM recognizes investment returns greater or less than expected over a period of six years.

(Schedule of Funding Progress Continued)

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Under this AAVM, any Unexpected Investment Returns (UIR) for Fiscal Years 2000 and later are phased into the AAV beginning June 30, 2000 at rates of 15%, 15%, 15%, 15%, 20% and 20% per year (or cumulative rates of 15%, 30%, 45%, 60%, 80% and 100% over a period of six years).

The UIR for Fiscal Years 2000 to 2004 was set equal to the UIR under the prior AAVM.

The prior AAVM was changed as of June 30, 1999 to reflect a market basis for investments held by the Plan.

Beginning with the June 30, 2008 (Lag) actuarial valuation the AAV was recomputed retroactive to June 30, 1999, by re-characterizing amounts credited as interest on TDA Fixed Fund account balances as payouts instead of investment losses.

- B. To effectively assess the funding progress of the Plan, it is necessary to compare the AAV and the AAL calculated in a manner consistent with the Plan's funding method over a period of time. The AAL is the portion of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Employer normal costs and future Member Contributions.
- C. The UAAL is the excess of the AAL over the AAV. Under the EAACM, actuarial gains (losses), as they occur, reduce (increase) the UAAL and are explicitly identified and amortized. Increases (decreases) in obligations due to benefit changes, actuarial assumption changes and/or actuarial method changes are also explicitly identified and amortized.

(Schedule of Funding Progress Concluded)

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK  
QUALIFIED PENSION FUND**

**REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
SCHEDULE OF EMPLOYER CONTRIBUTIONS  
(In thousands)**

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<b>Fiscal Years Ended June 30</b>	<b>Annual Required Contribution (ARC)</b>	<b>Percentage of ARC Contributed</b>
2013	\$2,855,640	100.0%
2012	2,673,078	100.0
2011	2,468,973	100.0
2010	2,484,074	100.0
2009	2,223,644	100.0
2008	1,916,520	100.0

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK QUALIFIED PENSION PLAN

### REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) SCHEDULE OF ACTUARIAL METHODS AND ASSUMPTIONS

The information presented in the required supplementary schedules was determined as part of the actuarial valuations as of June 30, 2011 (Lag) and June 30, 2010 (Lag). These actuarial valuations were used to determine Employer Contributions for Fiscal Years 2013 and 2012, respectively. Additional information as of the last two actuarial valuations follows.

	June 30, 2011 (Lag) <sup>1</sup>	June 30, 2010 (Lag) <sup>1</sup>
Actuarial cost method	Entry Age.	Entry Age.
Amortization method for Unfunded Actuarial Accrued Liabilities		
Initial Unfunded	Increasing Dollar.	Increasing Dollar.
Post-2010 Unfunded	Level Dollar.	Level Dollar.
Remaining amortization period		
Initial Unfunded	21 Years (Closed).	22 Years (Closed).
Post-2010 Unfunded		
2010 ERI	5 Years (Closed).	NA.
2011 UAAL	15 Years (Closed).	NA.
Actuarial asset valuation method	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011 <sup>2</sup> . For assets of Variable Annuity Program, current market value.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011 <sup>2</sup> . For assets of Variable Annuity Program, current market value.
Actuarial assumptions:		
Investment rate of return	7.0% per annum <sup>3</sup> , net of Investment Expenses (4.0% per annum for benefits payable under the Variable Annuity Programs).	7.0% per annum <sup>3</sup> , net of Investment Expenses (4.0% per annum for benefits payable under the Variable Annuity Programs).
Post-retirement mortality	Tables adopted by Retirement Board during Fiscal Year 2012.	Tables adopted by Retirement Board during Fiscal Year 2012.
Active service: withdrawal, death, disability, service retirement	Tables adopted by Retirement Board during Fiscal Year 2012.	Tables adopted by Retirement Board during Fiscal Year 2012.
Salary increases	In general, merit and promotion increases plus assumed general wage increases of 3.0% per annum. <sup>3</sup>	In general, merit and promotion increases plus assumed general wage increases of 3.0% per annum. <sup>3</sup>
Cost-of-living adjustments <sup>3</sup>	1.5% per annum.	1.5% per annum.

<sup>1</sup> Under the One-Year Lag Methodology, the actuarial valuation determines the Employer Contribution for the second following fiscal year.

<sup>2</sup> With the June 30, 2010 Actuarial Asset Value defined to recognize Fiscal Year 2011 investment performance.

<sup>3</sup> Developed assuming a long-term Consumer Price Inflation of 2.5% per year.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK  
QUALIFIED PENSION PLAN**

**ADDITIONAL SUPPLEMENTARY INFORMATION  
SCHEDULE OF ADMINISTRATIVE EXPENSES  
Year Ended June 30, 2013**

<b>PERSONNEL SERVICES</b>		
Staff Salaries	\$20,877,636	
Social Security	1,195,711	
Insurance (Health)	3,042,042	
Welfare Benefit Fund	890,156	
TOTAL PERSONNEL SERVICES		\$26,005,545
<b>PROFESSIONAL SERVICES</b>		
Data Processing Support Services	5,067,859	
Temporary and Consulting Services	707,217	
Modernization Assessment	236,833	
Professional and Legal Services	634,439	
TOTAL PROFESSIONAL SERVICES		6,646,348
<b>COMMUNICATION</b>		
Telephone	144,937	
Postage	399,600	
Local Traveling Expenses*	30,702	
Non-Local Traveling Expenses**	22,575	
TOTAL COMMUNICATION		597,814
<b>RENTALS</b>		
Office Space	4,792,764	
Equipment Leasing	311,758	
TOTAL RENTALS		5,104,522
<b>MISCELLANEOUS</b>		
Utilities	307,600	
Supplies and Materials	53,422	
Maintenance, Repairs, and Services	296,689	
Office Equipment and Furniture	47,683	
Advertising Expenses	3,567	
Storage	90,327	
Printing	310,852	
Training Program	191,112	
Books	9,311	
Miscellaneous	17,678	
TOTAL MISCELLANEOUS		1,328,241
<b>TOTAL ADMINISTRATIVE EXPENSES***</b>		<b>\$39,682,470</b>
<p>* Includes Local Travel Fare \$14,158, Courier \$7,866, and Meals &amp; Refreshments \$8,678.</p> <p>** Includes Hotels &amp; Meals \$9,118, Travel Fare \$2,503, and Conferences \$10,954.</p> <p>*** The Plan's expenses account for 76% of total TRS administrative expenses, the balance or \$12,650,449 paid by the TDA plan and loan service charge and other revenues. Other administrative expenses of \$9,949,170 were paid on TRS' behalf by other City agencies under Regulation 85 of the New York State Superintendent of Insurance Regulations.</p> <p>See Note of Financial Statement No. 7 for the Corpus Expenses</p>		

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK  
QUALIFIED PENSION PLAN**

**ADDITIONAL SUPPLEMENTARY INFORMATION  
SCHEDULE OF INVESTMENT EXPENSES AND SERVICES  
Year Ended June 30, 2013  
(In thousands)**

	Assets Under Management	Investment Expenses
<b>INVESTMENT CATEGORY</b>		
Pension Fund	\$34,930,058	\$131,124
Diversified Equity and International Equity Funds	3,281,758	5,492
Bond Fund	66,143	155
Inflation Protection Fund	5,939	0
Socially Responsive Equity Fund	6,286	0
<b>Other Investment Services</b>		
Consultant		1,956
Legal		395
<b>Provision for Expenses</b>		<b>32</b>
	<b><u>\$38,290,184*</u></b>	<b><u>\$139,154</u></b>

*\* Excludes \$3,577,442 in securities lending.*





# 3. Investment



## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

The following report on investment activity was prepared by Rocaton Investment Advisors. Following the report are disclosures of asset class allocation, sector returns, investment management and other service fees, and bond and equity holdings. The disclosures supplement the investment information of the Financial Section.

### **Prepared by Rocaton Investment Advisors, LLC, Investment Consultant to the Teachers' Retirement System of the City of New York**

As of June 30, 2013, TRS offered six investment program options: the Fixed Return Fund, the Diversified Equity Fund, the Bond Fund, the International Equity Fund, the Inflation-Protection Fund, and the Socially Responsive Equity Fund. The structure of each of these programs differs depending upon its investment objective. These six programs and their objectives are described below.

The Pension Fund includes a) all funds that Tier I/II members invested in the Fixed Return Fund and b) all Tier III/IV/VI QPP funds. The Fixed Return Fund currently provides Tier I/II participants with an 8.25% return. Tier III/IV/VI members are credited 5% in their QPP accounts. The QPP Fixed Return Fund assets totaled \$34.9 billion as of June 30, 2013. The overall Pension Fund earned a gross of fee return of 11.9% for the fiscal year ending June 30, 2013. As of June 30, 2013, the Fund had 42% U.S. equity investments, 18% non-U.S. equity investments, 5% private equity investments, 2% private real estate, 4% REITs, 30% fixed income investments and short-term investments (due to rounding, percentages may not add to 100%). The Fund's long-term asset allocation policy is based on the Fund's long-term investment horizon of more than 20 years. The investment structure has a significant emphasis on risk control. For example, as of June 30, 2013, approximately 95% of U.S. equity assets were invested in indexed or risk-controlled strategies. This emphasis on indexed and risk-controlled strategies also enables the program to more effectively control costs. The Fund's fixed income holdings are primarily high quality U.S. securities with smaller allocations to sectors such as enhanced yield and convertibles securities.

The Diversified Equity Fund's objective is to provide participants with a diversified equity investment portfolio. As of June 30, 2013, the QPP Diversified Equity Fund had \$3.3 billion in assets and had a net of fee return of 20.1% for the fiscal year ending June 30, 2013. This portfolio's target structure is a mixture of U.S. equities (70%), non-U.S. equities (15%), and defensive strategies (15%). The defensive sector is made up of convertible bond strategies, conservatively-oriented equity strategies and a tactical asset allocation strategy. Tactical asset allocation strategies shift allocations to and within asset classes such as stocks, bonds and cash depending upon the managers' analysis of market conditions. The diversification of this portfolio beyond U.S. equities is intended to broaden diversification and help protect participants against significant market downturns within a single asset class (*i.e.* U.S. stocks). Again, risk control and cost-effectiveness are a very important focus of the investment structure. For example, as of June 30, 2013, 52% of the assets within the Diversified Equity Fund were invested in indexed strategies.

As of January 1, 2012, the Stable-Value Fund became the Bond Fund. Member balances in the Stable-Value Fund as of December 31, 2011 were invested in the Bond Fund as of January 1, 2012. The Bond Fund invests primarily in a portfolio or portfolios of high-quality bonds that provide for participant transactions at market value. These bonds include Treasuries, Agencies, Corporates, Mortgages, and other types of fixed-income instruments. As of June 30, 2013, the QPP Bond Fund's assets totaled \$66.1 million and the Fund earned a net of fee return of 0.3% for the fiscal year ending June 30, 2013. Please note that the total return of this option includes the impact of the ongoing transition from a book valued option to a market valued option. Effective January 1st, 2012, the Bond Fund discontinued much of its use of "wrapper agreements" from banks or insurance companies, which provide under certain conditions that members' withdrawals from the portfolio are processed at book value, even if the current market value of the underlying investments has fluctuated due to changes in market conditions. After further transition in the second quarter of 2012, as of June 30, 2012 there were no longer any wrapper agreements however; the Fund still held small amounts of stable value investments.

The International Equity Fund invests primarily in the stocks of non-U.S. companies located in both developed and emerging markets. The objective of this fund is to provide a return comparable to the return of the non-U.S. developed equity markets over a full market cycle. As of June 30, 2013, the QPP International Equity Fund's assets totaled \$12.2 million. For the fiscal year ending June 30, 2013, the International Equity Fund returned 16.9%, net of fees.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

The Inflation Protection Fund seeks exposure to multiple asset classes and markets. The objective of this fund is to provide a rate of return that exceeds inflation over a full market cycle. As of June 30, 2013, the QPP Inflation Protection Fund's assets totaled \$5.9 million. For the fiscal year ending June 30, 2013, the Inflation Protection Fund returned 5.5%, net of fees.

The Socially Responsive Equity Fund invests primarily in stocks of large and mid-cap U.S. and non-U.S. companies that meet certain financial and social criteria. The objective of this fund is to provide a rate of return comparable to the broad equity market while reflecting social priorities. As of June 30, 2013, QPP Socially Responsive Equity Fund's assets totaled \$6.3 million. For the fiscal year ending June 30, 2013, the Socially Responsive Equity Fund returned 25.6%, net of fees.

The investment strategies of these investment managers are monitored periodically for consistency with TRS' overall investment objectives.

### ECONOMIC REVIEW

Global financial markets were mixed during the one-year period ended June 30, 2013. In the U.S., the Federal Reserve continued its quantitative easing program, but during the second quarter of 2013 markets reacted negatively to news that the Fed might slow its pace of asset purchases in the near future. Fed Chairman Bernanke, testifying in front of Congress, remarked on the improving nature of the U.S. economy and concluded that a tapering of asset purchases might be prudent. Additionally, the FOMC noted the pace of improvement in economic conditions and mentioned the possibility of reducing the pace of asset purchases. Despite the modest economic improvements, the Fed left the program unchanged and continued to hold short term rates near zero. U.S. equity markets had a strong year, up in excess of 21%. Despite looming concerns over slowing growth in Europe, equity markets in developing economies were also strong, returning over 19% during the twelve month period ending June 30, 2013. Developed market equities outpaced emerging market equities as concerns regarding slowing growth in China and in other emerging economies led the emerging markets as a whole to return approximately 3% during the twelve months ending June 30, 2013. The prospect of rising rates in the U.S. led to the broad U.S. investment grade fixed income market to return -0.7% over the twelve months ending June 30, 2013 while below-investment grade fixed income markets returned over 9.5% as high yielding corporate bond spreads over Treasuries declined throughout the year.

### U.S. MARKETS REVIEW

Most major domestic equity indices rose during the one-year period ending June 30, 2013 with smaller market capitalization indices faring better than their larger counterparts. The Russell 3000 Index, a broad measure of the U.S. equity markets, returned 21.5% for the one-year period ending June 30, 2013. For the 12 months ending June 30, 2013 value stocks outperformed growth stocks as the Russell 3000 Value Index returned 25.3% versus the Russell 3000 Growth Index's return of 17.6% over the same period.

For the year ending June 30, 2013, the Barclays Capital Aggregate Bond Index, a broad index of U.S. investment grade bonds, returned -0.7%.

### INTERNATIONAL MARKETS REVIEW

The return for the MSCI EAFE Index, a measure of the developed international equity markets, was 19.1% in U.S. dollar terms for the one-year period ending June 30, 2013. Of the following four regions: Japan, Pacific ex-Japan, U.K. and Europe ex-U.K., Europe ex-U.K. had the strongest performance for the one-year period, with a return of 23.9%. Japan followed with a return of 22.4% for the one-year period while the Pacific ex-Japan and U.K. markets returned 12.4% and 11.9% respectively. International small cap stocks outperformed foreign large cap companies for the 12 month period ending June 30, 2013 as the MSCI EAFE Index returned 19.1% versus the MSCI EAFE Small Cap Index's return of 21.3% over the same period. The MSCI Emerging Markets Index returned 3.2% for the one year period ending June 30, 2013. All of the performance information regarding non-U.S. markets is provided from the perspective of U.S.-based investors.

*Rocaton Investment Advisors, LLC*

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TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**INVESTMENT SUMMARY**

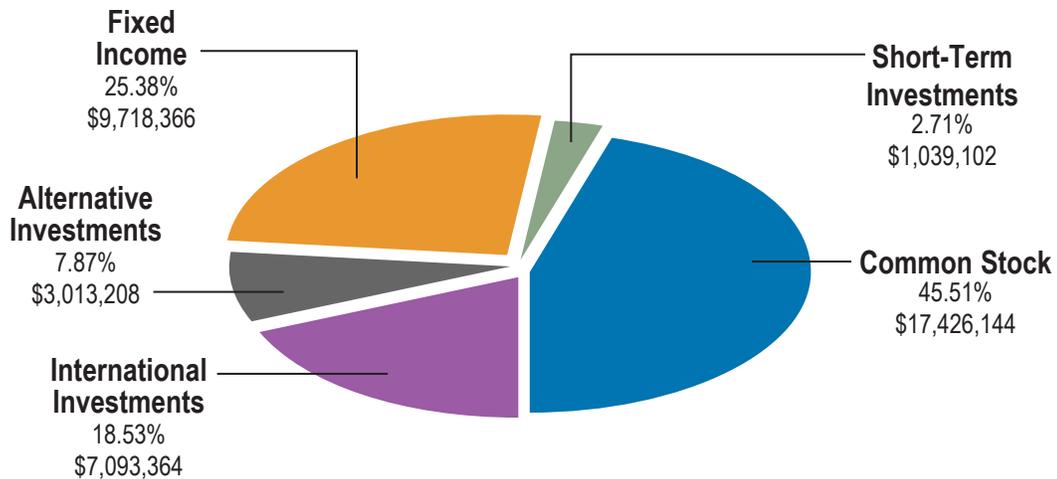
As of June 30, 2013

<b>Type of Investment</b>	<b>Market Value In Thousands</b>	<b>Percent of Total Market Value</b>
<b>Fixed Income:</b>		
Government Bonds	\$3,562,061	9.30%
Corporate Bonds	4,219,939	11.02
Foreign Bonds	27,083	0.07
TIPS	934,555	2.44
Mortgages	179,674	0.47
Misc. Fixed Income	788,208	2.06
Promissory Notes	6,846	0.02
<b>Total Fixed Income</b>	<b>\$9,718,366</b>	<b>25.38%</b>
<b>Common Stock:</b>		
Financial & Utility	\$4,695,477	12.26%
Basic Industry	6,182,548	16.15
Consumer & Service	3,714,340	9.70
Technological	2,730,979	7.13
Other	102,800	0.27
<b>Total Common Stock</b>	<b>\$17,426,144</b>	<b>45.51%</b>
<b>International Investments</b>	<b>\$7,093,364</b>	<b>18.53%</b>
<b>Alternative/Private-Equity Investments</b>	<b>\$3,013,208</b>	<b>7.87%</b>
<b>Short-Term Investments</b>	<b>\$1,039,102</b>	<b>2.71%</b>
<b>Total Investments</b>	<b>\$38,290,184*</b>	<b>100.00%</b>

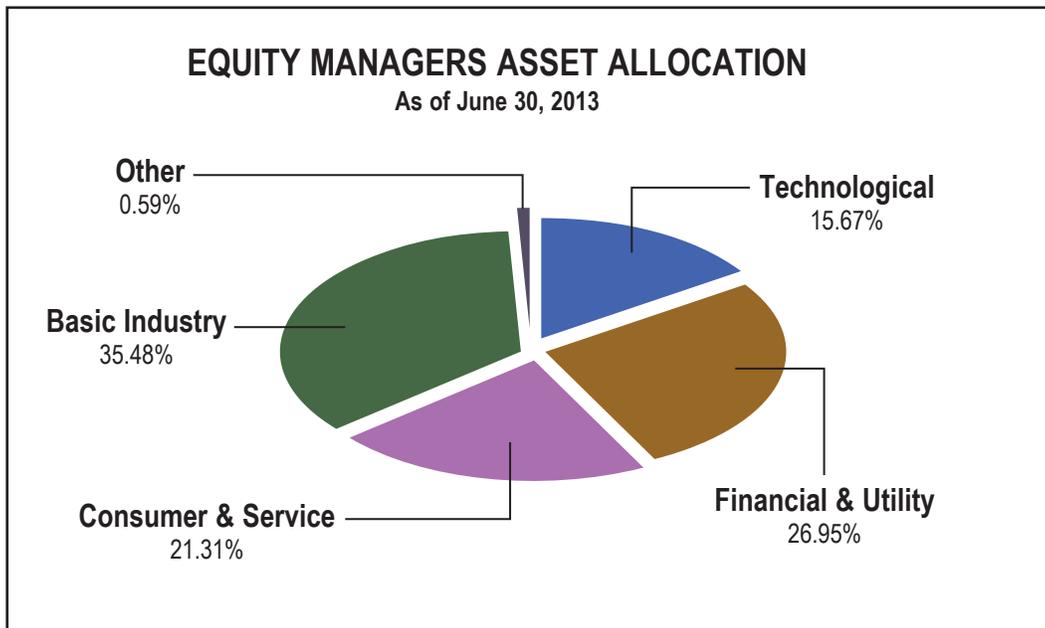
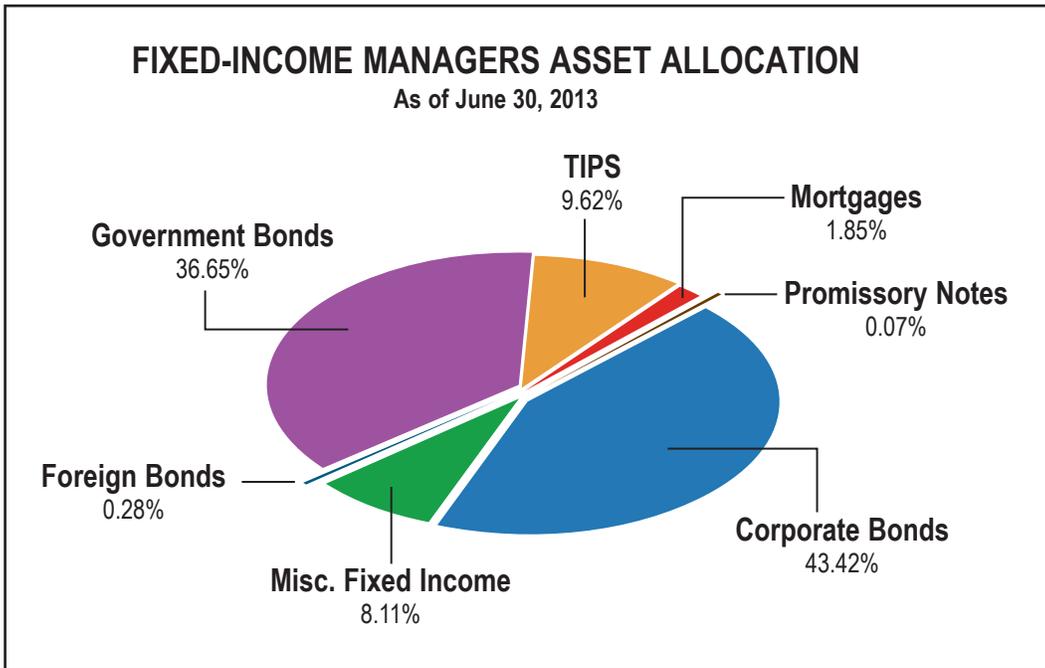
**TOTAL ASSET ALLOCATION\***

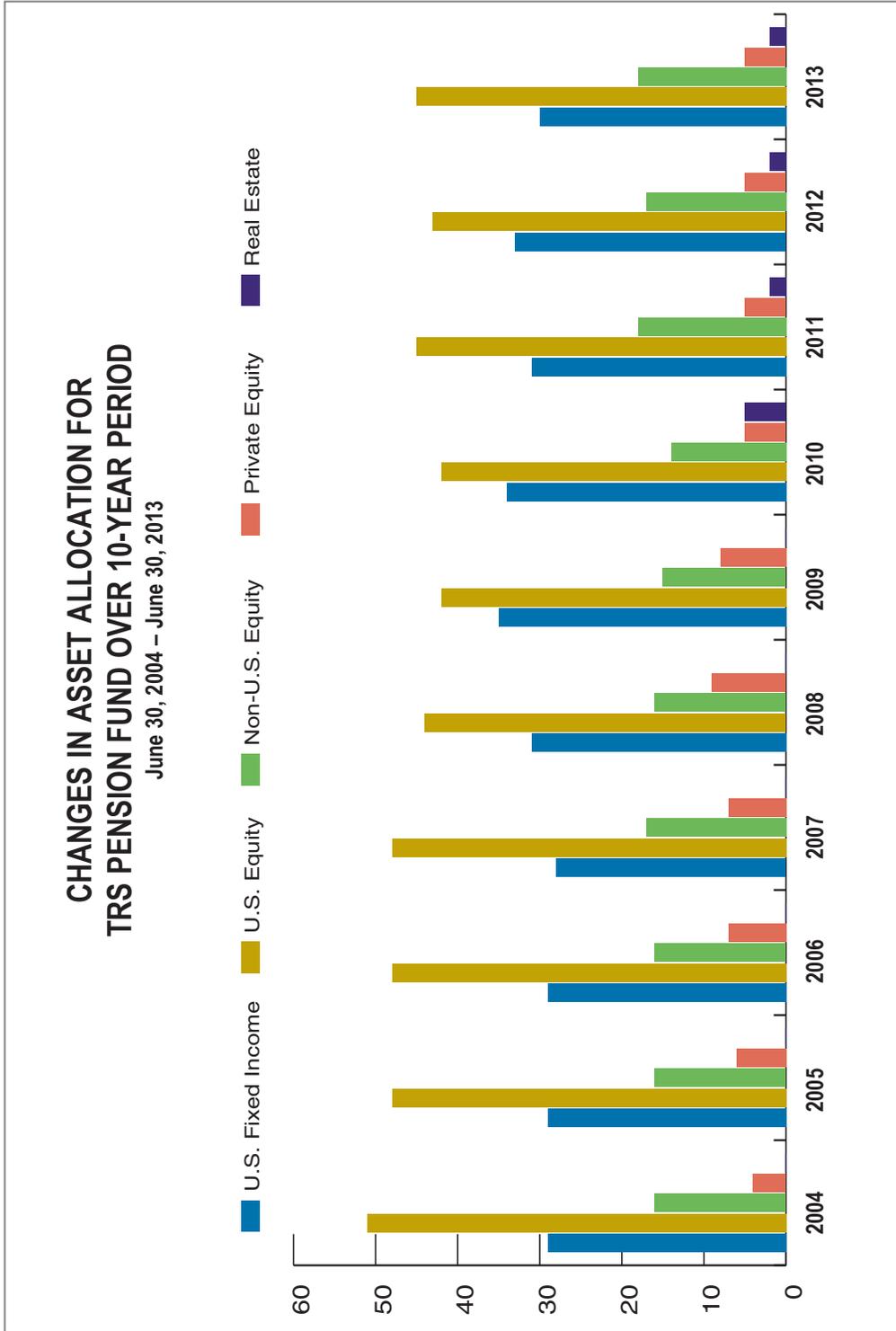
As of June 30, 2013

In Thousands



\* Excludes \$3,577,442 in securities lending.





TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**ANNUALIZED INVESTMENT RESULTS<sup>10</sup>**

As of June 30, 2013

	Current Year 2013	Annualized 3 Year	Annualized 5 Year
<b>TRS Pension Fund<sup>1</sup></b>	11.90%	12.00%	5.65%
Benchmark: Policy Index <sup>2</sup>	12.20%	12.91%	5.89%
<b>TRS Diversified Equity Fund<sup>3</sup></b>	20.05%	16.69%	5.72%
Benchmark: Russell 3000 <sup>5</sup>	21.46%	18.63%	7.25%
<b>TRS Bond Fund<sup>7</sup></b>	0.29%	N/A	N/A
Benchmark: Barclays 1-5 Year Government/Credit Index	0.60%	1.97%	3.37%
<b>TRS International Equity Fund<sup>3</sup></b>	16.85%	10.05%	2.74%
Benchmark: MSCI EAFE <sup>6</sup>	19.14%	10.55%	(0.16%)
<b>TRS Inflation Protection Fund<sup>3</sup></b>	5.54%	7.05%	6.06%
Benchmark A: Barclays Capital US TIPS 1-10 Year Index <sup>8</sup>	(3.14%)	3.42%	3.31%
Benchmark B: CPI (SA) + 5% <sup>9</sup>	6.88%	7.34%	6.37%
<b>TRS Socially Responsive Equity Fund<sup>3</sup></b>	25.63%	16.01%	8.27%
Benchmark: Standard & Poor's 500 <sup>4</sup>	20.60%	18.45%	7.01%

1 All returns are gross of investment advisory fees except for the "Targeted" program allocation, which currently accounts for less than 0.2% of fund.

2 The "Policy Index" is a custom benchmark representing the weighted average return of the weighted benchmark indexes for each major investment program within the total fund and is calculated monthly based on adjusted policy weights at the beginning of each month.

3 Includes income; performance net of operational fees (advisory and custody) and administrative expenses.

4 Includes income; unmanaged index based on the common stock of 500 large capitalization U.S. companies. No fees reflected.

5 Includes income; unmanaged index representing approximately 98% of investable domestic common stocks. No fees reflected.

6 Morgan Stanley Capital International Europe, Australasia, and Far East unmanaged Index is a capitalization weighted index of publicly traded corporations in developed non-U.S. markets. No fees reflected.

7 Reflects annualized performance beginning July 1, 2012.

8 Formerly known as the Lehman US TIPS 1-10 Year Index.

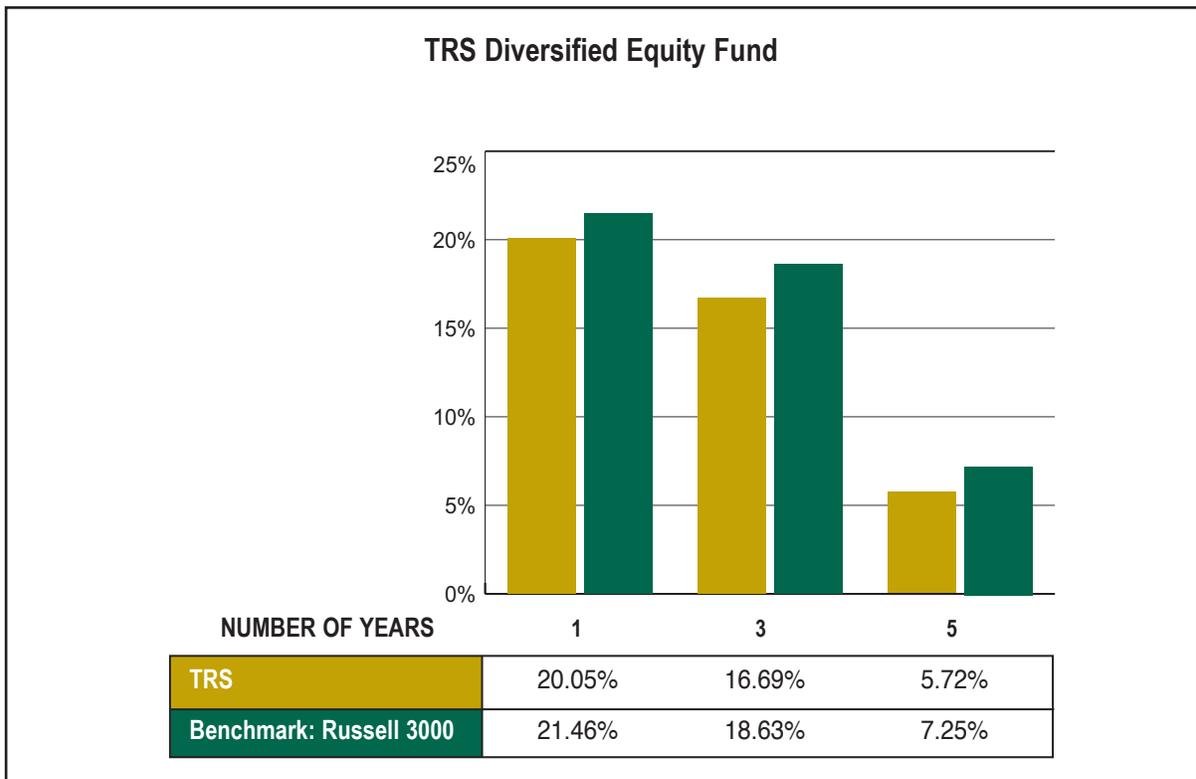
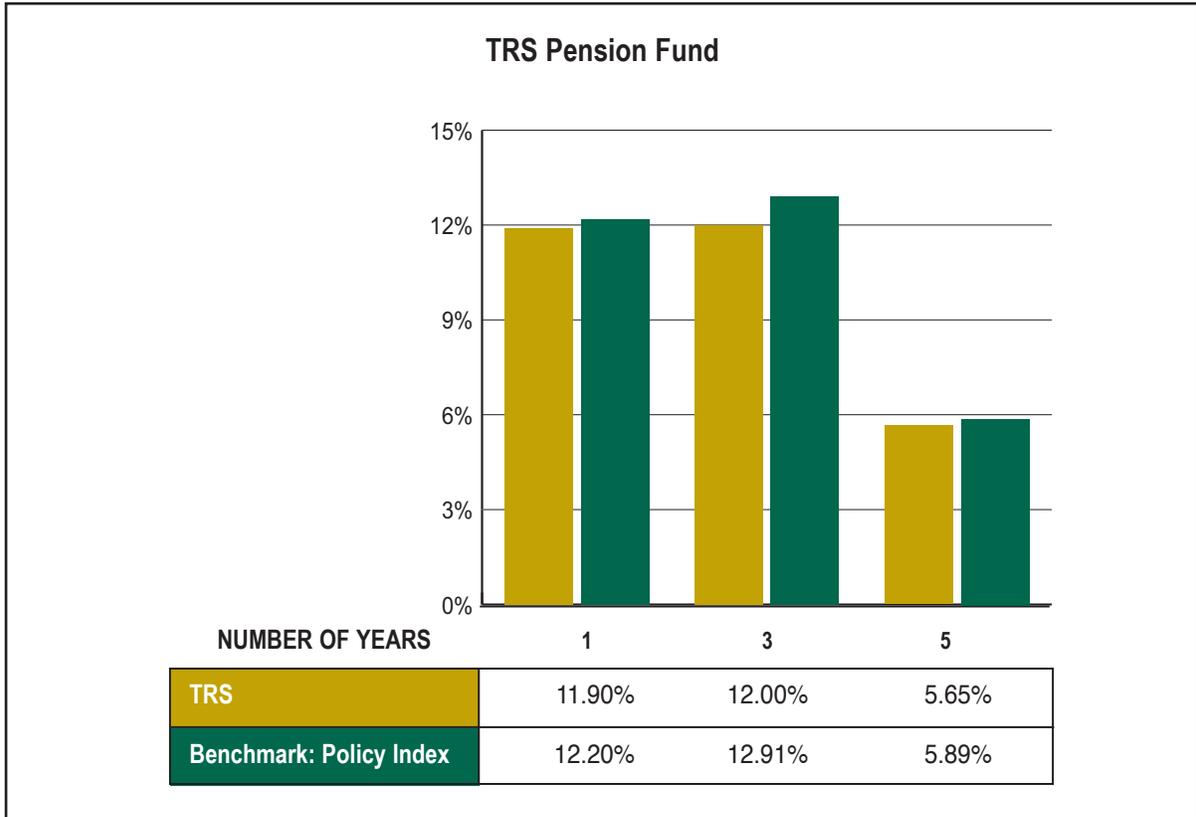
9 The US Consumer Price Index as shown for the stated periods above is provided for August 5, 2013; CPI calculations are subject to subsequent revisions over time.

10 Performance calculations reflect time-weighted compound returns.

The above information has been gathered from reliable sources, but TRS can only take responsibility for the accuracy of the information concerning its own investment programs.

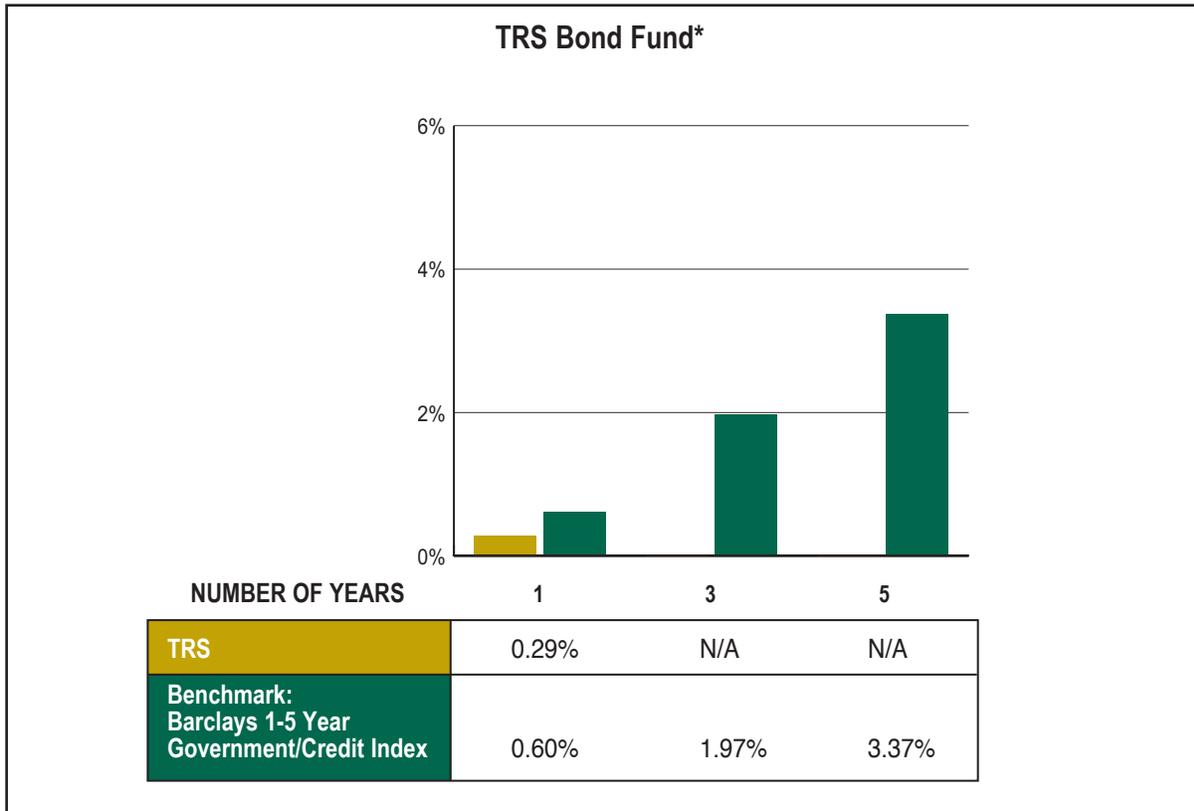
**ANNUALIZED INVESTMENT RESULTS**

As of June 30, 2013

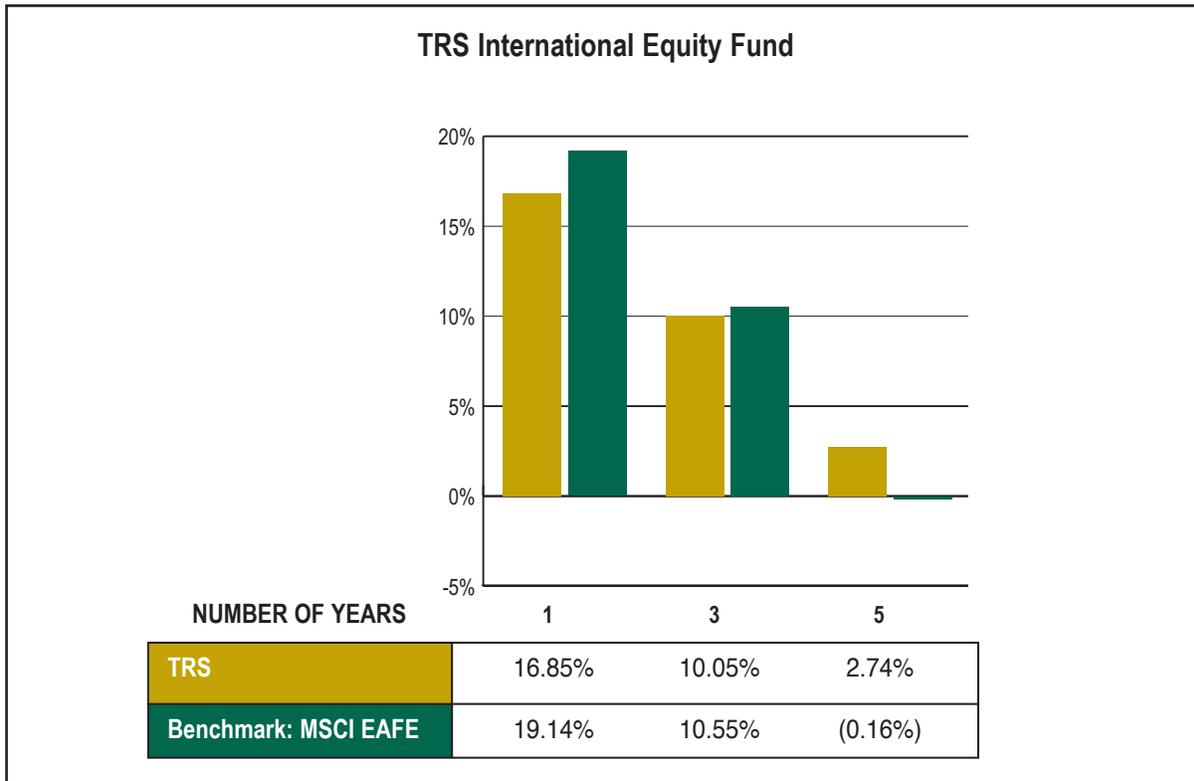


**ANNUALIZED INVESTMENT RESULTS (Continued)**

As of June 30, 2013



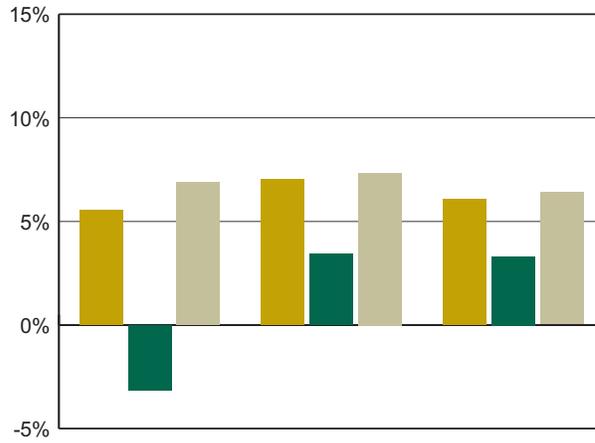
\*Reflects annualized performance beginning July 1, 2012. (As of January 1, 2012, the Stable-Value Fund became the Bond Fund.)



**ANNUALIZED INVESTMENT RESULTS (Continued)**

As of June 30, 2013

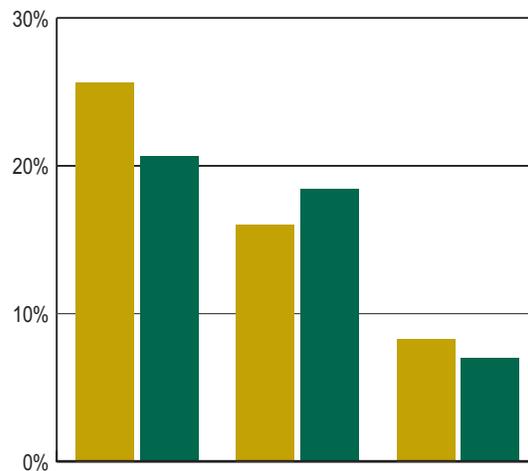
**TRS Inflation Protection Fund**



NUMBER OF YEARS

<b>TRS</b>	5.54%	7.05%	6.06%
<b>Benchmark A: Barclays US TIPS 1-10 Year Index</b>	(3.14%)	3.42%	3.31%
<b>Benchmark B: CPI (SA) +5%</b>	6.88%	7.34%	6.37%

**TRS Socially Responsive Equity Fund**



NUMBER OF YEARS

<b>TRS</b>	25.63%	16.01%	8.27%
<b>Benchmark: Standard &amp; Poor's 500</b>	20.60%	18.45%	7.01%

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

## SUMMARY OF INVESTMENT MANAGERS AND FEES

### YEAR ENDED JUNE 30, 2013

**INVESTMENT MANAGERS****Pension Fund-Fixed Income**

Advent	Investment Manager	\$2,023,785
Lord Abbett Conv Bonds	Investment Manager	580,311
Victory Conv Bonds	Investment Manager	677,629
Ambassador	Investment Manager	93,407
Babson BL	Investment Manager	762,480
Blackrock	Investment Manager	1,008,452
Blackrock - SP Purpose Mtg	Investment Manager	10,872
Barrow Hanley - Credit	Investment Manager	493,622
Credit Suisse BL	Investment Manager	488,576
Fort Washington	Investment Manager	327,230
GIA	Investment Manager	76,204
Goldman Sachs - Mortgage	Investment Manager	98,566
Guggenheimbl	Investment Manager	1,113,882
Hillswick	Investment Manager	37,813
ING BL	Investment Manager	566,417
Looms & Sayles Co., L.P.	Investment Manager	1,053,573
Neuberger Berman - Mortgage	Investment Manager	2,307,357
New Century	Investment Manager	94,556
Oaktree	Investment Manager	875,774
Penn	Investment Manager	554,999
Pimco Advisor	Investment Manager	998,346
Prudential - Credit	Investment Manager	355,790
Pugh Cap.	Investment Manager	75,231
Shenkman Cap.	Investment Manager	976,893
Smith Breeden - Mortgage	Investment Manager	144,240
State Street - Govnt	Investment Manager	226,318
Stone Harbor	Investment Manager	1,810,237
T. Rowe Price Associates Inc.	Investment Manager	2,780,788
Taplin, Canida, Habacht	Investment Manager	643,296
Wells BL	Investment Manager	406,019
Wellington - Mortgage	Investment Manager	325,468

**Pension Fund-Domestic Equity**

Adelante Cap. Management	Investment Manager	737,434
Sec Capital	Investment Manager	957,997
Attucks Asset Management - AF	Investment Manager	346,269
Capital Prospects - CP	Investment Manager	274,400
Cohen & Steers - REITS	Investment Manager	935,727
FIS Equity Russ 3000	Investment Manager	709,076
Progress Asset Management - PIM	Investment Manager	577,516
Brown AM	Investment Manager	1,978,330
Seizert Cap	Investment Manager	547,243
Piedmont Inv	Investment Manager	560,234
Profit Inv. Mgmt	Investment Manager	656,817
Blackrock R3000	Investment Manager	262,845
State Street R3000	Investment Manager	519,920
State St GA S&P 400	Investment Manager	120,747
Urdang - REIT	Investment Manager	878,971
Walden Asset Mgmt	Investment Manager	283,577

Continued on page 3.11

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**SUMMARY OF INVESTMENT MANAGERS AND FEES**  
**YEAR ENDED JUNE 30, 2013 (Continued)**

**INVESTMENT MANAGERS**

**Pension Fund-International Fund**

Acadian	Investment Manager	\$168,765
Causeway	Investment Manager	442,684
CONY Alliance MTA	Investment Manager	1,636
CONY Baillie MTA	Investment Manager	2,519,271
CONY GT Blackrock MTA	Investment Manager	2,207,566
CONY Thornburg MTA	Investment Manager	1,316,619
CONY Walter Scott MTA	Investment Manager	2,953,711
CONY Sprucegrove MTA	Investment Manager	1,947,838
DFA Em Reit MTA	Investment Manager	3,218,598
Eaton Vance Em MTA	Investment Manager	3,861,652
European Reit MTA	Investment Manager	1,329,908
F&C SGE MTA	Investment Manager	585,517
MS Reit	Investment Manager	2,431,846
Mondrian MTA	Investment Manager	534,023
Philadelphia MTA	Investment Manager	186,936
Pyramis	Investment Manager	175,000
SSGA MTA	Investment Manager	272,027
F & C MTA	Investment Manager	539,393

**Pension Fund-TIPS MTA Fund**

Blackrock TIPS MTA	Investment Manager	158,544
Pimco TIPS MTA	Investment Manager	600,211
State Street TIPS MTA	Investment Manager	17,408

**Pension Fund-Alternative Investment**

ACS (CONY ETI)	Investment Manager	123,411
AFL - CIO Housing Investment	Investment Manager	793,611
Acon Equity Partners	Investment Manager	72,243
Aisling Capital Partners	Investment Manager	286,823
American Sec Ptn VI	Investment Manager	1,247,322
Ampersand 2006	Investment Manager	181,196
Ampersand 2011	Investment Manager	350,000
Angelo Gordon Ct St Ptn LP	Investment Manager	2,381,161
Apollo Centre St Ptn	Investment Manager	1,481,172
Apollo Investment Fund	Investment Manager	47,414
Apollo Real Estate	Investment Manager	7,430
ARES Corp. Opp Fund	Investment Manager	1,665,455
Arsenal Capital Partners, II	Investment Manager	60,136
Aurora Eq	Investment Manager	14,768
AVE Special Situations FD V	Investment Manager	798,259
Avista Capital Partners, L.P.	Investment Manager	198,699
AXA Secondary Fd	Investment Manager	1,600,000
BC Eur Cap.	Investment Manager	1,161,398
BDCM Opp Fund	Investment Manager	442,363
Blackstone Group	Investment Manager	1,254,803
Blackstone Mezz Partners	Investment Manager	80,089
Blue Wolf Capital Fund II	Investment Manager	200,000
Bridgepoint Europe III, L.P.	Investment Manager	741,730
Carlisle Group	Investment Manager	567,099
Carpenter Comm Banc	Investment Manager	68,170
Catterton Partners VI , L.P.	Investment Manager	724,451
CCMP Capital Investors II	Investment Manager	167,015

Continued on page 3.12

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SUMMARY OF INVESTMENT MANAGERS AND FEES  
YEAR ENDED JUNE 30, 2013 (Continued)**

**INVESTMENT MANAGERS**

Celtic Pham Hldgs LP	Investment Manager	\$300,000
City Investment Fund	Investment Manager	591,836
CO Invest Prtnr Eur	Investment Manager	138,508
Coller Cap	Investment Manager	163,276
Constellation Ventures III	Investment Manager	221,543
Craton Equity Investors	Investment Manager	132,754
Credit Suisse Emergind Mgn Co	Investment Manager	29,143
Credit Suisse Emergind Mgn Fd	Investment Manager	611,621
Cypress Mech BK Partners II	Investment Manager	62,096
EQT VI LP	Investment Manager	882,031
Fairview Capital Partners	Investment Manager	193,799
Fairview Emerg Mgrs Fd LP	Investment Manager	339,678
FDG Capital Partners L.L.C.	Investment Manager	103,496
First Reserve Fund XI	Investment Manager	600,785
Freeman Spogli & Co., Inc.	Investment Manager	32,080
Fortress Ctr St	Investment Manager	1,451,952
FT Ventures Fund III	Investment Manager	612,569
GF Capital Private Equity FD, L.P.	Investment Manager	292,791
GI Partners Fund II L.P.	Investment Manager	670,187
GSC Recovery III	Investment Manager	128,286
GSO Cap. Opp	Investment Manager	1,854,964
Goldentree OD MTA	Investment Manager	913,407
Governance For Owners	Investment Manager	714,853
Halyard Capital II	Investment Manager	304,158
ICV Partners	Investment Manager	175,288
InterMedia Partners VII, L.P.	Investment Manager	376,400
ING Clarion	Investment Manager	778,419
J.P. Morgan Inversment Management Inc.	Investment Manager	1,397,391
Landmark Equity Partners	Investment Manager	916,767
Lee Equity Partners	Investment Manager	211,931
Leeds Eq Partners V	Investment Manager	445,930
Leeds Weld Equity Partners IV	Investment Manager	139,640
Levine Leichtman Cap	Investment Manager	240,328
Lincolnshire Management, Inc.	Investment Manager	173,110
Lone Star Fund	Investment Manager	196,009
Marathon Ctr St Partners	Investment Manager	544,156
Marathon OD MTA	Investment Manager	2,156,162
Markstone Cap.	Investment Manager	50,813
Midocean Partners III	Investment Manager	464,531
Montreux Equity Partners IV	Investment Manager	372,730
Nautic Partners VI	Investment Manager	256,519
New Mountain Investments	Investment Manager	373,328
NGN Biomed Opportunity II	Investment Manager	533,806
ONEX Partners III	Investment Manager	779,003
Oak Hill Ctr St Partners	Investment Manager	435,309
Oaktree Opp Fund	Investment Manager	31,836
Paladin Homeland Security	Investment Manager	563,209
Palladium Equity Partners III	Investment Manager	268,982
PCGAM Clean Energy & Tech Fund	Investment Manager	90,000
Pegasus Partners	Investment Manager	1,003,552
Perseus Partners VII	Investment Manager	207,620
Pine Brook Cap Partners	Investment Manager	495,721

*Continued on page 3.13*

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**SUMMARY OF INVESTMENT MANAGERS AND FEES**  
**YEAR ENDED JUNE 30, 2013 (Continued)**

**INVESTMENT MANAGERS**

Platinum Equity Cap Partners	Investment Manager	\$2,319,895
PRE AMB Alliance Fd II	Investment Manager	93,284
PRE Almanac Realty	Investment Manager	132,643
PRE Amer Value	Investment Manager	177,442
PRE Blackrock Carbon III	Investment Manager	349,323
PRE Blackstone Pre Ptn Eur	Investment Manager	750,332
PRE Blackstone RE	Investment Manager	806,202
PRE Brookfield St RE Partners	Investment Manager	2,536,135
PRE Canyon Johnson UBN III	Investment Manager	311,095
PRE Capri Urban Investors, L.P.	Investment Manager	1,785,073
PRE Carlyle	Investment Manager	896,321
PRE Carlyle Realty Fd	Investment Manager	321,469
PRE Colony Realty Partners	Investment Manager	175,099
PRE Heitman America Fd	Investment Manager	230,412
PRE H/2 SP OPP FD	Investment Manager	120,892
PRE JPMC Strategick Property Fund	Investment Manager	1,036,680
PRE JPMC Special Situations Fund	Investment Manager	191,509
PRE Lasalle US Prty Fd	Investment Manager	199,642
PRE Prologis Targeted US	Investment Manager	59,540
PRE RREEF America	Investment Manager	300,764
PRE Silverpeak RE Partners	Investment Manager	79,868
PRE Stockbridge RE III	Investment Manager	231,513
PRE Taconic NY	Investment Manager	848,253
PRE/ Urban America II	Investment Manager	116,482
PRE Ventures	Investment Manager	966,696
PRE Westbrook RE Fd VIII	Investment Manager	682,182
Prisa	Investment Manager	877,108
Prism Venture Parts	Investment Manager	524,946
Psilos Group Partners III	Investment Manager	41,365
Quadrangle Capital Partners II	Investment Manager	288,326
Quaker BioVentures II	Investment Manager	369,538
Relativity Fund	Investment Manager	301,147
Ripplewood Holdings, L.L.C.	Investment Manager	40,202
Riverstone / Carlyne GLB	Investment Manager	126,335
RLJ Equity Partners Fd	Investment Manager	263,415
SCP Private Equity Partners	Investment Manager	116,160
SCP Vitalife Partners II	Investment Manager	375,000
Snow Phipps & Guggenheim	Investment Manager	195,920
Solera Capital, L.L.C.	Investment Manager	146,024
Starvest Prtnrs II	Investment Manager	387,168
Terra Firma Cap III	Investment Manager	200,972
Thomas McNerney Ptn	Investment Manager	528,084
Thor Urban Propty FD II	Investment Manager	119,433
Tishman Speyer	Investment Manager	143,789
Torchlight Investors	Investment Manager	629,349
Trident V. LP	Investment Manager	495,671
Trilantic Cap Ptnrs	Investment Manager	943,508
U. S. Power Fd	Investment Manager	1,107,756
UBS Real Estate Separate Account	Investment Manager	809,388
Vista Equity Partners III	Investment Manager	1,208,228
VSS Communication Partners IV	Investment Manager	75,173
Warburg Pincus Pe	Investment Manager	2,450,900

Continued on page 3.14

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SUMMARY OF INVESTMENT MANAGERS AND FEES  
YEAR ENDED JUNE 30, 2013 (Continued)**

**INVESTMENT MANAGERS**

Wel Crsn Andrsn & Sto	Investment Manager	\$534,542
Yucaipa American Alliance Fund	Investment Manager	927,552
Yucaipa Corporation Initiatives II	Investment Manager	322,442
AEA Investors	Fee Refund	(117,415)
Canyon Johnson URB	Fee Refund	(272,942)
HM 2006 Sector Per Fund	Fee Refund	(5,092)
Tailwind Capital Partners	Fee Refund	(103,212)
Bank of NY Mellon	Custodial Bank	1,809,534
Legal Fees		395,020
Consultant Fees		1,955,964

**Diversified Equity Fund and International Equity Fund**

Advent Conv Bond	Investment Manager	240,880
Lord Abbett Conv Bond	Investment Manager	79,574
Zazove Conv Bond	Investment Manager	419,321
Sound Shore-Value	Investment Manager	174,206
Cardinal Sm Cap Val	Investment Manager	149,705
Shapiro - Small Cap	Investment Manager	188,430
Crm-Mid Value	Investment Manager	151,428
Rainer-Small / Mid	Investment Manager	239,955
Wasatch Advisors Inc	Investment Manager	284,225
Mcm - Russ 3000	Investment Manager	57,073
Intech-Super Fund	Investment Manager	292,255
Wellington - Lg Cp Cor	Investment Manager	445,694
Martingale Large Cap	Investment Manager	160,052
Analytic Investors	Investment Manager	187,488
Aronson Johnson Ortiz	Investment Manager	207,717
T. Rowe Price	Investment Manager	216,598
Amalgamated-S&P 1500	Investment Manager	14,050
Short Term A-Qpp&Tda	Investment Manager	19,958
Blackrock Intl Eafe Idx	Investment Manager	74,519
Sprucegrove Invt Magt	Investment Manager	146,245
Wellington Magt Co lep	Investment Manager	527,325
Thornburg Invt Magt lep	Investment Manager	304,211
Pyramis Global	Investment Manager	331,234
Walter Scott - Int'l	Investment Manager	210,261
Mellon Trust Co.	Custodial Bank	369,644

**Bond Fund**

Standish Mellon Asset Mgmt.	Funding Advisor	144,536
Mellon Global Securities Services	Custodial Bank	10,348

**Inflation Protection Fund**

PIMCO	Mutual Fund	
Mellon Global Securities Services	Custodial Bank	200

**Socially Responsive Equity Fund**

Neuberger Berman SRF	Mutual Fund	
Mellon Global Securities Services	Custodial Bank	201

<b>Total Investment Expenses*</b>		<b>\$139,122,285</b>
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\* Total Investment Expenses does not include \$32,080 in Variable Programs' provision for expenses.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**LIST OF LARGEST BOND ASSETS HELD  
(BY MARKET VALUE)**

As of June 30, 2013

<b>Par Value</b>		<b>Interest Rate</b>	<b>Due Date</b>	<b>Market Value</b>
\$323,172,000	Federal Nat Mtg Assn TBA 30YR SFM	3.500%	07/01/42	\$328,070,076
127,675,000	Federal Nat Mtg Assn TBA 15YRS SFM	2.500	07/01/27	128,413,121
117,212,400	United States Treasury Notes	1.375	05/31/20	113,119,343
86,180,000	Govt Nat Mtg Assn II TBA JUMBO 30YR	3.500	07/01/42	88,442,225
89,181,000	Federal Nat Mtg Assn TBA 30YR SFM	3.000	07/01/42	87,132,624
78,535,000	Federal Nat Mtg Assn TBA 30YR SFM	4.000	07/01/42	81,814,622
77,500,000	Federal Nat Mtg Assn TBA 30YR SFM	3.000	08/01/42	75,514,063
71,720,000	Federal Home Ln Mtg Corp TBA 30YR Gold SFM	4.000	07/01/41	74,580,194
65,865,600	United States Treasury Notes	1.000	05/31/18	64,733,535
65,512,800	United States Treasury Notes	1.750	05/15/23	61,356,832

**LIST OF LARGEST EQUITY ASSETS HELD  
(BY MARKET VALUE)**

As of June 30, 2013

<b>Company Name</b>	<b>Shares</b>	<b>Market Value</b>
Exxon Mobil Corp.	1,654,035	\$149,442,062
Apple Inc.	340,391	134,975,243
Microsoft Corp.	3,007,371	103,889,631
Google Inc.	101,700	89,533,629
Chevron Corp.	744,240	88,073,362
General Electric Co.	3,712,206	86,086,057
Johnson & Johnson	976,646	83,854,826
JP Morgan Chase & Co.	1,481,018	78,182,940
International Business Machine	399,778	76,401,574
Procter & Gamble Co.	982,042	75,607,414
Pfizer Inc.	2,483,388	69,559,698
AT&T Inc.	1,960,359	69,396,709
Wells Fargo & Co.	1,662,031	68,592,019
Berkshire Hathaway Inc.	557,653	62,412,524
Citigroup Inc.	1,290,967	61,927,687
Verizon Communications Inc.	1,202,450	60,531,333
Philip Morris International Inc.	692,680	59,999,942
Merck & Co Inc.	1,179,451	54,785,499
Wal-Mart Stores Inc.	683,441	50,909,520
Coca-Cola Co.	1,267,811	50,851,899
Bank of America Corp.	3,869,518	49,762,001
Comcast Corp.	1,114,127	46,514,802
Cisco Systems Inc.	1,890,653	46,009,041
Pepsico Inc.	554,498	45,352,391
Intel Corp.	1,779,032	43,105,945

**Note:** The above tables reflect assets of both the Qualified Pension Plan (QPP) and Tax-Deferred Annuity (TDA) Program. The complete list of assets held by TRS' six investment programs is included in the publication Investment Portfolios.





# 4. Actuarial





**OFFICE OF THE ACTUARY**

75 PARK PLACE • 9<sup>TH</sup> FLOOR  
NEW YORK, NY 10007  
(212) 442-5775 • FAX: (212) 442-5777

**ROBERT C. NORTH, JR.**  
CHIEF ACTUARY

November 8, 2013

Retirement Board  
Teachers' Retirement System  
of the City of New York  
55 Water Street, 16th Floor  
New York, NY 10041

Re: Actuarial Information for the Comprehensive Annual Financial Report ("CAFR") for the Fiscal Year Ended June 30, 2013

Dear Members:

The financial objective of the Teachers' Retirement System of the City of New York - Qualified Pension Plan ("TRS-QPP" or the "Plan") is to fund members' retirement benefits during their active service and to establish employer normal contribution rates that, expressed as a percentage of active member annualized covered payroll, would remain approximately level over the future working lifetimes of those active members and, together with member contributions and investment income, are intended to ultimately be sufficient to accumulate assets to pay benefits when due.

An actuarial valuation of the Plan is performed annually as of the second June 30 preceding each fiscal year to determine the Employer Contributions to be paid for that fiscal year (*i.e.*, June 30, 2011 (Lag) actuarial valuation to determine Fiscal Year 2013 Employer Contributions).

Employers are required to contribute statutorily-required contributions ("Statutory Contributions") and these contributions are generally funded by Employers within the appropriate fiscal year.

For Fiscal Year 2013, the Employer Contributions to TRS, based on the June 30, 2011 (Lag) actuarial valuation, are equal to those recommended by the Actuary for the New York City Retirement Systems (the "Actuary") and represent the Statutory Contributions.

Employer Contributions for Fiscal Year 2013 were also equal to the Annual Required Contributions as defined under Governmental Accounting Standards Board ("GASB") Statement Number 25 ("GASB 25") as amended by GASB Statement No. 50 ("GASB 50").

The Annual Required Contributions, computed in accordance with GASB 25 as amended by GASB 50, are consistent with generally accepted actuarial principles.

# TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

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Teachers' Retirement System  
of the City of New York  
November 8, 2013  
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## Actuarial Assumptions and Methods

Provided in this Actuarial Section of the CAFR is a "Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2011 (Lag) Actuarial Valuation." These actuarial assumptions and methods were first employed in the June 30, 2010 (Lag) actuarial valuation that was used to determine Fiscal Year 2012 Employer Contributions to the Plan (the "2012 A&M").

These actuarial assumptions and methods are generally unchanged from those employed in the June 30, 2010 (Lag) actuarial valuation that was used to determine Fiscal Year 2012 Employer Contributions to the Plan.

After reviewing the results of independent actuarial studies dated December 2011 by The Hay Group ("Hay") and November 2006 by The Segal Company ("Segal") in accordance with Section 96 of the New York City Charter, the Actuary issued a February 10, 2012 Report entitled "Proposed Changes in Actuarial Assumptions and Methods for Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2011 for the New York City Teachers' Retirement System" ("February 2012 Report").

The Retirement Board of the Plan adopted those changes in actuarial assumptions that require Board approval. The State Legislature and the Governor enacted Chapter 3 of the Laws of 2013 ("Chapter 3/13") to provide for those changes to the actuarial assumptions and methods that require legislation, including the Actuarial Interest Rate ("AIR") assumption of 7.0% per annum, net of expenses.

## Benefits and Census Data

A summary of the benefits applicable to Plan members included in the June 30, 2011 (Lag) actuarial valuation is shown later in this Actuarial Section of the CAFR.

Included in the summary of benefits are benefit provisions that have been passed by the New York State Legislature and enacted as Chapter 504 of the Laws of 2009. These benefit provisions became applicable to certain members who join the Plan on and after December 10, 2009.

Not included in the summary of benefits are the benefit provisions applicable to certain members who join the Plan on and after July 1, 2011.

Census data are submitted by the Plan's administrative staff and by the employers' payroll facilities and are reviewed by the Office of the Actuary ("OA") for consistency and reasonability.

A summary of the census data used in the June 30, 2011 (Lag) actuarial valuation is included in this CAFR. A summary of the census data used in the June 30, 2010 (Lag) actuarial valuation of the Plan is available in the June 30, 2012 CAFR.

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Teachers' Retirement System  
of the City of New York  
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### Funded Status

The Funded Status of the Plan is usually expressed in various relationships of Assets to Liabilities.

With respect to the Funded Status of the Plan, included in the Financial Section of the CAFR is a Schedule of Funding Progress (Schedule 1).

Included in the Actuarial Section of the CAFR is a Solvency Test (*i.e.*, Comparative Summary of Actuarial Values and Percentages Covered by Actuarial Value of Assets) as prescribed by the Government Finance Officers Association ("GFOA"). This Solvency Test represents an alternative approach to describing progress toward funding objectives.

In addition to the Schedule of Funding Progress and the Solvency Test, included for informational purposes in the Actuarial Section of the CAFR (following the Solvency Test) is an Additional Discussion of Plan Funding and Other Measures of Funded Status that provides different comparisons between the Assets and Liabilities of the Plan.

### Presentation Style and Sources of Information

The actuarial information herein is being presented in a manner believed to be consistent with the requirements of the GFOA and, where applicable, with GASB 25 which was adopted for financial reporting purposes beginning Fiscal Year 1995 and with GASB 50 which was adopted for financial reporting purposes beginning Fiscal Year 2008.

The Additional Discussion of Plan Funding and Other Measures of Funded Status represents information provided by the Actuary to assist those users who desire additional disclosures.

As prescribed by GASB 25 as amended by GASB 50, included in the Financial Section of the CAFR are the following schedules prepared by the OA:

- Schedule of Funding Progress.
- Schedule of Employer Contributions.
- Schedule of Actuarial Assumptions and Methods.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

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of the City of New York  
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The following schedules in the Actuarial Section of the CAFR were prepared by the OA:

- Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2011 (Lag) Actuarial Valuation.
- Active Member Valuation Data.
- Retirants and Beneficiaries Added to and Removed from Rolls.
- Funded Status based on Entry Age Actuarial Cost Method.
- Comparative Summary of Actuarial Values and Percentages Covered by Actuarial Value of Assets - Solvency Test.
- Additional Discussion of Plan Funding and Other Measures of Funded Status.
- Statutory vs. Annual Required Contributions.
- Summary of Plan Provisions.

The following information and schedules in other sections of the CAFR were prepared by the OA:

- Summary of Plan Membership.
- Schedule of Participating Employers.

If you have any questions about any of the information in this Actuarial Section or any of the actuarial information elsewhere presented in this CAFR, please do not hesitate to contact Mr. John R. Gibney, Jr., Mr. Edward Hue or me.

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

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Acknowledgement of Qualification

A Statement of Actuarial Opinion ("SAO"), acknowledging the qualification of the Actuary to render the actuarial opinion contained herein, appears at the end of this Actuarial Section.

Respectfully submitted,



Robert C. North, Jr., FSA, MAAA  
Chief Actuary

RCN/aip

Att.

cc: Mr. J.R. Gibney  
Mr. E. Hue  
Mr. P.J. Raucci  
Ms. P.M. Reilly  
Mr. S.H. Rumley

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**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION**

1. Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded New York City Retirement Systems (NYCRS) are conducted every two years.

The most recently completed study was published by The Hay Group ("Hay"), dated December 2011, and analyzed experience for Fiscal Years 2006 through 2009. Hay made recommendations with respect to the actuarial assumptions and methods based on their analysis.

The previously completed study was published by The Segal Company ("Segal"), dated November 2006, and analyzed experience for Fiscal Years 2002 through 2005. Segal made recommendations with respect to the actuarial assumptions and methods based on their analysis.

In accordance with the Administrative Code of the City of New York ("ACNY") and with appropriate practice, the Boards of Trustees of the five actuarially-funded NYCRS are to periodically review and adopt actuarial assumptions as proposed by the Actuary for use in the determination of Employer Contributions.

Based, in part, upon a review of the Segal and Hay studies, the Actuary issued a February 10, 2012 Report entitled "Proposed Changes in Actuarial Assumptions and Methods for Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2011 for the New York City Teachers' Retirement System" ("February 2012 Report").

The Retirement Board of the Plan adopted those changes to actuarial assumptions that require Board approval. The State Legislature and the Governor have enacted Chapter 3 of the Laws of 2013 ("Chapter 3/13") to provide for those changes to the actuarial assumptions and methods that require legislation, including the Actuarial Interest Rate ("AIR") assumption of 7.0% per annum, net of expenses, the Entry Age Actuarial Cost Method and the amortization of Unfunded Actuarial Accrued Liabilities.

2. The investment rate of return assumption is 7.0% per annum, net of expenses (4.0% per annum for benefits payable under the Variable Annuity Programs).
3. The mortality tables for service and disability pensioners were developed from an experience study of the Plan's pensioners. Sample probabilities are shown in Table 1A. Mortality tables for beneficiaries were developed from experience review. Sample probabilities are shown in Table 1B.
4. Active Service tables are used to estimate various withdrawals from Active Service. Sample probabilities are shown in Table 2 for members withdrawing from Active Service due to Death or Disability, in Table 3 for members withdrawing for Other Than Death or Disability or Retirement and in Tables 4A and 4B for members withdrawing from Active Service after eligibility for Service Retirement.

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION  
(Cont'd)**

5. A Salary Scale is used to estimate salaries at termination, retirement or death. Sample percentage increases are shown in Table 5. The Salary Scale includes a General Wage Increase ("GWI") assumption of 3.0% per annum.
6. The economic assumptions (*i.e.*, the assumed investment return rate, GWI rate and Cost-of-Living Adjustments ("COLA")) were developed assuming a long-term Consumer Price Inflation ("CPI") assumption of 2.5% per annum. The COLA assumption is 1.5% per annum.
7. The valuation assumes a closed group of members. Salaries of members on the valuation date are assumed to increase in accordance with the Salary Scale.
8. Beginning with the June 30, 2010 (Lag) actuarial valuation, the Entry Age Actuarial Cost Method ("EAACM") of funding is utilized by the Plan's Actuary to calculate the contribution required of the Employer.

Under this method, the Actuarial Present Value ("APV") of Benefits ("APVB") of each individual included in the actuarial valuation is allocated on a level basis over the earnings (or service) of the individual between entry age and assumed exit age(s). The employer portion of this APV allocated to a valuation year is the Employer Normal Cost. The portion of this APV not provided for at a valuation date by the APV of Future Employer Normal Costs or future member contributions is the Actuarial Accrued Liability ("AAL").

The excess, if any, of the AAL over the Actuarial Asset Value ("AAV") is the Unfunded Actuarial Accrued Liability ("UAAL").

Under this method, actuarial gains (losses), as they occur, reduce (increase) the UAAL and are explicitly identified and amortized.

Increases (decreases) in obligations due to benefit changes, actuarial assumption changes and/or actuarial method changes are also explicitly identified and amortized.

Chapter 105 of the Laws of 2010 established, as of June 30, 2011, an Early Retirement Incentive ("ERI") for certain TRS members. The UAAL attributable to the ERI is amortized on a level basis over a period of five years (4 payments under the One-Year Lag Methodology).

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION  
(Cont'd)**

9. One-Year Lag Methodology (“Lag” or “OYLM”) uses a June 30, 2011 valuation date to determine Fiscal Year 2013 Employer Contributions.

This methodology requires technical adjustments to certain components used to determine Fiscal Year 2013 Employer Contributions as follows:

- Present Value of Future Salary (“PVFS”).  
The PVFS at June 30, 2011 is reduced by the value of salary projected to be paid during Fiscal Year 2012.
- Salary for Determining Employer Contributions.  
Salary used to determine the employer normal contribution is the salary projected to be paid during Fiscal Year 2013 to members on payroll at June 30, 2011.
- UAAL payments.

For determining the UAAL payments for Fiscal Year 2013, and to be consistent with OYLM, the UAAL as of June 30, 2011 is adjusted by the discounted value of employer normal contributions paid during Fiscal Year 2012 and the discounted value of the administrative expenses reimbursed during Fiscal Years 2012 and 2013.

10. Beginning with the June 30, 2004 (Lag) actuarial valuation, the Actuarial Asset Valuation Method (“AAVM”) was changed to a method that reset the AAV to Market Value (*i.e.*, “Market Value Restart”) as of June 30, 1999. As of each June 30 thereafter the AAVM recognizes investment returns greater or less than expected over a period of six years.

Under this revised AAVM, any Unexpected Investment Returns (“UIR”) for Fiscal Years 2000 and later are phased into the AAV beginning the following June 30 at a rate of 15%, 15%, 15%, 15%, 20% and 20% per year (or cumulative rates of 15%, 30%, 45%, 60%, 80% and 100% over a period of six years).

These revised averaging factors were applied against the UIR computed under the prior five-year AAVM used for Fiscal Years 2000 to 2004.

The revised AAVM was utilized for the first time in the June 30, 2004 (Lag) actuarial valuation to determine the Fiscal Year 2006 Employer Contributions in conjunction with the One-Year Lag Methodology and the revised economic and noneconomic assumptions.

The AAVM in effect for the June 30, 2009 (Lag) actuarial valuation was unchanged from the AAVM used in the June 30, 2008 (Lag) actuarial valuation.

Note that beginning with the June 30, 2008 (Lag) actuarial valuation, the AAV was recomputed retroactive to June 30, 1999, by re-characterizing amounts credited as interest on TDA Fixed Fund account balances as payouts instead of investment losses.

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION**

**(Cont'd)**

The concept in use for the AAVM for actuarial valuations on and after June 30, 2012 is the same as that in use for the June 30, 2009 (Lag) actuarial valuation.

In accordance with this AAVM, actual Unexpected Investment Returns ("UIR") for Fiscal Years 2012, 2013, etc. are phased into the Actuarial Asset Value ("AAV") beginning June 30, 2012, 2013, etc. at rates of 15%, 15%, 15%, 15%, 20% and 20% per year (*i.e.*, cumulative rates of 15%, 30%, 45%, 60%, 80% and 100% over a period of six years).

The Actuary reset the Actuarial Asset Value to the Market Value of Assets ("MVA") as of June 30, 2011 (*i.e.*, "Market Value Restart").

For the June 30, 2010 (Lag) actuarial valuation, the AAV is defined to recognize Fiscal Year 2011 investment performance. The June 30, 2010 AAV is derived as equal to the June 30, 2011 MVA, discounted by the AIR assumption (adjusted for cash flow) to June 30, 2010.

11. The Actuarial Present Value of Future Benefits ("APVB") as of June 30, 2011, used to determine Fiscal Year 2013 Employer Contributions, includes estimates of liabilities for:
  - a. World Trade Center Disability Benefits
  - b. World Trade Center Death Benefits
  - c. Proposed Litigation Settlements
12. As discussed herein, the actuarial assumptions and methods are generally unchanged from those used in the June 30, 2010 (Lag) actuarial valuation.

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION

(Cont'd)

**TABLE 1A**

**Deaths among Service and Disability Pensioners**

*Percentage of Pensioners Dying within Next Year*

<b><u>Age</u></b>	<b><u>Service Pensioners</u></b>		<b><u>Disability Pensioners</u></b>	
	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>
<b>40</b>	.0875%	.0564%	1.3258%	1.3024%
<b>45</b>	.1364	.0842	1.3688	1.3484
<b>50</b>	.1815	.1292	1.4168	1.3964
<b>55</b>	.2923	.2176	1.6168	1.4494
<b>60</b>	.4875	.3722	1.9511	1.6659
<b>65</b>	.8897	.5921	2.2907	1.7289
<b>70</b>	1.4650	.9723	2.6651	1.9096
<b>75</b>	2.2299	1.4425	3.3423	2.6669
<b>80</b>	3.7991	2.5246	5.0785	3.8879
<b>85</b>	6.8955	5.0785	8.9495	6.3260
<b>90</b>	12.4543	8.9495	16.5497	11.1587
<b>95</b>	23.1217	16.5497	27.2485	18.5008
<b>100</b>	33.6045	23.1885	37.1685	23.1885
<b>105</b>	39.7886	29.3116	40.0000	29.3116
<b>110</b>	100.0000	100.0000	100.0000	100.0000

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
 IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION  
 (Cont'd)

**TABLE 1B**

**Deaths among Beneficiaries**

*Percentage of Beneficiaries Dying within Next Year*

<b><u>Age</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>
40	.0875%	.0564%
45	.1364	.0842
50	.1815	.1292
55	.2923	.2176
60	.4875	.3722
65	.8897	.5921
70	1.465	.9723
75	2.2299	1.4425
80	3.7991	2.5246
85	6.8955	5.0785
90	12.4543	8.9495
95	23.1217	16.5497
100	33.6045	23.1885
105	39.7886	29.3116
110	100.0000	100.0000

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
 IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION  
 (Cont'd)

**TABLE 2**

**Withdrawals from Active Service (Due to Death or Disability)**  
*Percentage of Active Members Separating within Next Year*

<b><u>Age</u></b>	<b><u>Accidental Disability</u></b>		<b><u>Ordinary Disability</u></b>		<b><u>Ordinary Death</u></b>	
	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>
<b>20</b>	.00%	.00%	.01%	.01%	.040%	.020%
<b>25</b>	.00	.00	.01	.01	.040	.020
<b>30</b>	.00	.00	.01	.01	.040	.020
<b>35</b>	.01	.01	.06	.05	.050	.025
<b>40</b>	.02	.01	.10	.10	.060	.030
<b>45</b>	.03	.02	.15	.15	.110	.055
<b>50</b>	.03	.03	.15	.20	.160	.080
<b>55</b>	.04	.04	.15	.20	.210	.105
<b>60</b>	.04	.04	.15	.20	.260	.130
<b>65</b>	.04	.04	.15	.20	.320	.160
<b>70</b>	NA	NA	NA	NA	NA	NA

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION  
(Cont'd)**

**TABLE 3**

**Withdrawals for Other Than Death or Disability or Retirement**  
*Percentage of Active Members Withdrawing within Next Year*

<u>Years of Service</u>	<u>Probability of Withdrawal</u>
0	9.00%
5	4.00
10	2.00
15	1.25
20	1.00

**TABLE 4A**

**Withdrawals from Active Service (After Eligibility for Service Retirement)**  
**Members Not Electing an Optional Retirement Plan\***

*Percentage of Eligible Active Members Retiring within Next Year*

<u>Age</u>	<u>Males</u>				<u>Females</u>				
	<u>With Reduced Benefits</u>	<u>With Unreduced Benefits</u>			<u>With Reduced Benefits</u>	<u>With Unreduced Benefits</u>			
		<u>Years of Service Since First Elig.</u>	<u>Years of Service Since First Elig.</u>	<u>Years of Service Since First Elig.</u>		<u>Years of Service Since First Elig.</u>	<u>Years of Service Since First Elig.</u>	<u>Years of Service Since First Elig.</u>	
		<u>0-1</u>	<u>1-2</u>	<u>2+</u>		<u>0-1</u>	<u>1-2</u>	<u>2+</u>	
<b>50</b>	0.00%	0.00%	0.00%	0.00%	<b>50</b>	0.00%	0.00%	0.00%	0.00%
<b>55</b>	2.00	20.00	0.00	0.00	<b>55</b>	2.00	20.00	0.00	0.00
<b>60</b>	4.00	20.00	15.00	15.00	<b>60</b>	4.00	20.00	15.00	15.00
<b>65</b>	0.00	30.00	20.00	20.00	<b>65</b>	0.00	30.00	20.00	20.00
<b>70</b>	NA	100.00	100.00	100.00	<b>70</b>	NA	100.00	100.00	100.00

\* Applies to members who did not voluntarily elect to participate in the 55/25 plan enacted under Chapter 19 of the Laws of 2008 and to members mandated into the 55/27 plan.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2011 (LAG) ACTUARIAL VALUATION  
(Cont'd)**

**TABLE 4B**

**Withdrawals from Active Service (After Eligibility for Service Retirement)**  
**Members Electing an Optional Retirement Plan\***  
*Percentage of Eligible Active Members Retiring within Next Year*

<u>Age</u>	<u>Males</u>				<u>Age</u>	<u>Females</u>			
	<u>With Reduced Benefits</u>	<u>With Unreduced Benefits</u>				<u>With Reduced Benefits</u>	<u>With Unreduced Benefits</u>		
		<u>Years of Service Since First Elig.</u>	<u>0-1</u>	<u>1-2</u>			<u>2+</u>	<u>Years of Service Since First Elig.</u>	<u>0-1</u>
<b>50</b>	0.00%	0.00%	0.00%	0.00%	<b>50</b>	0.00%	0.00%	0.00%	0.00%
<b>55</b>	2.00	30.00	0.00	0.00	<b>55</b>	2.00	30.00	0.00	0.00
<b>60</b>	4.00	30.00	20.00	20.00	<b>60</b>	4.00	30.00	20.00	20.00
<b>65</b>	0.00	40.00	30.00	30.00	<b>65</b>	0.00	40.00	30.00	30.00
<b>70</b>	NA	100.00	100.00	100.00	<b>70</b>	NA	100.00	100.00	100.00

\*Applies to members who voluntarily elected to participate in the 55/25 plan enacted under Chapter 19 of the Laws of 2008.

**TABLE 5**

**Salary Scale**

<u>Years of Service</u>	<u>Assumed Annual Percentage Increases Within Next Year*</u>
0	13.00%
5	8.00
10	4.00
15	4.00
20	4.00
25	4.00
30	4.00
35	4.00
40	4.00

\*Salary Scale includes a General Wage Increase assumption of 3.0% per annum.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**ACTIVE MEMBER VALUATION DATA**

<u>As of June 30</u>	<u>Number</u>	<u>Annual Payroll</u>	<u>Annual Average Salary</u>	<u>Percentage Increase (Decrease) in Average Salary</u>
1999	86,682	\$4,217,560,016	\$48,656	5.4%
2000	91,494	4,721,526,309	51,605	6.1
2001	95,381	5,015,449,141	52,583	1.9
2002	95,678	5,469,239,283	57,163	8.7
2003	97,986	5,828,756,503	59,486	4.1
2004	105,391	6,219,808,501	59,017	(0.8)
2004 (Lag)	105,391	6,175,939,608 <sup>(1)</sup>	58,600	(1.5) <sup>(2)</sup>
2005 (Lag)	104,850	6,273,909,925	59,837	2.1
2006 (Lag)	109,992	6,978,725,642	63,448	6.0
2007 (Lag)	109,868	7,222,471,073	65,738	3.6
2008 (Lag)	112,472	7,926,647,584	70,477	7.2
2009 (Lag)	113,132	8,016,635,700	70,861	0.5
2010 (Lag) <sup>(3)</sup>	111,647	7,979,671,378	71,472	0.9
2011 (Lag)	109,636	7,888,203,642	71,949	0.7
2012 (Lag) <sup>(4)</sup>	112,460	8,013,395,184	71,256	(1.0)

(1) The annualized covered payroll under the One-Year Lag Methodology as of June 30, 2004 used for the Fiscal Year 2006 Employer Contributions differs from that used to compute Fiscal Year 2005 Employer Contributions due to changes in actuarial assumptions and methods and updated information on labor contract settlements.

(2) Decrease from June 30, 2003.

(3) Beginning with the June 30, 2010 (Lag) actuarial valuation, the annualized covered payroll is based on revised actuarial assumptions.

(4) Preliminary.

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

RETIRANTS AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

Year Ended June 30	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances <sup>(2)</sup>	Number	Annual Allowances	Number	Annual Allowances <sup>(1)</sup>		
1999	1,794	\$147,046,596	1,537	\$ 36,719,223	50,525	\$1,604,299,434	7.4%	\$31,753
2000	1,989	97,255,275	1,545	41,436,595	50,969	1,660,118,114	3.5	32,571
2001	2,723	171,487,630	1,712	83,599,498	51,980	1,748,006,246	5.3	33,628
2002	4,309	194,808,813	1,727	120,082,520	54,562	1,822,732,539	4.3	33,407
2003	5,014	258,523,666	1,443	50,572,541	58,133	2,030,683,664	11.4	34,932
2004	6,264	415,127,840	1,669	53,234,112	62,728	2,392,577,392	17.8	38,142
2005	4,423	255,085,446	1,983	59,626,485	65,168	2,588,036,353	8.2	39,713
2006	4,207	231,094,649	1,799	55,372,752	67,576	2,763,758,250	6.8	40,899
2007	3,078	234,183,351	2,162	66,646,428	68,492	2,931,295,173	6.1	42,798
2008	3,252	75,074,813	1,969	64,757,835	69,775	2,941,612,151	0.4	42,159
2009	3,115	6,288,013	2,065	73,586,895	70,825	2,874,313,269	(2.3)	40,583
2010	3,534	207,981,284	2,003	64,538,942	72,356	3,017,755,611	5.0	41,707
2011	3,849	278,652,149	2,141	67,488,320	74,064	3,228,919,440	7.0	43,596

(1) Allowances shown in table are those used in the actuarial valuation as of the Year Ended date and are not adjusted for anticipated changes due to finalization of benefit calculation or contract settlements.

(2) Balancing Item – Amounts shown include changes due to benefit finalization, changes in benefit type (e.g., Service to Accidental Disability), COLA increases and other changes.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**FUNDED STATUS BASED ON ENTRY AGE ACTUARIAL COST METHOD**

**(As shown in Financial Statement for Fiscal Year ended June 30, 2013)**

**(Dollar Amounts In Thousands)**

This Schedule is being provided by the Actuary for the Plan to improve the transparency and decision usefulness of this financial report.

Prior to the June 30, 2010 (Lag) Actuarial Valuation, the Actuarial Cost Method ("ACM") used to develop the funding requirements for the Plan was the Frozen Initial Liability ("FIL") ACM. Under this ACM, following establishment of any Initial Unfunded Actuarial Accrued Liabilities ("UAAL"), actuarial gains and losses are financed over the working lifetimes of active participants and are not identified as separate UAAL.

The funding status and funding progress information provided in this Schedule has been prepared using the Entry Age ACM where the Actuarial Present Value ("APV") of any obligations of the Plan not provided by the APV of Future Contributions (Employer and Employee), as determined under the Entry Age ACM, equals the Actuarial Accrued Liability ("AAL"). Under the Entry Age ACM, the UAAL equals the AAL minus the Actuarial Value of Assets.

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability(AAL) - Entry Age (b)</b>	<b>Unfunded AAL (UAAL) – Entry Age (b-a)</b>	<b>Funded Ratio (a/b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll (b-a)/c)</b>
June 30, 2012 (Lag) <sup>1,2</sup>	\$33,871,180	\$58,783,399	\$24,912,219	57.6%	\$8,013,395	310.9%
June 30, 2011 (Lag) <sup>1</sup>	33,601,537	57,702,731	24,101,194	58.2%	7,888,204	305.5%
June 30, 2010 (Lag) <sup>1</sup>	32,477,527	55,138,366	22,660,839	58.9%	7,979,671	284.0%
June 30, 2009 (Lag)	30,774,981	47,988,459	17,213,478	64.1%	8,016,636	214.7%
June 30, 2008 (Lag)	32,227,375	49,400,762	17,173,387	65.2%	7,926,648	216.7%
June 30, 2007 (Lag)	33,854,152	48,625,202	14,771,050	69.6%	7,222,471	204.5%
June 30, 2006 (Lag)	32,405,645	45,138,925	12,733,403	71.8%	6,978,726	182.5%

Note: This schedule is based on actuarial assumptions used for determining Employer Contributions.

<sup>1</sup> Reflects revised actuarial assumptions and methods based on experience review, including an AIR assumption of 7.0% per annum, net of expenses.

<sup>2</sup> Preliminary.

**COMPARATIVE SUMMARY OF ACTUARIAL VALUES AND PERCENTAGES COVERED  
BY ACTUARIAL VALUE OF ASSETS**

**SOLVENCY TEST**

(Dollar Amounts in Thousands)

As of June 30	Aggregate Accrued Liabilities for					Percentage of Actuarial Values Covered by Actuarial Value of Assets
	Accumulated Member Contributions (A)	Current Retirees and Beneficiaries (B)	Active Members' Employer Financed Portion (C)	Actuarial Value of Assets (D)	(A) (B) (C)	
1999	\$3,111,019	\$15,748,859	\$12,447,411 <sup>1</sup>	\$34,626,062	100%	100%
2000	3,354,746	17,446,520	14,340,434 <sup>1</sup>	36,142,435	100	100
2001	3,077,510	17,254,058	14,114,923 <sup>1</sup>	35,410,230	100	100
2002	2,931,464	18,189,124	13,623,528 <sup>1</sup>	34,177,750	100	100
2003	2,752,562	20,489,777	12,561,516	33,169,210	100	79
2004	2,628,369	24,460,479	11,465,947	32,817,102	100	50
2004 (Lag)	2,628,369	24,636,479	11,682,625	33,149,251	100	50
2005 (Lag)	2,624,824	26,590,313	11,418,808	32,865,126 <sup>2</sup>	100	32
2006 (Lag)	2,724,814	27,934,371	11,960,437	32,405,645	100	15
2007 (Lag)	2,927,133	29,528,062	13,957,521	33,854,152	100	10
2008 (Lag)	2,898,027	29,182,084	14,743,596	32,227,375	100	1
2009 (Lag)	2,823,873	27,862,679	14,620,140	30,774,981	100	1
2010 (Lag)	2,962,696	32,264,333	17,529,345	32,477,527	100	0
2011 (Lag)	3,167,737	34,317,270	17,770,140	33,601,537	100	0

<sup>1</sup> Amounts shown were revised in the Fiscal Year 2004 CAFR from amounts published earlier to include annuitization of Variable Funds.

<sup>2</sup> Revised in the Fiscal Year 2008 CAFR to reflect updated information.

Also, see following "SOLVENCY TEST – NOTES."

**COMPARATIVE SUMMARY OF ACTUARIAL VALUES AND  
PERCENTAGES COVERED BY ACTUARIAL VALUE OF ASSETS**

**SOLVENCY TEST—NOTES**

The ultimate test of financial soundness in a retirement system is its ability to pay all of its promised benefits when due. The retirement system's progress in accumulating assets to pay all promised benefits can be measured by comparing the Actuarial Value of Assets of the retirement system with the Aggregate Accrued Liabilities for:

- (A) Accumulated Member Contributions;
- (B) Current Retirants and Beneficiaries; and
- (C) Active Members' Employer Financed Portion.

The Aggregate Accrued Liabilities are the APV of projected benefits produced by the projected benefit attribution approach prorated on service. The Aggregate Accrued Liabilities were calculated in accordance with Governmental Accounting Standards Board Statement No. 5 ("GASB 5").

This comparative summary allocated assets as if they were priority groups, somewhat similar to (but not identical to) the priority categories of Section 4044 of the Employee Retirement Income Security Act of 1974 ("ERISA").

The values in the Table are dependent upon census data, benefit levels (which have changed on occasion over the past years), and the actuarial assumptions and methods employed at each valuation date. The two most recent changes in assumptions and methods occurred in the June 30, 2004 (Lag) valuation used to compute the Employer Contributions of Fiscal Year 2006 and in the June 30, 2010 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2012. These underlying bases can be found within the Comprehensive Annual Financial Report for each respective year.

Beginning with the June 30, 2008 (Lag) actuarial valuation the AAV was recomputed retroactive to June 30, 1999, by re-characterizing amounts credited as interest on TDA Fixed Fund account balances as payouts instead of investment losses.

To fully evaluate trends in financial soundness, changes in assumptions need to be evaluated. For the valuation dates appearing in the table, the Actuarial Interest Rate and the General Wage Increase assumptions were all equal to 8.0% per annum, gross of expenses, and 3.0% per annum, respectively, through the June 30, 2009 (Lag) actuarial valuation. Beginning with the June 30, 2010 (Lag) actuarial valuation, the Actuarial Interest Rate ("AIR") assumption equals 7.0% per annum, net of expenses, and the General Wage Increase ("GWI") assumption equals 3.0% per annum.

**ADDITIONAL DISCUSSION OF PLAN FUNDING AND  
OTHER MEASURES OF FUNDED STATUS**

On-Going Funding of the Plan

Under the basic equation of pension funding, Contributions plus Investment Earnings pay for Benefits plus Expenses.

There are three major sources for financing those Benefits and Expenses paid from the Plan.

First, Member Contributions are established by statute and paid as percentages of member salaries.

Second, Investment Earnings reflect the rates of return achieved on the amounts of assets held in different asset classes in the Trust.

Third, Employer Contributions are determined by actuarial methodology to finance the Benefits payable by the Plan that are not provided by either Member Contributions or Investment Earnings and for the Administrative and Investment Expenses of the Plan.

This actuarial methodology includes demographic and certain tabular assumptions proposed by the Actuary and adopted by the Retirement Board, and certain economic assumptions and financing methods proposed by the Actuary, supported by the Retirement Board and, where required, enacted into law by the New York State Legislature and Governor.

Employer Contributions are particularly responsive to Investment Earnings and increase (decrease) on a smoothed basis whenever Investment Earnings are less (more) than expected.

For example, during Fiscal Years 2001 to 2003, the Assets of the Plan decreased because they earned less than expected. Consequently, over the following several years, the actuarial methodology responded by increasing Employer Contributions in order to bring the overall financial status of the Plan back into balance.

The New York City Charter requires an independent actuary to conduct an experience review of the Plan every two years. The Actuary utilizes this information and regularly proposes changes in actuarial assumptions and methods. The two most recent such changes occurred during Fiscal Year 2006 and Fiscal Year 2012.

The most recent changes, approved by the Retirement Board and implemented during Fiscal Year 2012, include: (1) updated demographic assumptions, (2) updated economic assumptions, (3) employing the Entry Age Actuarial Cost Method, (4) establishing Unfunded Actuarial Accrued Liabilities, their payment periods and payment methods, (5) resetting the Actuarial Asset Value to Market Value (*i.e.*, "Market Value Restart") as of June 30, 2011 and (6) defining the AAV as of June 30, 2010 to recognize Fiscal Year 2011 investment performance.

**ADDITIONAL DISCUSSION OF PLAN FUNDING AND  
OTHER MEASURES OF FUNDED STATUS  
(Cont'd)**

The ongoing process of actuarial rebalancing and periodic reviews of actuarial assumptions and methods by the Actuary and the Retirement Board, coupled with a financially responsible, long-duration employer like the City of New York (the "City") and other participating Employers that can afford some variability of Employer Contributions, help provide financial security for the Plan and its participants and reasonable intergenerational budget equity for taxpayers.

With the City and other participating Employers that have always paid and are expected to continue to pay the statutorily-required Employer Contributions as calculated by the Actuary and approved by the Retirement Board, changes in Employer Contributions represent the source for rebalancing the basic equation of pension funding.

Other Measures of Funded Status

Measures of Funded Status of the Plan are determined at specific points in time and are usually expressed in various relationships of Assets to Obligations. Assets as percentages of Obligations are referred to as Funded Ratios.

Comparisons of Funded Status over time provide insight into the evolving financial condition of the Plan.

The Other Measures of Funded Status presented herein provide different perspectives of the financial condition of the Plan and comparisons amongst these Other Measures of Funded Status can prove insightful.

As noted, there are multiple, possible definitions of the Plan's Assets and Obligations. Some of these definitions of and comments on Assets and Obligations are set forth immediately hereafter. Additional observations about the meanings and usefulness of and the relationships amongst certain of the Funded Ratios are provided following the Table of Funded Ratios.

Definition of and Comments on Assets

With respect to Assets, both the Market Value of Assets ("MVA") and the Actuarial Value of Assets (or Actuarial Asset Value ("the AAV")) are used to determine Funded Ratios.

In the case of the Plan, the AAVM currently in use provides for smoothing of the MVA by phasing any Unexpected Investment Returns (*i.e.*, Investment Earnings greater or less than those expected under the actuarial interest rate assumption used each year) into the AAV over a period of six years.

The advantage of using MVA is that it represents the fair value of the Assets of the Plan at any point in time.

The advantage of using AAV is that it is smoothed to remove the volatility of MVA. The disadvantage of AAV is that it is not the fair value of Assets in the marketplace and, therefore, does not show the volatility of the Assets.

**ADDITIONAL DISCUSSION OF PLAN FUNDING AND  
OTHER MEASURES OF FUNDED STATUS  
(Cont'd)**

Definition of and Comments on Obligations

With respect to Obligations, the Actuarial Accrued Liability ("AAL") under any particular Actuarial Cost Method ("ACM") is that portion of the APV of projected benefits which is not provided by future normal costs (employer and employee).

With respect to the Plan, where, prior to Fiscal Year 2012, the ACM was the Frozen Initial Liability ("FIL") ACM, the AAL mathematically can be recast as the Unfunded AAL ("UAAL") plus the AAV. To the extent that the UAAL does not change much year to year, then the related AAL remained relatively consistent in value with the AAV each year.

With respect to the ongoing funding of the Plan, the use of the FIL ACM provided for amortizing actuarial gains and losses over the future working lifetimes of active employees. As used by the Plan, the FIL ACM generally resulted in funding that was more conservative (*i.e.*, greater Employer Contributions) than that of most other Public Pension Plans.

The Entry Age Accrued Liability ("EAAL") is defined as the APV of projected benefits less the sum of the APV of future employee contributions and the APV of future employer Entry Age Normal Costs.

The EAAL is a required disclosure in accordance with Governmental Accounting Standards Board ("GASB") Statement Number 43 ("GASB 43") and GASB Statement Number 45 ("GASB 45") for Other Post-Employment Benefits ("OPEB") under the Aggregate ACM.

In accordance with GASB Statement Number 50 ("GASB 50"), beginning with Fiscal Year 2008, the EAAL is a required disclosure for Public Pension Plans that determine employer contributions using the Aggregate ACM.

The Entry Age ACM is the most-commonly utilized ACM for funding Public Pension Plans.

Beginning with the June 30, 2010 (Lag) actuarial valuation (*i.e.*, Fiscal Year 2012 Employer Contributions), the Entry Age ACM is being used for the on-going funding of the Plan.

The Projected Benefit Obligation ("PBO") is defined as the proportion of APV of all benefits attributed by the Plan's benefit formula to employee service rendered prior to the valuation date. The PBO was required reporting under GASB Statement Number 5 ("GASB 5") prior to its replacement by GASB 25 and GASB 27.

The Accumulated Benefit Obligation ("ABO") is determined in a manner somewhat comparable to the PBO but using only salaries prior to the valuation date (*i.e.*, assuming no future salaries or future salary increases).

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**ADDITIONAL DISCUSSION OF PLAN FUNDING AND  
OTHER MEASURES OF FUNDED STATUS  
(Cont'd)**

The Market Value Accumulated Benefit Obligation (“MVABO”) is determined in the same manner as an ABO using the same actuarial assumptions except that projected benefit payments are discounted using annual yields on U.S. Treasury securities of like duration. The MVABO is sometimes described as a Mark-to-Market measure of Obligations or a Market Value of Liabilities (“MVL”).

Table of Asset and Obligation Values

The following table presents the values of Assets and Obligations used to calculate alternative Funded Ratios.

<b>Component Measures of Funded Status (Dollar Amounts in Millions)</b>									
<b>Valuation Date</b>	<b>Market Value of Assets (MVA)</b>	<b>Actuarial Asset Value (AAV)<sup>(1)</sup></b>	<b>Actuarial Accrued Liability (AAL)<sup>(2)</sup></b>	<b>Entry Age Accrued Liability (EAAL)<sup>(3)</sup></b>	<b>Projected Benefit Obligation (PBO)<sup>(3)</sup></b>	<b>Accumulated Benefit Obligation (ABO)<sup>(3)</sup></b>	<b>Market Value Accumulated Benefit Obligation (MVABO)<sup>(4)</sup></b>	<b>MVABO Equiv. Discount Yield (Per Annum)</b>	<b>MVABO Weighted Average Duration (Years)</b>
6/30/99	\$34,626.1	\$34,626.1	\$34,626.1	\$32,542.5	\$31,307.3	\$27,929.8	\$31,828.0	6.0%	11.5
6/30/00	36,751.2	36,142.4	36,147.6	36,743.6	35,141.7	31,150.1	35,581.1	6.0	11.8
6/30/01	31,593.0	35,410.2	35,414.5	36,140.1	34,446.5	30,721.5	36,393.4	5.7	11.6
6/30/02	27,025.9	34,177.8	34,181.1	36,531.2	34,744.1	30,677.2	36,575.1	5.8	10.9
6/30/03	26,078.0	33,169.2	33,182.7	37,622.9	35,776.9	31,945.0	42,682.0	4.6	11.8
6/30/04	28,975.4	32,817.1	32,827.5	40,486.9	38,554.8	35,175.5	43,053.6	5.5	11.1
6/30/04 (Lag) <sup>(5)</sup>	28,975.4	33,149.3	33,159.7	40,872.0	38,947.5	35,277.6	43,223.1	5.5	11.2
6/30/05 (Lag)	30,492.2	32,865.1	32,872.3	42,644.4	40,633.9	37,033.8	51,957.2	4.2	13.0
6/30/06 (Lag)	32,206.7	32,405.5	32,410.5	45,138.9	42,619.6	38,580.8	47,892.4	5.4	11.9
6/30/07 (Lag)	37,142.8	33,854.2	33,856.7	48,625.2	46,412.7	42,362.9	53,151.3	5.2	12.0
6/30/08 (Lag)	32,297.9	32,227.4	32,227.4	49,400.8	46,823.7	41,911.8	57,275.0	4.5	12.1
6/30/09 (Lag)	23,077.5	30,775.0	30,775.0	47,988.5	45,306.7	40,883.2	59,266.2	4.1	12.3
6/30/10 (Lag) <sup>(6)</sup>	26,398.4	32,477.5	55,138.4	55,138.4	52,756.4	47,982.7	68,567.2	3.7	13.1
6/30/11 (Lag)	33,601.5	33,601.5	57,702.7	57,702.7	55,255.1	50,199.8	67,869.6	4.0	12.2
6/30/12 (Lag) <sup>(7)</sup>	32,774.8	33,871.2	58,783.4	58,783.4	56,257.2	51,493.0	86,568.5	2.4	14.5

- (1) The AAV used for the June 30, 1999 to June 30, 2009 actuarial valuations assumes the AAV was reset to MVA as of June 30, 1999. As of each June 30 thereafter, the AAV recognizes Investment Returns greater or less than expected over a period of five years (six years beginning with the June 30, 2004 (Lag) actuarial valuation). The AAV used for June 30, 2010 and after assumes the AAV was reset to MVA as of June 30, 2011 with the June 30, 2010 AAV defined to recognize Fiscal Year 2011 investment performance and the June 30, 2012 and after AAV recognizing Investment Returns greater or less than expected over a period of six years.
- (2) Calculated in accordance with the Actuarial Cost Method and actuarial assumptions used for determining Employer Contributions.
- (3) Calculated based on actuarial assumptions used for determining Employer Contributions.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

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- (4) Calculated based on actuarial assumptions used for determining Employer Contributions except that projected benefit payments are discounted using annual yields derived from U.S. Treasury Spot Rates as published by the U.S. Department of the Treasury Office of Thrift Supervision ("OTS") in its Selected Asset and Liability Price Tables. For June 30, 2012 and after, these Spot Yields are based on OTS methodology as provided by the U.S. Department of Treasury. Also shown are the related MVABO Equivalent Discount Yield and the MVABO Weighted Average Duration.
- (5) Beginning with the June 30, 2004 (Lag) actuarial valuation, figures are based on the revised actuarial assumptions and methods used to develop Fiscal Year 2006 employer contributions.
- (6) Beginning with the June 30, 2010 (Lag) actuarial valuation, figures are based on the revised actuarial assumptions and methods used to develop Fiscal Year 2012 employer contributions, including the EAACM and an AIR assumption of 7.0% per annum, net of expenses.
- (7) Preliminary.

Table of Funded Ratios

The following table presents alternative Funded Ratios comparing Assets to Obligations, including: (1) AAV divided by AAL, (2) AAV divided by EAAL, (3) MVA divided by EAAL, (4) AAV divided by PBO, (5) MVA divided by PBO, (6) AAV divided by ABO, (7) MVA divided by ABO and (8) MVA divided by MVABO.

<b>Funded Ratios</b>								
<b>Valuation Date</b>	<b>AAV/AAL</b>	<b>AAV/EAAL</b>	<b>MVA/EAAL</b>	<b>AAV/PBO</b>	<b>MVA/PBO</b>	<b>AAV/ABO</b>	<b>MVA/ABO</b>	<b>MVA/MVABO</b>
6/30/99	100%	106%	106%	111%	111%	124%	124%	109%
6/30/00	100	98	100	103	105	116	118	103
6/30/01	100	98	87	103	92	115	103	87
6/30/02	100	94	74	98	78	111	88	74
6/30/03	100	88	69	93	73	104	82	61
6/30/04	100	81	72	85	75	93	82	67
6/30/04 (Lag)	100	81	71	85	74	94	82	67
6/30/05 (Lag)	100	77	72	81	75	89	82	59
6/30/06 (Lag)	100	72	71	76	76	84	83	67
6/30/07 (Lag)	100	70	76	73	80	80	88	70
6/30/08 (Lag)	100	65	65	69	69	77	77	56
6/30/09 (Lag)	100	64	48	68	51	75	56	39
6/30/10 (Lag)	59	59	48	62	50	68	55	39
6/30/11 (Lag)	58	58	58	61	61	67	67	50
6/30/12 (Lag)	58	58	56	60	58	66	64	38

**ADDITIONAL DISCUSSION OF PLAN FUNDING AND  
OTHER MEASURES OF FUNDED STATUS  
(Cont'd)**

Comments on Funded Ratios and Funding Methodology

With respect to the different Funded Ratios shown in the preceding table, the ratio of AAV/AAL is from the Schedule of Funding Progress (Schedule 1) presented in the Financial Section of this CAFR.

Due to the mathematics of the FIL ACM where AAL equals AAV plus UAAL, the AAV/AAL Funded Ratios prior to Fiscal Year 2012 tended to remain relatively constant from year to year and provided limited insight into the ongoing financial performance of the Plan.

The Other Measures of Funded Status shown in the preceding table provide different relationships between the Assets and Obligations of the Plan and are designed to offer additional insight into the Funded Status of the Plan that the Actuary believes useful to some users.

The ratios of AAV/EAAL reflect information that is now a required disclosure for certain Public Pension Plans that utilize the Aggregate ACM. This requirement also exists for certain OPEB plans under GASB 43 and GASB 45.

The ratios of AAV/PBO present information that was previously required under GASB 5 and is a comparable but somewhat different representation of the information shown in the Solvency Test presented earlier in this Section of the CAFR.

The ratios of MVA/MVABO provide information on Funded Status that is (1) independent of the asset allocation of the Plan, (2) exclusive of any advance recognition of expected asset risk premia (*e.g.*, equity risk premium) and (3) absent any smoothing of asset values.

Inherent in its design, the MVA/MVABO Funded Ratio is expected to be volatile due to the impact of asset gains and losses without smoothing and the impact of changes in interest rates in the economy. Such volatility is a reflection of markets and can provide useful disclosure information. However, such volatility is not consistent with the needs of budgeting. Those budgeting needs are met by the actuarial assumptions and ACM in use to determine Employer Contributions.

Comparing the MVA/EAAL to AAV/EAAL, MVA/PBO to AAV/PBO or MVA/ABO to AAV/ABO provides an opportunity to evaluate the degree of smoothing provided by the Actuarial Asset Valuation Method.

Comparing Funded Ratios based on the same Assets (*i.e.*, MVA or AAV) but different definitions of Obligations (*e.g.*, EAAL versus PBO versus ABO) provides an opportunity to evaluate the differences in those different definitions of Obligations.

Comparing AAV/PBO with AAV/ABO provides insight into the impact of expected salary growth on the value of benefits earned to date.

Comparing MVA/ABO with MVA/MVABO provides an opportunity to compare the impact of alternative interest rates on discounting the ABO.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

It should also be noted that Measures of Funded Status are best examined with more consideration of their trends over time than their values at any given point in time.

Finally, over time, it should be noted that as the City and other participating Employers pay into the Plan the actuarially-determined Employer Contributions, all Funded Ratios can be expected to increase from their current levels.

### STATUTORY VS. ANNUAL REQUIRED CONTRIBUTIONS

<b><u>Fiscal Year Ended June 30</u></b>	<b><u>Statutory Contribution<sup>(1)</sup></u></b>	<b><u>Annual Required Contribution</u></b>	<b><u>Employer Rate of Contribution<sup>(2)</sup></u></b>
2000	\$181,769,965	\$181,769,965	4.310%
2001	444,965,372	571,955,543	9.424
2002	509,931,588	607,762,939	10.167
2003	639,617,910	805,782,222	11.695
2004	920,264,167	1,015,331,185	15.788
2005	1,228,275,356	1,304,032,623	19.748
2006	1,316,610,517	1,316,610,517	21.293
2007	1,600,904,278	1,600,904,278	25.471
2008	1,916,519,629	1,916,519,629	27.386
2009	2,223,643,770	2,223,643,770	30.792
2010	2,484,073,500	2,484,073,500	31.604
2011	2,468,973,357	2,468,973,357	31.114
2012	2,673,078,096	2,673,078,096	33.747
2013	2,855,639,947	2,855,639,947	36.455

(1) Represents total employer contributions accrued for fiscal year.

The Statutory Contributions for Fiscal Years 2001 and 2002 were computed in accordance with Chapter 125/00 which provided for a five-year phase-in of the additional actuarial liabilities attributable to Chapter 125/00.

The Statutory Contributions for Fiscal Years 2003 through 2005 were computed in accordance with Chapter 278/02 which extended from five to ten years the phase-in period for the funding of the additional actuarial liabilities attributable to Chapter 125/00.

Beginning Fiscal Year 2006, the Statutory Contributions were computed using a One-Year Lag Actuarial Valuation Methodology in accordance with Chapter 152/06 which also eliminated the use of ten-year phase-in of Chapter 278/02 for funding the additional actuarial liabilities attributed to Chapter 125/00.

Beginning Fiscal Year 2012, the Statutory Contributions were computed in accordance with Chapter 3/13.

(2) The Employer Rate of Contribution equals the Statutory Contribution as a percentage of the salaries of members who were on payroll or projected to be on payroll (under One-Year Lag Methodology) as of the preceding June 30 adjusted, where applicable, to be consistent with collective bargaining agreements estimated to be achieved.

## CHRONOLOGY OF PLAN

TRS was established as of August 1, 1917 and, at the outset, the Teachers' Retirement Board adopted the mortality tables, service tables, and other tables necessary for calculating contribution rates and for preparing valuation figures. Periodic comparisons of the actual experience with the expected experience, as obtained by calculations from the latest adopted tables, have been made since August 1, 1917.

## SUMMARY OF KEY PLAN BENEFIT AND FUNDING CHANGES

**2013** Chapter 3 of the Laws of 2013 ("Chapter 3/13") implemented changes in the actuarial procedures for determining Employer Contributions beginning Fiscal Year 2012. In particular, Chapter 3/13 continued the OYLM, employed the Entry Age Actuarial Cost Method ("EAACM"), an Actuarial Interest Rate ("AIR") assumption of 7.0% per annum, net of expenses and defined the amortization of Unfunded Actuarial Accrued Liabilities ("UAAL").

**2012** Chapter 18 of the Laws of 2012 ("Chapter 18/12") placed certain limitations on the Tier III and Tier IV benefits available to participants hired on and after April 1, 2012 in most New York State PERS, including TRS. These changes are sometimes referred to as Tier VI.

**2010** Chapter 105 of the Laws of 2010 ("Chapter 105/10") provided an Early Retirement Incentive ("ERI") program for certain members.

Chapter 286 of the Laws of 2010 ("Chapter 286/10") refined the method used to compute the Final 3-year Average Salary for members who have extended breaks in service and who would be impacted by Kingston Limits on the older salaries.

**2009** Chapter 504 of the Laws of 2009 ("Chapter 504/09") provides that individuals joining TRS after December 10, 2009, who participate in the 55/27 retirement program, are required to make pension contributions of 4.85% of salary until they have 27 years of credited service and contributions of 1.85% of salary thereafter.

Also, under Chapter 504/09, all members represented by the United Federation of Teachers ("UFT") will become vested after ten years of credited service. In addition, all members represented by the UFT who participate in the Tax-Deferred Annuity Program ("TDA"), will receive an interest rate of 7.0% per annum credited to their TDA Fixed Funds accounts beginning December 10, 2009.

**2008** Chapter 19 of the Laws of 2008 ("Chapter 19/08") established retirement programs to permit Tier II and Tier IV current members of TRS to elect to retire between ages 55 and 62 without reduction provided they have 25 years of service, by paying an additional contribution of 1.85% of future pay. New members after February 27, 2008 are mandated into this plan and are required to have 27 years of service.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Chapter 489 of the Laws of 2008 expanded and redefined the eligibility provisions of the accidental disability and accidental death benefits that arise in connection with the World Trade Center attacks on September 11, 2001.

**2007** Chapter 5 of the Laws of 2007 amended Chapter 445/06 to clarify the World Trade Center accidental disability benefits payable to retirees who die in the first 25 years of retirement. It also amended Chapter 445/06 to include World Trade Center deaths as presumptive accidental death benefits in the Line-of-Duty.

**2006** Chapter 152 of the Laws of 2006 provided for the changes in actuarial assumptions and methods that require legislation, including the continuation of the AIR assumption of 8.0% per annum and continuation of the current Frozen Initial Liability (“FIL”) Actuarial Cost Method and the existing Unfunded Actuarial Accrued Liability (“UAAL”). In addition, Chapter 152/06 provided for elimination of the use of the ten-year phase-in of Chapter 278/02 for funding the additional actuarial liabilities created by the benefits provided by Chapter 125/00.

Chapter 445 of the Laws of 2006 (“Chapter 445/06”) created a presumptive eligibility for accidental death benefits in connection with the World Trade Center attack on September 11, 2001.

**2005** Chapter 104 of the Laws of 2005 as amended by Chapter 93 of the Laws of 2005 creates a presumptive eligibility for accidental disability in connection with the World Trade Center attack on September 11, 2001.

Chapter 105 of the Laws of 2005 states that a member killed in the U.S. Armed Forces on and after June 14, 2005 is deemed a Line-of-Duty death while on active payroll.

Chapter 133 of the Laws of 2005 provided a similar extension of the interest rates as did Chapter 133 of the Laws of 2004, for Fiscal Year 2006. The investment rate of return assumption for determining Employer contributions for Fiscal Year 2006 remains at 8.0% per annum until and unless changed following the proposals of the Actuary and the actions by the Retirement Board, the State Legislature and the Governor.

**2004** Chapter 133 of the Laws of 2004 extended certain provision of Chapter 85/00 through Fiscal Year 2005. Thus, for Fiscal Year 2005, the interest rate used for Tier I and Tier II member contributions and ITHP Reserves remained at 8.25% per annum. The investment rate of return assumption for determining Employer Contributions for Fiscal Year 2005 remains at 8.0% per annum until and unless changed following the proposal of the Actuary and the actions by the Retirement Board, the State Legislature and the Governor.

Chapter 623 of the Laws of 2004 provided for an Excess Benefit Plan to be established which would provide benefits to those pensioners whose annual retirement benefits are limited because those benefits exceed the limitations set by IRC Section 415(b). The law is retroactive to July 1, 2000.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

- 2003** Chapter 136 of the Laws of 2003 permitted certain Tier II members who are reemployed after retirement for other than disability and who received at least two years of service credit to be eligible for a recalculation of their retirement allowance.

Chapter 661 of the Laws of 2003 permitted members to change their option up to thirty days after the initial date of payability of their retirement allowance (for disability, up to the later of thirty days after approval of the disability retirement or the date of such retirement).

- 2002** Chapter 69 of the Laws of 2002 authorized an Early Retirement Incentive (“ERI”) for certain members in eligible titles.

Chapter 106 of the Laws of 2002 expanded and reopened provisions for certain substitute teacher tier reinstatements.

Chapter 215 of the Laws of 2002 increased Tier IV Accidental Disability Retirement to 2/3 of Final Average Salary.

Chapter 278 of the Laws of 2002 revised the phase-in schedule of Chapter 125 of the Laws of 2000 for Fiscal Years 2003 and later.

Chapter 381 of the Laws of 2002 extended Chapter 558 of the Laws of 2001 provisions to age 55 increased service fraction members.

- 2001** Chapter 470 of the Laws of 2001 allowed members who received service credit for seniority and length of service purposes while on layoff due to the New York City fiscal crisis of the 1970’s to also receive credit for such service for all pension purposes.

Chapter 532 of the Laws of 2001 allowed Tier I members to purchase up to 15 years of service that would have been creditable in another New York State Public Retirement System.

Chapter 558 of the Laws of 2001 allowed certain members on deferred retirement under the Career Pension Plan of the New York City Employees’ Retirement System (“NYCERS”) or the New York City Board of Education Retirement System (“BERS”) to transfer membership into TRS. If such member has started receiving a pension, such pension must be returned without interest to NYCERS or BERS.

- 2000** Chapter 85 of the Laws of 2000 amended the Administrative Code of the City of New York to implement changes in actuarial assumptions and methods that require legislation.

Chapter 86 of the Laws of 2000 authorized an ERI for certain members in eligible titles.

Chapter 110 of the Laws of 2000 amended the language of legislation that later became Chapter 126 of the Laws of 2000, which provided for benefit enhancements for certain members of the City of New York retirement systems.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Chapter 125 of the Laws of 2000 provided eligible retirees with automatic annual Cost-of-Living Adjustments.

Chapter 126 of the Laws of 2000 provided for benefit enhancements (*i.e.*, elimination of member contributions for Tier III/IV members with more than 10 years of membership, additional pension credit for Tier I/II members of up to a maximum of 24 months of additional service retirement credit, and allowed Tier III/IV members to retire at age 55 with reduced benefits under the same formula as used for Tier II members) for certain members of the City of New York retirement systems.

Chapter 548 of the Laws of 2000 permitted certain members to purchase up to 3 years of credit for certain U.S. Military Service by paying 3% of imputed salary.

Chapter 552 of the Laws of 2000 permitted Tiers II/III/IV members with at least 2 years of credited service to receive credit for certain previous service in a New York State Public Retirement System ("NYSPRS").

Chapter 553 of the Laws of 2000 lowered the reduction factors for Tier IV members who retire before age 62 with less than 30 years of service.

Chapter 554 of the Laws of 2000 provided that Tiers II/III/IV members who joined prior to January 1, 2001 and who elected Death Benefit 1 will receive the greater of Death Benefit 1 or Death Benefit 2 coverage. New members on and after January 1, 2001 will only receive coverage under Death Benefit 2.

**1999** Chapter 70 of the Laws of 1999 authorized an Early Retirement Incentive for certain members in eligible titles.

Chapter 409 of the Laws of 1999 amended Chapter 616 of the Laws of 1998 to include the death gamble benefit of Tier I.

Chapter 575 of the Laws of 1999 re-opened Chapter 666 of the Laws of 1990, which allows a retroactive transfer of pension credit under certain circumstances.

Chapter 581 of the Laws of 1999 allowed Tier II members to receive service credit while under a leave of absence for union activities.

Chapter 628 of the Laws of 1999 provided Tier I and Tier II members the opportunity to switch their retirement plans.

Chapter 646 of the Laws of 1999 provided active and future members the right to reinstate earlier membership by repaying prior member contributions with 5% interest.

Chapter 659 of the Laws of 1999 reduced the amount of service credit needed for Tier III/IV vested members to receive benefits at age 55 to 5 years.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**1998** Chapter 7 (as amended by Chapter 47) of the Laws of 1998 authorized a retirement incentive for certain members in eligible titles.

Chapter 266 of the Laws of 1998 reduced the service required for Tier IV normal retirement benefits from 25 years to 20 years and permitted certain Tier III retirees to receive Tier IV benefits.

Chapter 366 of the Laws of 1998 increased the period of absence before loss of membership from 5 years to 7 years, provided member contributions are not withdrawn.

Chapter 388 of the Laws of 1998 provided a pre-retirement death benefit for certain vested members of the Plan.

Chapter 389 of the Laws of 1998 allowed members of the Plan to become vested after five years of service.

Chapter 390 of the Laws of 1998 ("Chapter 390/98") provided additional benefits for cost-of-living increases for certain retirees of the Plan. An initial increase for members who retired on or before Calendar Year 1992 is effective as of September 1998 as enacted by the City Council on August 27, 1998. A subsequent increase for members who retired on or before Calendar Year 1993 is effective as of September 1999 as enacted by the City Council on August 27, 1998.

Chapter 616 of the Laws of 1998 allowed Plan members who are terminally ill and eligible for disability retirement to elect advance payment of ordinary death benefit.

**1997** Chapter 41 of the Laws of 1997 authorized a retirement incentive for certain persons in eligible titles who are public employees and who are members of the Plan.

Chapter 601 of the Laws of 1997 amended the Administrative Code of the City of New York and the Retirement and Social Security Law ("RSSL") to bring the Plan into compliance with the requirement of the Federal Older Workers' Benefit Protection Act of 1990 ("OWBPA").

**1996** Chapter 30 of the Laws of 1996 established an ERI for certain members and was enacted by a Board Resolution.

Chapter 249 of the Laws of 1996 amended the schedules of payments toward the Unfunded Actuarial Accrued Liability ("UAAL") and Balance Sheet Liability ("BSL") to provide that the UAAL and BSL as of June 30, 1995 be amortized over a period of 15 years beginning Fiscal Year 1996, where the amount of each annual payment after the first is to equal 103% of the preceding annual payment.

Chapter 592 of the Laws of 1996 permitted excess earnings of the annuity fund to reduce employer contribution to the Plan.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Chapter 593 of the Laws of 1996 permitted corpus funding of administrative expenses after July 1, 1996.

Chapter 712 of the Laws of 1996 permitted the increase in investment of Plan assets in equities to 70%.

- 1995** Chapter 12 of the Laws of 1995 established an ERI for certain CUNY employees and was enacted by a resolution of CUNY's Board.

Chapter 74 of the Laws of 1995 amended Chapter 12 to offer the ERI to certain Board of Education employees.

Chapter 119 of the Laws of 1995 amended the General Municipal Law and the Administrative Code of the City of New York and provides for Supplemental Retirement Allowances for certain retirees.

Chapter 642 of the Laws of 1995 amended the Administrative Code of the City of New York in relation to the rate of regular interest used in calculating contributions to TRS, as well as to the crediting of special and additional interest to members and the allowance of supplementary interest on TRS funds.

- 1994** Chapter 633 of the Laws of 1994 amended the schedules of payments toward the UAAL and BSL to provide that the UAAL and BSL of June 30, 1993 be amortized over a period of 17 years beginning Fiscal Year 1994, where the amount of each annual payment after the first is to equal 103% of the preceding annual payment.

Chapter 675 of the Laws of 1994 amended the RSSL in relation to the maximum amount of compensation that may be used in the determination of pension benefits. The annual compensation of each employee taken into account under the plan for any year may not exceed \$150,000 for plan years beginning after June 30, 1996. This figure is subject to cost-of-living adjustment. The State legislation grandfathers those who become members prior to July 1, 1996. This new law brings the New York City Retirement Systems into compliance with certain portions of the Tax Reform Act of 1986 and Internal Revenue Service regulations issued thereunder.

- 1992** Chapter 221 of the Laws of 1992 amended the Administrative Code of the City of New York, in relation to treatment of surplus, deficits and investment earnings of TRS' Tax-Deferred Annuity ("TDA") Program.

Chapter 494 of the Laws of 1992 provided an ERI for certain City University professional staff members of TRS.

- 1991** Chapter 178 of the Laws of 1991 became law on June 17, 1991. This law provided for an ERI for eligible employees of the Board of Education; this incentive granted up to three years of retirement credit.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Chapter 607 of the Laws of 1991 amended the funding provisions effective June 30, 1990. This law provided that the Consolidated UAAL and BSL as of June 30, 1990 be amortized over 20 years with non-level payments for the first five years. The schedule of payments for the combined UAAL and BSL components for the first five years is to be comparable in pattern to the schedule of payments that was in effect under the amortization schedules immediately prior to the change in funding provisions. The balance of the combined UAAL and BSL components at the end of five years is to be amortized using level payments over the remaining 15 years. The BSL component is to be amortized using level payments over 20 years from June 30, 1990.

**1990** Chapter 210 became a law on June 6, 1990. This law provided for a ERI for eligible employees of CUNY, effective September 1, 1991.

Chapter 357 became a law on July 12, 1990. This law amended Chapter 835 of the Laws of 1987 in relation to medical review as provided by §13-522.1 of the Administrative Code of the City of New York. These provisions, which had been scheduled to expire on June 30, 1989, were made permanent.

Chapter 483 became a law on July 18, 1990. This law amended Chapter 296 of the Laws of 1984 by extending the elimination of mandatory retirement to tenured employees of CUNY.

Chapter 666 became a law on July 22, 1990. This law amended §13-503 of the Administrative Code of the City of New York in relation to the availability of additional pension benefits to certain retirees of other New York City retirement systems as the result of their joining TRS for an extended second public employment.

Chapter 878 became a law on July 25, 1990. This law amended the Administrative Code of the City of New York in relation to the rate and method of payment of regular interest, special interest, additional interest and supplementary interest to be credited by TRS.

Chapter 919 became a law on July 30, 1990, with an effective date of July 1, 1991. This law amended §§517 and 613 of the RSSL by permitting Tier III/IV members to borrow up to 75% of their accumulated contributions.

Chapter 948 of the Laws of 1990 became law on December 26, 1990. This law amended the funding provisions of the Retirement System effective June 30, 1990. The funding provisions were amended in relation to the interest rates used in the actuarial valuation of liabilities and amortization payments, for the purpose of calculating employer contributions. This law provided that an actuarial interest rate assumption of 9% per annum for TRS (4% per annum for benefits payable under the variable annuity programs) would be in effect for that purpose with respect to employer contributions due for Fiscal Years 1991-1995. However, this law was superseded by Chapter 607 of the Laws of 1991 before it was scheduled to take effect on June 30, 1990.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

- 1989** Chapter 580 of the Laws of 1989 amended the funding provisions of the New York City Retirement Systems effective June 30, 1988 in relation to eliminating the deferred charge account.

Chapter 581 of the Laws of 1989 amended the funding provisions of the New York City Retirement Systems effective June 30, 1988 in relation to the interest rate used in the actuarial valuation of liabilities for the purpose of calculating employer contributions. The law provided that an 8.25% interest rate will be in effect for that purpose with respect to employer contributions due for Fiscal Years 1989 and 1990.

- 1988** Chapter 8 became a law on February 29, 1988. This law superseded many provisions of §13-680 of the Administrative Code of the City of New York in relation to the payment of supplemental retirement allowances to certain retirees.

Chapter 182 became a law in June 1988. This law amended §13-582 of the Administrative Code of the City of New York in relation to permitting deferral of the distribution of a member's TDA account to the latest date allowable by the Internal Revenue Code.

Chapter 273 became a law on July 19, 1988. This law amended §§13-568, 571, 581, and 582 of the Administrative Code of the City of New York in relation to the extent and frequency of participation in elections made by members and beneficiaries with respect to the Variable Annuity and TDA Programs.

Chapter 454 became a law on August 1, 1988, effective immediately, providing for the payment of monthly supplemental retirement allowances to certain spouses of deceased members or retirees. Generally, spouses of deceased members or retirees who are designated annuitants (*i.e.*, beneficiaries covered under Option I or Option IV-b, who, upon the death of the members or retirees, elect a monthly form of payment of the death benefit, rather than a lump sum) will be eligible to collect an extra \$50 per month as supplemental retirement allowance, provided the member or retiree died prior to January 1, 1980. However, any spouse who may become eligible to receive, or who is already receiving, a supplemental retirement allowance is not eligible for this benefit. Payments to an eligible spouse will be effective on the later of either [a] the month following the one in which the member's or retiree's death occurred, or [b] July 1, 1983.

Chapter 522 became a law on August 2, 1988. This law amended the RSSL in relation to TRS membership. Generally, any Tier III/IV member who was employed by the Board of Education as a regular substitute for at least one term during one of the three school years immediately prior to July 27, 1976 would have the same rights and privileges as a Tier II member, provided (s)he filed the appropriate application prior to July 1, 1989.

Chapter 523 became a law on August 2, 1988. This law amended the RSSL in relation to TRS membership. Generally, any Tier II member who was employed by the Board of Education as a regular substitute for at least one term during one of the three school years immediately prior to July 1, 1973 would have the same rights and privileges as a Tier I member, provided (s)he filed the appropriate application prior to July 1, 1989.

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Chapter 548 became a law on August 11, 1988. This law provided that pension service credit be granted to Tier III/IV members on leave of absence without pay for the purpose of conducting labor relations activity.

Chapter 768 became a law on December 26, 1988 to become effective January 1, 1990. This law amended the RSSL to include a new Article 15-A (§620) which provides that all TRS members and those who join TRS after this date will receive benefits payable subject to certain limitations of §415 of the Internal Revenue Code. The benefits payable will be subject to the greater of either [a] the limitations of §415 of the Internal Revenue Code, or [b] the accrued benefit of the member without regard to any benefit increases in accordance with plan amendments adopted after October 14, 1987.

Chapter 773 became a law on December 29, 1988. This law amended §13-521 of the Administrative Code of the City of New York in relation to providing certain benefits involving supplemental annuity contributions on behalf of certain Tier III/IV members.

Chapter 782 became a law on December 29, 1988. This law amended §§517 and 613 of the RSSL in relation to the treatment of Tier III/IV member contributions for income tax purposes under the provisions of the Internal Revenue Code.

Chapter 783 became a law on December 29, 1988. This law made certain technical changes to Chapter 782 of the Laws of 1988.

**1986** Chapter 617 of the Laws of 1986 amended the RSSL by repealing the Article 14 and the Article 15 Ordinary Death Benefits provisions and replacing them with provisions nearly identical to the Death Benefits applicable to Article 11 TRS members.

Chapter 630 of the Laws of 1986, which amended §B20-37.0 and §13-540 of the Administrative Code of the City of New York, increased the insurance for loans taken by TRS members from \$2,000 to \$10,000, effective July 1, 1986.

Chapter 683 of the Laws of 1986 amends §4402-§4406, §4408, §3030, §3202, §3602 and §3635 of the Education Law and §236 of the Family Court Act to provide additional educational opportunity in the months of July and August in and after Fiscal Year 1988 for severely handicapped children. In addition, this law established the "Additional Employer Specific Skills Training Grant Program" to conduct summer employer-specific skill training in coordination with participating employers. Also, the bill covers allocations of costs and educational services required of youths incarcerated in a correctional facility.

Chapter 793 of the Laws of 1986 amended §6214 of the Education Law and §13-630 of the Administrative Code of the City of New York in relation to the new members of the instructional staff at community colleges within the City University of New York, who will be eligible to become TRS members. In addition, present members of the New York City Employees' Retirement System who are employed on the instructional staff at community colleges within the City University of New York will have the right, until June 30, 1987, to transfer to TRS.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**1985** Chapter 910 of the Laws of 1985 made it possible for TRS to use modernized actuarial tables in computing pension benefits. The Teachers' Retirement Board approved a resolution adopting new mortality tables for the purpose of determining certain benefits. The implementation of such a resolution was contingent upon the enactment of legislation increasing regular interest from 4% to 7%. Chapter 910 was signed into law on August 19, 1985.

Chapter 911 of the Laws of 1985 authorized TRS to continue to assume an 8.0% rate of return on investments. The Teachers' Retirement Board approved a resolution adopting new actuarial assumptions for the purpose of determining employer contributions to TRS for Fiscal Year 1986. The implementation of such a resolution was contingent upon the enactment of State legislation which would maintain the assumed rate of return on investments at 8.0%. Chapter 911 of the Laws of 1985 was signed into law on August 19, 1985. As a result, the new actuarial assumptions were utilized to determine pension expenses for Fiscal Year 1986 and thereafter.

**1984** Chapter 371 of the Laws of 1984 amended the Administrative Code of the City of New York in relation to the payment of supplemental retirement allowances to spouses of certain deceased retirees.

Chapter 658 of the Laws of 1984 amended §D49-40.0 of the Administrative Code of the City of New York, increasing the amount of Supplemental Retirement Allowance (SRA) payable to every eligible retiree from 3% of the retiree's maximum fixed retirement allowance (*i.e.*, the "base amount") for post-1971 retirees to 42% for pre-1959 retirees. In addition, the retirement allowance ceiling on which SRA is based was raised from \$8,000 to \$10,500. These benefit increases began in September 1986, and the increase in percentages occurred over a two-year period.

**1983** Chapter 414 of the Laws of 1983 amended the RSSL by adding a new article—Article 15. This Law established a new state-wide pension plan, the Coordinated Retirement Plan, effective September 1, 1983, covering most employees joining on or after July 27, 1976. This Plan, which sets a normal retirement age of 62 and mandates 3% contributions by members, superseded the Plan (CO-ESC) enacted as Chapter 890 of the Laws of 1976. However, members who joined from July 27, 1976 through August 31, 1983 may elect to receive a benefit from CO-ESC or the Coordinated Plan, whichever provides greater benefits.

**1982** Chapter 914 of the Laws of 1982 amended the Administrative Code of the City of New York in relation to employer contributions, the actuarial valuation, the determination and appraisal of the liabilities, the disposition of TRS' investment earnings, the crediting of special interest and additional interest to members, and the allowance of supplementary interest on TRS' funds. It further provided for the determining of obligations of the State, the City University of New York, and TRS in relation to certain employer contributions payable to TRS on account of employees of the senior colleges of the City University of New York.

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- 1981** Chapter 422 of the Laws of 1981 provided new or additional supplemental pensions for certain pensioners and made the funding of these benefits the obligation of TRS.
- 1977** Chapter 976 of the Laws of 1977 amended TRS' funding provisions, effective July 1, 1977.
- 1973** Chapter 1046 of the Laws of 1973 established Article 11 of the RSSL, which imposed certain limitations on the benefits available to members joining TRS after June 30, 1973 and created Plans C and D, which are modifications of Plans A and B.
- 1970** Legislation in 1970 substantially revised TRS provisions. Chapter 274 established two new retirement plans effective July 1, 1970. Members who joined TRS on or after the effective date were required to choose either [1] The Twenty-Year Pension Plan (Plan A), or [2] The Age-55-Increased-Benefits Pension Plan (Plan B).

A member who joined TRS prior to the effective date could continue under his/her existing plan, or could elect one of these new plans, providing such election was made before the member had rendered two years of service after June 30, 1970.

Chapter 581 of the Laws of 1970 made it possible for the Teachers' Retirement Board to adopt Rules and Regulations establishing a Group Term Life Insurance Plan. In accordance with these Rules and Regulations, the first \$50,000 of benefits on account of each death in active service will be payable from the funds of the Group Term Life Insurance Plan rather than from those of TRS. With respect to the Group Term Life Insurance Plan, the Teachers' Retirement Board adopted premium rates computed to be necessary to fund the benefits payable.

## **SUMMARY OF PLAN PROVISIONS**

This section summarizes TRS' principal benefit provisions. The benefits available under the Coordinated Retirement Plan are provided by Article 15 of the RSSL. The benefits available under the Twenty-Year Pension Plan and Age-55-Increased-Benefits Pension Plan are provided by Chapter 274 of the Laws of 1970 as well as the restrictions prescribed by Article 11 of the Retirement and Social Security Law.

This Summary of Plan Provisions is applicable to Plan members included in the June 30, 2011 (Lag) actuarial valuation and include the provisions of Chapter 504/09.

## **COORDINATED RETIREMENT PLAN**

A member whose date of membership is July 27, 1976 or later belongs to the Coordinated Retirement Plan.

## **SERVICE RETIREMENTS**

### **Normal Service Retirement**

**Eligibility:** A member is eligible to retire at age 62 with immediate payability after 5 or more years of service, subsequent to the date of membership.

Current members as of February 27, 2008 were provided a one hundred eighty day period during which they were allowed to join a plan that permitted them to retire at age 55 and later with immediate payability and without reduction after 25 years of service, provided they pay an additional 1.85% of future pay.

After February 27, 2008, new members are eligible to retire at age 55 and later with immediate payability and without reduction after 27 years of service and are required to pay an additional 1.85% of future pay.

After December 10, 2009, new members under the 55/27 retirement program are required to make contributions of 4.85% of salary until they have 27 years of credited service and contributions of 1.85% of salary thereafter.

Note: In the Coordinated Retirement Plan, Final Average Salary ("FAS") is the average salary earned during any three consecutive years providing the highest average salary. However, if salary earned during any year included in the three-year period exceed that of the average of the previous two years by more than 10%, the amount in excess of 10% will be excluded from the computation of FAS. Salary is defined as the regular compensation earned by, and paid to, a member.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

- Benefits:**
- {1} For a member with fewer than 20 years of service, the benefit is  $1/60$  times FAS (see note above) multiplied by years of service.
  - {2} For a member with at least 20 but fewer than 30 years of service, the benefit is  $1/50$  times FAS multiplied by years of service.
  - {3} For a member with 30 or more years of service, the benefit is  $1/50$  times FAS for each of the first 30 years of service plus  $3/200$  times FAS for each additional year.

### Early Service Retirement

**Eligibility:** A member is eligible to retire at age 55 or later with immediate payability, after 5 or more years of service, subsequent to the date of membership.

**Benefits:** The pension is calculated similarly to the pension of a Normal Service Retirement, but it is reduced as follows:

- {1} For a member who retires prior to age 62 with less than 30 years of service, his/her pension for service is reduced by 0.5% for each of the first 24 months that the payability date precedes age 62, and by 0.25% for each additional month.

After February 27, 2008, new members are eligible to retire at age 55 and later without reduction after 27 years of service and are required to pay an additional 1.85% of future pay.

Current members as of February 27, 2008 were provided a one hundred eighty day period during which they were allowed to join a plan that permitted them to retire at age 55 and later without reduction after 25 years of service, provided they pay an additional 1.85% of future pay.

- {2} A member with 30 or more years of service receives no reduction in benefits because of early retirement.

### Deferred Vested Benefit

**Eligibility:** A member who has 5 or more years of credited service upon termination of employment (ten years if hired after December 10, 2009), is entitled to a deferred vested benefit payable at age 55 or later. A member who elects payability before age 62 will receive a reduced benefit.

**Benefits:** The benefit formulas are the same as those set forth under a Normal Service Retirement and an Early Service Retirement. Should a member who elected to receive a vested deferred retirement allowance die before the attainment of payability age and had at least 10 years of service, the death benefit is  $1/2$  of the Ordinary Death Benefit in force on the last day of active service.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

### DISABILITY RETIREMENTS

**Eligibility:** A member is eligible for Ordinary Disability Retirement benefits if (s)he has completed 10 or more years of service and is incapacitated for performance of gainful employment. If the disability is judged to be the result of an accident in the performance of duty, the 10-year requirement is waived.

**Benefits:** The benefit is the greater of: (a) 1/3 of FAS (2/3 of FAS for a member if the disability is judged to be the result of an accident in the performance of duty); or (b) 1/60 times FAS multiplied by the credited service.

### ORDINARY DEATH BENEFITS

**Benefits:** Upon joining TRS, a member must elect one of the following death benefits:

#### **Death Benefit 1:**

This benefit provides one month's salary for each year of service up to a maximum of three years' salary. If the member would have been eligible to receive an unreduced retirement allowance at the time of his/her death, the benefit is a lump sum that is actuarially equivalent to the retirement allowance which would have been payable had the member retired on the day before his/her death, if greater.

#### **Death Benefit 2:**

This benefit provides one year's salary for each year of service up to a maximum of three years' salary after three years of service. The benefits reduce after age 60 at the rate of 5% per year, to a maximum reduction of 50% of the benefit in effect at age 60.

A benefit is also payable upon death after retirement and is expressed as follows:

- \* If death occurs in the first year after retirement, 50% of the benefit in force immediately before retirement.
- \* If death occurs in the second year following retirement, 25% of the benefit in force immediately before retirement.
- \* If death occurs subsequently, 10% of the benefit in force at age 60 or immediately before retirement if retirement was earlier than age 60.

If retirement occurs after age 60, the minimum death benefit payable after retirement is 10% of the death benefit in force at age 60.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

The Rules and Regulations adopted by the Teachers' Retirement Board in accordance with Chapter 581 of the Laws of 1970 provide that the first \$50,000 of each benefit on account of death in active service is payable from the Group Term Life Insurance Plan. Only the amount in excess of \$50,000, if any, is payable by TRS.

Members who joined TRS on or after July 27, 1976 and before September 1, 1983 are entitled to the following RSSL Article 14 Death Benefits, if greater (by ruling of the Court of Appeals in Public Employees' Federation v. Cuomo, dated June 29, 1984).

**The Death Benefits under RSSL Article 14 are as Follows:**

**If Death Occurs Before Age 60  
and Service is:**

**Maximum Benefits Effective**

<u>At Least</u>	<u>But Not More Than</u>	<u>Lump Sum Benefit</u>	<u>4/01/10 – 3/31/11</u>	<u>4/01/11 – 3/31/12</u>
1 Year	2 Years	One x Final Rate of Pay, But Not in Excess of:	\$46,800	\$47,500
2 Years	3 Years	Two x Final Rate of Pay, But Not in Excess of:	\$93,600	\$95,000
3 Years	Or More	Three x Final Rate of Pay, But Not in Excess of:	\$117,000	\$118,700

If death occurs at age 60, the benefits determined shall be reduced by 5%. If death occurs after age 60, there is an additional 5% reduction for each year that death occurs thereafter to a maximum of a 50% reduction.

The maximum lump-sum death benefit is subject to increase each April 1st at a maximum rate of 3% per annum based on the Consumer Price Index as of the previous December 31st.

**Beneficiaries:** The latest named beneficiary, duly designated on a TRS Form filed with TRS, will receive the death benefits. If none is designated, the benefits will be paid to the member's estate.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

### ACCIDENTAL DEATH BENEFITS

**Eligibility:** A beneficiary is entitled to the benefit if the member died before the effective date of retirement as a natural and proximate result of an accident sustained in the performance of duty, and if the accident was not caused by the member's willful negligence.

**Benefits:** The beneficiary receives a pension equal to 50% of the wages the member earned during the last year of actual service, but the application must be filed within 60 days of the member's death.

**Other Provisions:** {1} If the eligible beneficiary becomes ineligible to continue to receive the benefits, the pension shall be continued for all other members of the next eligible class of beneficiaries, and if none, to each successive class.

{2} If the benefits paid do not exceed the amount of the ordinary lump-sum death benefit because of the absence of eligible beneficiaries, the difference is to be paid to the last eligible beneficiary, or if none, to the member's estate.

**Beneficiaries:** Beneficiaries are prescribed in the following order:

{1} A surviving spouse who has not renounced survivorship rights in a separation agreement, or has not remarried;

{2} Surviving children until age 25;

{3} Dependent parents whose eligibility shall be determined in accordance with regulations promulgated by the Teachers' Retirement Board;

{4} Any other person who qualifies as a dependent on the final income tax return the member filed in the year preceding his/her year of death, until such person reaches 21 years of age.

**THE TWENTY-YEAR PENSION PLAN AND AGE-55-INCREASED-BENEFITS PENSION PLAN**

A member who elects the Twenty-Year Pension Plan may cancel such election at any time, in which case (s)he will become eligible for the benefits provided by the Age-55-Increased-Benefits Pension Plan and vice versa.

See the end of this section for Definitions of terms used in these plan descriptions.

**SERVICE RETIREMENT**

**Twenty-Year Pension Plan**

**Eligibility:** {1} A member who joined TRS prior to July 1, 1973 and who elects the Twenty-Year Pension Plan is eligible to retire after having completed 20 years of service, with benefits to begin on the payability date. Regardless of the number of years of service, such a member who has elected the Twenty-Year Pension Plan and who is at least 55 years of age may retire with benefits payable immediately by canceling his/her election of the Twenty-Year Pension Plan, thereby becoming eligible for the benefits under the Age-55-Increased-Benefits Pension Plan.

{2} A member who joined TRS after June 30, 1973 must also have rendered five years of continuous service immediately prior to retiring and must have attained age 55.

**Benefits:** The service retirement allowance for a member who joined prior to July 1, 1973, is the sum of the following:

{1} 50% of the average salary, reduced by an annuity which is the actuarial equivalent of the minimum accumulation;

{2} an annuity which is the actuarial equivalent of the accumulated deductions; and

{3} for service in excess of 20 years, (a) a pension for Increased-Take-Home-Pay which is the actuarial equivalent of the Reserve for Increased-Take-Home-Pay credited in such years, and (b) 1.2% of the average salary for each such year prior to July 1, 1970 and 1.7% of the average salary for each such year beginning on that date.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

If a member who joined TRS after June 30, 1973 retires prior to age 62 with less than 30 years of service, his/her pension for service is reduced by 0.5% for each of the first 24 months that the payability date precedes age 62, and by 0.25% for each additional month.

Current members as of February 27, 2008 were provided a one hundred and eighty day period during which they were allowed to join a plan that permitted them to retire at age 55 and later with immediate payability and without reduction after 25 years of service, provided they pay an additional 1.85% of future pay.

### **Age-55-Increased-Benefits Pension Plan**

**Eligibility:** {1} A member who joined TRS prior to July 1, 1973 and who either elects the Age-55-Increased-Benefits Pension Plan or who cancels his/her election of the Twenty-Year Pension Plan may retire after having attained age 55 with benefits payable immediately upon retirement.

{2} A member who joined TRS after June 30, 1973 must also have rendered five years of continuous service immediately prior to retiring and must have attained age 55.

**Benefits:** The service retirement allowance consists of a pension for service, a pension for Increased-Take-Home-Pay, and an annuity.

The pension for service is equal to 1.2% of the average salary multiplied by years of service prior to July 1, 1970, plus 1.53% of the average salary multiplied by years of service after June 30, 1970. The pension for Increased-Take-Home-Pay is the actuarial equivalent of the Reserve for Increased-Take-Home-Pay, and the annuity is the actuarial equivalent of the member's accumulated deductions.

If a member who joined TRS after June 30, 1973 retires prior to age 62 with less than 30 years of service, his/her pension for service is reduced by 0.5% for each of the first 24 months that the payability date precedes age 62, and by 0.25% for each additional month.

Current members as of February 27, 2008 were provided a one hundred eighty day period during which they were allowed to join a plan that permitted them to retire at age 55 and later with immediate payability and without reduction after 25 years of service, provided they pay an additional 1.85% of future pay.

### ORDINARY DISABILITY RETIREMENT

**Eligibility:** Regardless of the Plan elected, a member who has completed 10 or more years of City service preceding the occurrence of disability, for causes other than an accident in the actual performance of duty, is entitled to an ordinary disability retirement allowance.

**Benefits:** If, at the time of becoming disabled, the member could have retired for service with benefits payable immediately, the ordinary disability allowance will be the same as the service retirement allowance without reduction on account of age. For all other members, the ordinary disability allowance is computed in the same manner as though the member had been eligible for service retirement under the Age-55-Increased-Benefits Pension Plan with benefits payable immediately, but never less than the allowance that would have been payable under the provisions in effect prior to July 1, 1970.

### ACCIDENT DISABILITY RETIREMENT

**Eligibility:** A member is entitled to an accident disability retirement allowance upon the occurrence of a disability caused by an accident in the actual performance of duty.

**Benefits:** The retirement allowance will consist of a pension equal to three-fourths of the average salary in the last five years, plus a pension which is the actuarial equivalent of the Reserve for Increased-Take-Home-Pay, and an annuity purchased with the member's accumulated deductions. The pensions are subject to reduction for Workers' Compensation benefits granted on account of the accident.

### VESTED DEFERRED RETIREMENT ALLOWANCE

**Eligibility:** A member who either resigns or is dismissed from service would receive a benefit equal to his/her accumulated deductions. However, a member who is eligible for benefits under the Age-55-Increased-Benefits Pension Plan and who has at least 5 years of service immediately preceding resignation may instead elect to receive a deferred vested allowance.

**Benefits:** This allowance is computed in the same manner as the retirement allowance for service retirement under the Age-55-Increased-Benefits Pension Plan, except that the allowance is deferred to age 55. Should a member who elected to receive a vested deferred retirement allowance and who had 10 years of service die before the attainment of age 55, the death benefit is 1/2 of the Ordinary Death Benefit in force on the last day of service.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

### ORDINARY DEATH BENEFITS

**Benefits:** Upon the death of a member in active service, a benefit is paid to his/her estate or to such person(s) as (s)he shall have nominated.

#### **Members who joined TRS before July 1, 1973**

- \* If a member completed less than 10 years of City Service, the benefit is equal to the compensation earnable by the member in the six months immediately preceding death.
- \* If the total number of years of City Service is greater than 10, but less than 20, the benefit is equal to the compensation earnable by the member during the 12 months immediately preceding death.
- \* If the total number of years of City Service exceeds 20, the benefit is equal to twice the compensation earnable by the member during the 12 months immediately preceding death.
- \* In addition, the member's accumulated deductions and the Reserve for Increased-Take-Home-Pay are paid to the member's estate or to the designated beneficiary.

The benefits payable on account of such a member who, at the time of his/her death, would have been eligible for service retirement is either the benefit described above or a lump sum that is actuarially equivalent to the retirement allowance which would have been payable had the member retired on the day before his/her death, whichever is larger.

**Members who joined TRS between July 1, 1973 and July 27, 1976** must choose between the two following death benefits so that, upon the member's death, benefits are paid pursuant to the member's election:

**Death Benefit 1:** This benefit provides one month's salary for each year of service, up to a maximum of three years' salary. In addition, the member's accumulated deductions are payable. If the member would have been eligible to receive an unreduced retirement allowance at the time of his/her death, the benefit is a lump sum that is actuarially equivalent to the retirement allowance which would have been payable had the member retired on the day before his/her death, if greater.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**Death Benefit 2:** In addition to a refund of the member's accumulated deductions, this benefit provides one year's salary for each year of service up to a maximum of three years' salary after three years of service. The benefit reduces after age 60 at the rate of 5% per year, to a maximum reduction of 50% of the benefits in effect at age 60.

A benefit is also payable upon death after retirement and is expressed as follows:

- \* If death occurs in the first year after retirement, 50% of the benefit in force immediately before retirement.
- \* If death occurs in the second year following retirement, 25% of the benefit in force immediately before retirement.
- \* If death occurs subsequently, 10% of the benefit in force at age 60 or immediately before retirement if retirement was earlier than age 60.

If retirement occurs after age 60, the minimum death benefit payable after retirement is 10% of the death benefit in force at age 60.

The Rules and Regulations adopted by the Teachers' Retirement Board in accordance with Chapter 581 of the Laws of 1970 provide that the first \$50,000 of each benefit on account of death in active service is payable from the Group Term Life Insurance Plan. Only the amount in excess of \$50,000, if any, is payable by TRS.

### ACCIDENTAL DEATH BENEFITS

**Eligibility:** A member is entitled to accidental death benefits upon the occurrence of death caused by an accident in the actual performance of duty and not the result of willful negligence.

**Benefits:** The accidental death benefits are (a) a lump-sum equal to the Reserve for Increased-Take-Home-Pay and (b) a pension equal to one-half of the average salary in the last five years payable annually to the widow until remarriage or death, or if there is no widow, to a child or children until the attainment of age 18 of the youngest child, or if there is no widow, or child, to the dependent parents, and (c) a lump-sum equal to the member's accumulated deductions and Reserve for Increased-Take-Home-Pay payable to the member's estate or to the designated beneficiary. Alternatively, if the member joined TRS prior to July 1, 1973, the beneficiary may elect to receive a lump sum that is actuarially equivalent to the retirement allowance which would have been payable if the member had retired on the day before the member's death, provided that the death occurred after the member became eligible to retire for service. The pension is subject to reduction because of Workers' Compensation benefits granted on account of the accidental death.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

### AUTOMATIC ANNUAL COST-OF-LIVING ADJUSTMENTS (“COLA”)

**Eligibility:** COLA are payable to members who are either (1) at least age 62 and have been retired for at least 5 years or (2) at least age 55 and have been retired for at least 10 years. Additionally, COLA are payable to members who retired for disability after being retired for 5 or more years and beneficiaries receiving accidental death benefits who have been receiving them for at least 5 years.

**Benefits:** Starting with benefits for September 2001, the annual increase for COLA is equal to 50% of the increase in the CPI-U based on the year ending March 31, rounded to the next higher .1%, not less than 1% nor greater than 3% of the first \$18,000 of the sum of maximum retirement allowance and prior COLA.

COLA are payable during the life of the retired member. One half of the amount is also payable after the member's death and during the life of the spouse beneficiary if such retired member had elected one of the options under the Administrative Code which provides that benefits are to be continued for the life of such spouse after the death of the retired member, and where the death of such retired member occurred or occurs more than thirty days after the effective date of the retirement of such member.

### DEFINITIONS

**Accumulated Deductions**—The total contributions the member made to his/her Annuity Savings Account, with regular and special interest thereon.

**Average Salary**—{1} For a member who joined prior to July 1, 1973, salary earnable in the last year of the most recent three-year period during which (s)he held no more than one position, or the average annual salary earnable in any five consecutive years designated by the member. {2} For a member who joined after June 30, 1973, the average salary earned during any three consecutive years which provides the highest average salary. However, if the salary earned during any year included in this three-year period exceeds the average of the previous two years by more than 20%, the amount in excess of 20% is excluded from the computation.

**City Service**—All service as an employee of the City.

**Minimum Accumulation**—The difference between: {1} the amount of required contributions during the member's first 20 years of City Service accumulated with interest to the member's payability date, and {2} the amount of the Reserve for Increased-Take-Home-Pay on the date such period of 20 years is completed.

**New Entrant**—With minor exceptions, a teacher appointed to the public schools after August 1, 1917.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**Payability Date**—For members who elected the Twenty-Year Pension Plan, the date on which the Service Retirement allowance begins, which is the latest of {1} the date when the member retires, or {2} the date when (s)he attains age 55, or {3} the date when the member could have completed 25 years of City Service had (s)he remained active. For all other members, the retirement allowance begins on the date of retirement.

**Present Teacher**—A teacher in the public schools on August 1, 1917 and certain other specified school and college members.

**Prior Service**—All City Service and all teaching and supervisory service in schools maintained by the City prior to September 16, 1917, for the present teachers and, in the case of a New Entrant, prior to the date of appointment.

**Reserve For Increased-Take-Home-Pay**—A reserve of 2.5%, 5%, or 8% of the member's salary pursuant to the provisions of §13-546 of the Administrative Code of the City of New York, accumulated with regular and additional interest.

### **OPTIONS ON RETIREMENT OR DEATH**

A member, upon retirement, may receive his/her basic retirement allowance in monthly installments throughout life with all payments ending at death, or may elect to receive the actuarial equivalent in the following optional forms.

#### **Members who joined prior to July 27, 1976:**

- {1} For members who joined prior to July 1, 1973, a cash refund allowance under which reduced payments will be made during life with a provision that, in case of death before such payments have equaled the present value of the retirement allowance at the date of retirement, the balance shall be paid to the designated beneficiary or estate in a lump sum. For members who joined after June 30, 1973, this option is only available with regard to the annuity.
- {2} A ten-year or five-year certain and life allowance under which reduced payments will be made during life with a provision that in case of death within ten or five years of retirement, the balance that would have been payable had the member survived for ten or five years shall continue to be paid to the designated beneficiary or estate.
- {3} A joint-and-survivor allowance under which reduced payments will be made during life with a provision that upon the member's death, the same payments or one-half of such payments shall be continued throughout the life of such other person(s) as the member shall have designated.

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

- {4} Such other actuarial equivalent optional forms as may be certified by the Actuary and approved by the Teachers' Retirement Board. By resolution, the Teachers' Retirement Board has approved an option under which reduced payments will be made during life with a provision that, upon the member's death, a sum specified by the member at the time of retirement shall be paid to the designated beneficiary or estate.

Upon a member's death, the beneficiary may elect to receive the actuarial equivalent of the lump-sum otherwise payable in one of the following forms: 1) An annual amount payable for life in monthly installments, all payments ending at death; or 2) A cash refund allowance under which reduced payments will be made during life, with a provision that, in case of death before such payments have equaled the lump-sum payable upon the member's death, the balance shall be paid to the designated beneficiary or estate. This is only available to the beneficiary of a member who joined prior to July 1, 1973.

### **Members who joined on or after July 27, 1976:**

- {1} The same five-year or ten-year certain and life allowance as described in #2 above.
- {2} A joint-and-survivor allowance under which reduced payments will be made during life with a provision that upon the member's death, 100%, 75%, 50% or 25% of such payments shall be continued throughout the life of such other person(s) as the member shall have designated.

## **CONTRIBUTIONS**

TRS benefits are financed by employee and employer contributions and from earnings on TRS' invested funds.

## **MEMBER CONTRIBUTIONS**

### **Coordinated Retirement Plan (Article 15):**

A member of this Plan is mandated to contribute 3% of annual wages during all the years of coverage. If a member resigns or is otherwise terminated from City Service prior to eligibility for a benefit, all of his/her contributions with 5% interest will be refunded upon request.

Beginning October 1, 2000, Tier III and IV members will not be required to make basic required contributions after the 10th anniversary of their membership date or completion of ten years of City Service, whichever is earlier. New members after February 27, 2008 and members who elected to join the 55/25 plan pay an additional 1.85% of pay for all years of service. New members after December 10, 2009 who are represented by the UFT are required to contribute 4.85% of salary for the first 27 years of service and 1.85% of salary thereafter.

**Twenty-Year Pension Plan:**

A member of this Plan is required to contribute a percentage of salary which, if paid from the date of entry until the date of completion of 20 years of City Service, would provide at the payability date, an annuity of approximately one-eighth of the member's final salary as of the completion of 20 years of City Service. Tier II members who elected to join the 55/25 plan pay an additional 1.85% of pay.

**Age-55-Increased-Benefits Pension Plan:**

A member of this Plan is required to contribute a percentage of salary, which if paid to the age for service retirement under the law in effect prior to July 1, 1970, would provide an annuity equal to approximately 1% of the average annual compensation during the last five years of service multiplied by years of service. Tier II members who elected to join the 55/25 plan pay an additional 1.85% of pay.

Member contributions are accumulated with interest in individually maintained accounts. Except under Article 15, upon retirement, the amount to the member's credit (*i.e.*, Accumulated Deductions) is used to purchase his/her annuity on the basis of the tables adopted by the Teachers' Retirement Board. Upon death in service, the death benefits, including the Accumulated Deductions, are paid to the beneficiary and, on termination of employment other than by death or retirement, the Accumulated Deductions are returned to the member.

**Loans:** Subject to certain limitations, a member not covered under Article 15 may borrow an amount not exceeding 75% of the member's Accumulated Deductions. Effective July 1, 1991, subject to certain limitations, a member covered under Article 15 may borrow an amount not exceeding 75% of the member's Accumulated Deductions, provided it can be repaid with interest within five years by payroll deductions. Beginning 30 days after the inception of the loan, the amount of the unpaid portion of the loan is insured in full. Should the borrower subject to Article 15 retire before the loan is repaid, the actuarial equivalent of the outstanding loan is deducted from his/her retirement allowance.

**ITHP:** In general, the retirement and death benefits payable to or on account of members are supplemented by the Reserve For Increased-Take-Home-Pay, accumulated from City contributions at a rate equal to the Increased-Take-Home-Pay factor times salary. In general, the total benefit is equal to the benefit that would have been paid if the members' rates of contributions had not been reduced by the Increased-Take-Home-Pay rate. However, the Reserve For Increased-Take-Home-Pay is not payable upon the death of a member who joined after June 30, 1973.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

Beginning July 1, 1960, on a year-to-year basis, the required contributions of members were reduced by an Increased-Take-Home-Pay factor initially equal to 2.5% of salary. The following table shows effective periods and Increased-Take-Home-Pay factors.

<b>PERIOD</b>	<b>INCREASED-TAKE-HOME-PAY FACTOR</b>
	<b>Board of Education Employees</b>
07/01/60 – 06/30/61	2.5%
07/01/61 – 08/31/67	5.0%
09/01/67 – 08/31/68	8.0%
	<b>Board of Higher Education Employees</b>
09/01/67 – 08/31/68	5.0%
	<b>Twenty-Year and Age-55-Increased-Benefits Pension Plan Members</b>
09/01/68 – 06/30/70	8.0%
07/01/70 – 12/31/75	5.0%
01/01/76 and later	2.5%
	<b>Article 15 Members</b>
All	0.0%

**EMPLOYER CONTRIBUTIONS**

The Entry Age Actuarial Cost Method is utilized by the Plan's Actuary to calculate the contributions due from the participating employers.

The Employer Contributions are accrued by the Plan and are funded by the participating employers on a current basis. The Employer Contributions amounted to \$2,855,639,947 for the Fiscal Year ended June 30, 2013.

In addition to the Employer Contributions, the employers make payments for the benefit of certain members of the Plan who have attained the maximum grade of their salary schedule, in accordance with amendments to the Administrative Code of the City of New York. Teachers at maximum grade have \$400 per annum paid on a monthly basis to their accounts, while \$550 per annum is paid on a monthly basis to the accounts of supervisory personnel at maximum grade.

## VARIABLE ANNUITY PROGRAMS

**Diversified Equity:** Beginning January 1, 1968, members were given the option to participate in a variable annuity program now known as the Diversified Equity (Variable A) Fund, thereby providing a means which can reasonably be expected to protect a portion of their retirement income against the effect of increases in the cost of living. The monthly Variable Annuity payment is a fixed number of units, the value of which varies each month to reflect the financial experience of the investments which are almost entirely in common stocks.

On January 1, 1968, the effective date of the Diversified Equity Fund, a unit was assigned an arbitrary value of \$10. Each month thereafter, the unit value changed, reflecting the investment experience of the common stock fund during the preceding month. Since January 1, 1968, the value of a unit of the Diversified Equity Fund varied between a high of \$76.533 during April 2000 and a low of \$5.453 during October 1974. The monthly unit value of the Diversified Equity Fund was \$68.243 during July 2013.

**Bond Fund:** Beginning July 1, 1983, members were given the option to participate in a second variable annuity program, now designated the Bond (Variable B) Fund (Formerly the Stable-Value Fund). The Bond Fund is income-oriented and is intended to be less volatile than the Diversified Equity Fund. The monthly Variable Annuity payment is a fixed number of units, the value of which varies each month to reflect the financial experience of the investments, which may include Treasuries, Agencies, Corporates, Mortgages and other types of fixed-income instruments.

On July 1, 1983, the effective date of the Bond Fund, a unit was assigned an arbitrary value of \$10. Each month thereafter, the unit value changed, reflecting the investment experience of the changes in market value and income received from the investments in the fund during the preceding month. Since July 1, 1983, the value of a unit of the Bond Fund varied between a high of \$19.750 during September 2002 and a low of \$10 at inception on July 1, 1983. The monthly unit value of the Bond Fund was \$18.552 during July 2013.

**International Equity:** Beginning July 1, 2008, members were given the option to participate in a third variable annuity program, designated the International Equity (Variable C) Fund. The International Equity Fund is capital growth oriented. The monthly Variable Annuity payment is a fixed number of units, the value of which varies each month to reflect the financial experience of the investments, which invests in non – U.S. equities as compared with the Diversified Equity Fund which invests primarily in U.S. equities.

On July 1, 2008, the effective date of the International Equity Fund, a unit was assigned an arbitrary value of \$10. Each month thereafter, the unit value changed, reflecting the investment experience of the changes in market value and income received from the investments in the fund during the preceding month. Since July 1, 2008, the value of a unit of the International Equity Fund varied between a

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

high of \$10.352 during May 2011 and a low of \$6.048 during March 2009. The monthly unit value of the International Equity Fund was \$9.404 during July 2013.

### **Inflation Protection:**

Beginning July 1, 2008, members were given the option to participate in a fourth variable annuity program, designated the Inflation Protection (Variable D) Fund. The Inflation Protection Fund seeks to provide a rate of return that exceeds inflation. The monthly Variable Annuity payment is a fixed number of units, the value of which varies each month to reflect the financial experience of the investments, which may include fixed income investments, bonds, real estate commodities, etc.

On July 1, 2008, the effective date of the Inflation Protection Fund, a unit was assigned an arbitrary value of \$10. Each month thereafter, the unit value changed, reflecting the investment experience of the changes in market value and income received from the investments in the fund during the preceding month. Since July 1, 2008, the value of a unit of the Inflation Protection Fund varied between a high of \$11.819 during May 2013 and a low of \$8.012 during March 2009. The monthly unit value of the Inflation Protection Fund was \$11.031 during July 2013.

### **Socially Responsive Equity:**

Beginning July 1, 2008, members were given the option to participate in a fifth variable annuity program, designated the Socially Responsive Equity (Variable E) Fund. The Socially Responsive Equity Fund is capital growth oriented while investing in equities from socially responsible companies. The monthly Variable Annuity payment is a fixed number of units, the value of which varies each month to reflect the financial experience of the investments, which is a mutual fund that attempts to avoid investing in companies that do not reflect social priorities.

On July 1, 2008, the effective date of the Socially Responsive Equity Fund, a unit was assigned an arbitrary value of \$10. Each month thereafter, the unit value changed, reflecting the investment experience of the changes in market value and income received from the investments in the fund during the preceding month. Since July 1, 2008, the value of a unit of the Socially Responsive Equity Fund varied between a high of \$12.306 during June 2013 and a low of \$6.844 during March 2009. The monthly unit value of the Socially Responsive Equity Fund was \$12.224 during July 2013.

A member may elect to place part or all of his/her contributions and the City's contributions for Increased-Take-Home-Pay in either variable annuity program. The normal pension for service which is provided by the City will be paid in fixed dollars. Subject to certain prescribed limitations, a member may periodically elect either to participate in the variable annuity programs or to revoke a previous election.

Individual accounts of the members' own contributions are maintained in each variable annuity savings fund. Individual accounts, based on the City's contribution for Increased-Take-Home-Pay, are maintained in the Variable Pension Accumulation Funds. Deposits in these accounts are credited in terms of units, the value of which is determined at the beginning of each month and remains unchanged during that month.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**  
**COMPREHENSIVE ANNUAL FINANCIAL REPORT**  
**FISCAL YEAR ENDED JUNE 30, 2013**  
**ACKNOWLEDGEMENT OF QUALIFICATION**

I, Robert C. North, Jr., am the Chief Actuary for the New York City Retirement Systems. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



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Robert C. North, Jr., FSA, FSPA, FCA, MAAA, EA  
Chief Actuary  
Teachers' Retirement System  
of the City of New York  
November 8, 2013



# 5. **Statistical**



## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

This part of the Comprehensive Annual Financial Report presents detailed information as a context for understanding how the information in the Financial Section relates to the Teachers' Retirement System Qualified Pension Plan's (the "Plan") overall financial condition. The following are the categories of the various schedules that are included in this Section:

### **Financial Trend Information**

Schedules 1 through 3 contain trend information to help the reader understand how the Plan's financial performance and well-being have changed over time.

### **Demographic and Economic Information of In-Service Members**

Schedules 4 and 5 offer demographic and economic information of in-service members to help the reader understand how the Plan's future benefit payments will be affected by this segment of the membership population.

### **Benefit Payment and Demographic and Economic Information of Retired Members**

Schedules 6 through 13 present information to help the reader assess the Plan's current and future benefit payment obligations based on financial and demographic information of retired members.

### **Operating Expense Information**

Schedule 14 contains trend information as it relates to investment expenses of the Plan.

### **Investment Revenue Information**

Pages 5.11-5.15 contain information on the performance of the investments of the various funds of the Plan.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SCHEDULE 1: NET POSITION AND CHANGES IN NET POSITION**

<b>Year Ended</b>	<b>Pension Fund</b>	<b>Diversified Equity</b>	<b>Bond Fund*</b>	<b>International Equity</b>	<b>Inflation Protection</b>	<b>Socially Responsive Equity</b>	<b>Net Assets</b>	<b>Changes in Net Position</b>
<b>2004</b>	\$22,660,649	\$6,023,946	\$290,809	N/A	N/A	N/A	\$28,975,404	\$2,897,414
<b>2005</b>	24,305,041	5,930,704	256,425	N/A	N/A	N/A	30,492,170	1,516,766
<b>2006</b>	26,025,602	5,958,485	222,630	N/A	N/A	N/A	32,206,717	1,714,547
<b>2007</b>	30,513,823	6,431,897	197,071	N/A	N/A	N/A	37,142,791	4,936,074
<b>2008</b>	27,054,108	5,072,017	171,739	N/A	N/A	N/A	32,297,864	(4,844,927)
<b>2009</b>	19,795,757	3,113,828	148,256	14,667	2,715	2,266	23,077,489	(9,220,375)
<b>2010</b>	23,140,827	3,107,689	129,595	13,803	3,754	2,742	26,398,410	3,320,921
<b>2011</b>	29,942,258	3,523,126	112,117	15,626	4,527	3,883	33,601,537	7,203,127
<b>2012</b>	29,611,995	3,053,466	80,952	16,802	5,937	5,609	32,774,761	(826,776)
<b>2013</b>	33,654,166	3,110,127	63,719	16,320	5,882	6,242	36,856,456	4,081,695

\* Stable-Value Fund prior to January 1, 2012.

**SCHEDULE 2: 2013 CHANGES IN NET POSITION**

*In Thousands*

	<b>Pension Fund</b>	<b>Diversified Equity</b>	<b>Bond Fund</b>	<b>International Equity</b>	<b>Inflation Protection</b>	<b>Socially Responsive Equity</b>	<b>Net Position</b>
<b>2012 Net Position</b>	\$29,611,995	\$3,053,466	\$80,952	\$16,802	\$5,937	\$5,609	\$32,774,761
<b>Member Contributions</b>	153,897	721	66	9	2	3	154,698
<b>Employer Contributions</b>	2,912,737	103	3	1	-	-	2,912,844
<b>Interest &amp; Misc Income</b>	678,414	12,492	1,522	28	-	-	692,456
<b>Dividend Income</b>	736,164	75,171	-	167	432	48	811,982
<b>Realized Profit/Loss</b>	1,154,830	142,474	327	318	-	10	1,297,959
<b>Unrealized Profit/Loss</b>	2,702,711	353,629	(1,205)	1,507	(83)	1,310	3,057,869
<b>Benefit Payments</b>	(3,103,815)	(483,358)	(16,847)	(1,561)	(654)	(587)	(3,606,822)
<b>Refunds &amp; Withdrawals</b>	(11,462)	(921)	(49)	-	-	-	(12,432)
<b>Interest Paid to TDA Funds</b>	(1,047,979)	-	-	-	-	-	(1,047,979)
<b>Transfer to other Systems</b>	(42)	(2)	-	-	-	-	(44)
<b>Interfund Transfer</b>	33,847	(32,322)	(730)	(914)	259	(140)	-
<b>Provision for Expenses*</b>	(167,131)	(11,326)	(320)	(37)	(11)	(11)	(178,836)
<b>2013 Net changes</b>	\$4,042,171	\$56,661	(\$17,233)	(\$482)	(\$55)	\$633	\$4,081,695
<b>2013 Net Position</b>	\$33,654,166	\$3,110,127	\$63,719	\$16,320	\$5,882	\$6,242	\$36,856,456

\* Includes Administrative and Investment Expenses.

**SCHEDULE 3: CHANGES IN NET POSITION**  
In Thousands

Year Ended June 30*	1	2	3	4	5	6	7	8	9	10	11
Year Ended June 30*	Net Member Contributions	Employer Contributions	Net Investment Income	Transfer from/to Other Systems	TDA Fixed Interest Payments	Total Retirement Benefits	Loans Closed at Retirement	Withdrawals	Other Benefits**	Administrative Expenses	Changes in Net Position
2004	\$97,858	\$940,588	\$4,819,288	(\$1,764)	(\$307,353)	(\$2,392,559)	(\$130,455)	(\$28,463)	(\$71,134)	(\$28,592)	\$2,897,414
2005	124,539	1,248,704	3,311,302	3,215	(375,114)	(2,588,036)	(82,811)	(18,239)	(73,234)	(33,560)	1,516,766
2006	141,056	1,338,338	3,609,769	(401)	(451,631)	(2,763,758)	(56,817)	(14,917)	(53,154)	(33,938)	1,714,547
2007	143,786	1,622,743	6,787,568	(453)	(547,396)	(2,931,296)	(82,811)	(16,869)	(1,633)	(37,565)	4,936,074
2008	142,308	1,944,097	(3,109,764)	799	(648,015)	(3,065,092)	(55,832)	(17,194)	4,155	(40,389)	(4,844,927)
2009	143,281	2,297,789	(7,838,259)	1,035	(767,007)	(2,874,313)	(33,042)	(12,592)	(99,628)	(37,639)	(9,220,375)
2010	138,075	2,566,288	4,778,159	(2,109)	(816,557)	(3,017,755)	(30,338)	(12,782)	(240,595)	(41,465)	3,320,921
2011	158,829	2,525,111	8,888,669	737	(854,073)	(3,228,940)	(39,998)	(10,593)	(197,066)	(39,549)	7,203,127
2012	164,361	2,732,263	803,007	853	(945,967)	(3,366,901)	(28,031)	(17,273)	(129,375)	(39,713)	(826,776)
2013	154,698	2,912,844	5,721,112	(44)	(1,047,979)	(3,513,188)	(24,006)	(12,690)	(69,370)	(39,682)	4,081,695

**Total Retirement Benefits By Type**

Year Ended June 30*	6a Service Retirement Allowances	6b Ordinary Disability Retirement Allowances	6c Accident Disability Retirement Allowances	6d Survivors' Benefits	6 Total Retirement Benefits
2004	(\$2,266,439)	(\$33,638)	(\$15,606)	(\$76,876)	(\$2,392,559)
2005	(2,453,049)	(35,480)	(16,711)	(82,796)	(2,588,036)
2006	(2,619,238)	(37,816)	(18,324)	(88,380)	(2,763,758)
2007	(2,776,467)	(39,190)	(19,942)	(95,697)	(2,931,296)
2008	(2,888,552)	(42,663)	(22,621)	(111,256)	(3,065,092)
2009	(2,714,932)	(38,990)	(21,200)	(99,191)	(2,874,313)
2010	(2,851,639)	(40,327)	(22,809)	(102,980)	(3,017,755)
2011	(3,046,583)	(43,348)	(25,596)	(113,413)	(3,228,940)
2012	(3,178,074)	(46,071)	(27,811)	(114,945)	(3,366,901)
2013	(3,315,413)	(49,017)	(29,053)	(119,705)	(3,513,188)

\* Benefit Payment categories for 2004-2012 take into account retirement valuation reports.

\*\* Other Benefits consists of Retiree Advances, delayed interest payments, Active Death Payments, and excluding Fiscal Year 2013, adjustment of retirement benefits based on retirement valuation reports. Also, Fiscal Year 2011 includes \$112,462 in Nager II benefit payments. Fiscal Year 2010 includes \$149,406 minimum accumulation settlement.

Note: Benefit payments and withdrawals include columns 5, 6, 7, 8 and 9.

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SCHEDULE 4: PARTICIPATING EMPLOYERS**

*As of June 30, 2011 (Lag)*

<b>Employer</b>	<b>Number of In-Service Members*</b>	<b>Annual Payroll*</b>
NYC Department of Education and City University of New York	109,112	\$7,853,560,200
Charter Schools**		
Beginning with Children	40	2,642,174
Future Leaders Institute	32	1,845,757
Harriet Tubman	32	1,887,248
Kipp Academy	48	3,320,981
Kipp AMP	19	1,333,962
Kipp Infinity	69	5,082,761
Opportunity	55	3,650,223
Renaissance	46	3,319,894
UFT Elementary	108	5,935,913
UFT Green Dot	29	2,228,417
Voice	17	1,094,908
Wildcat	29	2,301,204
<b>SUBTOTAL</b>		<b>\$34,643,442</b>
<b>TOTAL</b>	<b>109,636</b>	<b>\$7,888,203,642</b>

\* The number of in service employees and their corresponding Annual Payroll include only current active members receiving salary as of each June 30<sup>th</sup>.

\*\* Kipp Academy, Renaissance, and Wild Charter Schools became participating employers in 2001. Beginning with Children Charter School became a participating employer in 2002. Future Leaders Institute, Harriet Tubman, Opportunity and UFT Elementary Charter Schools became participating employers in 2006. Kipp AMP and Kipp Infinity Charter Schools became participating employers in 2009. UFT Green Dot and Voice Charter Schools became participating employers in 2010.

**SCHEDULE 5: TABLE OF AVERAGE SALARIES OF IN-SERVICE MEMBERS**

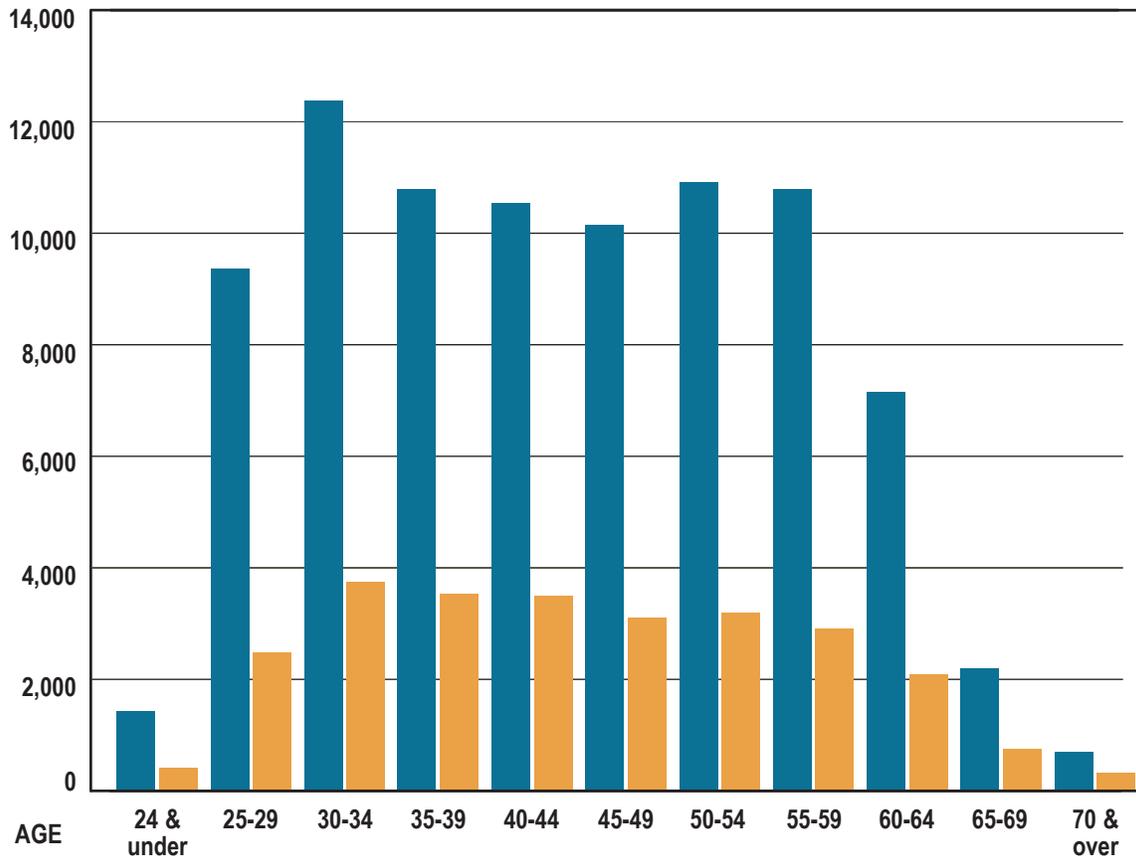
*As of June 30, 2012*

<b>MEN</b>			<b>WOMEN</b>		
<b>Age</b>	<b>Number of In-Service Members*</b>	<b>Average Salaries*</b>	<b>Age</b>	<b>Number of In-Service Members*</b>	<b>Average Salaries*</b>
24 & under	423	\$42,619	24 & under	1,426	\$45,667
25-29	2,482	54,762	25-29	9,363	57,100
30-34	3,749	67,140	30-34	12,376	67,230
35-39	3,541	75,034	35-39	10,796	71,606
40-44	3,501	78,084	40-44	10,537	71,375
45-49	3,100	80,869	45-49	10,141	71,338
50-54	3,187	83,582	50-54	10,915	73,455
55-59	2,906	85,435	55-59	10,789	75,833
60-64	2,097	82,832	60-64	7,155	76,310
65-69	758	77,857	65-69	2,200	71,452
70 & over	325	73,159	70 & over	693	62,569
<b>TOTAL</b>	<b>26,069</b>	<b>\$75,437</b>	<b>TOTAL</b>	<b>86,391</b>	<b>\$69,994</b>
<b>TOTAL ANNUAL SALARIES</b>		<b>\$1,966,558</b>	<b>TOTAL ANNUAL SALARIES</b>		<b>\$6,046,838</b>

\* The member count and the annual payroll include only those who were on the June 30<sup>th</sup> payroll.

**IN-SERVICE MEMBERS ON PAYROLL—DISTRIBUTION BY AGE**

*As of June 30, 2012*



WOMEN	1,426	9,363	12,376	10,796	10,537	10,141	10,915	10,789	7,155	2,200	693
MEN	423	2,482	3,749	3,541	3,501	3,100	3,187	2,906	2,097	758	325

**TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK**

**SCHEDULE 6: MEMBER BENEFITS BY TYPE**

*In Thousands*

<b>Year Ended June 30</b>	<b>Retirement Benefits</b>	<b>Non-Retirement Benefits</b>	<b>Member Benefits</b>
<b>2007</b>	\$2,931,296	\$84,444	\$3,015,740
<b>2008</b>	3,065,092	51,677	3,116,769
<b>2009</b>	2,874,313	132,670	3,006,983
<b>2010</b>	3,017,755	270,933	3,288,688
<b>2011</b>	3,228,940	237,064	3,466,004
<b>2012</b>	3,366,901	157,406	3,524,307

*Note: Member Benefits does not include TDA Fixed Interest Payments or Withdrawals.*

**SCHEDULE 7: AVERAGE ANNUAL BENEFIT PAYMENT AMOUNTS**

<b>Year Ended June 30</b>	<b>SERVICE RETIREMENT BENEFITS</b>		<b>ORDINARY (NON-DUTY) DISABILITY BENEFITS</b>		<b>ACCIDENTAL (DUTY) DISABILITY BENEFITS</b>		<b>SURVIVORS' BENEFITS</b>	
	<b>Number</b>	<b>Average Annual Allowance</b>	<b>Number</b>	<b>Average Annual Allowance</b>	<b>Number</b>	<b>Average Annual Allowance</b>	<b>Number</b>	<b>Average Annual Benefit</b>
<b>2007</b>	62,235	\$44,613	1,993	\$19,664	545	\$36,590	3,719	\$25,732
<b>2008</b>	63,343	45,603	2,043	20,883	573	39,478	3,822	29,109
<b>2009</b>	64,281	42,235	2,037	19,141	589	35,993	3,918	25,317
<b>2010</b>	65,734	43,381	2,068	19,500	619	36,849	3,935	26,170
<b>2011</b>	67,253	45,300	2,153	20,134	670	38,202	3,989	28,432
<b>2012</b>	69,515	45,718	2,242	20,549	711	39,116	4,071	28,235

**SCHEDULE 8: AVERAGE YEARS OF SERVICE OF NEW RETIREES**

*Average Years of Service*

<b>Year Ended June 30</b>	<b>Men</b>	<b>Women</b>	<b>Men and Women</b>	<b>Total Number of Retirees</b>
<b>2003</b>	33.4	29.0	30.6	5,014
<b>2004</b>	32.8	29.0	30.3	6,264
<b>2005</b>	30.9	27.5	28.3	4,104
<b>2006</b>	29.7	25.9	26.8	3,997
<b>2007</b>	28.7	26.3	26.9	2,715
<b>2008</b>	28.3	25.8	26.4	2,838
<b>2009</b>	26.7	25.1	25.5	2,699
<b>2010</b>	26.6	25.8	26.0	3,173
<b>2011</b>	26.5	25.3	25.6	3,423
<b>2012</b>	25.8	25.2	25.3	4,212

**SCHEDULE 9: RETIREES' AVERAGE MONTHLY BENEFIT PAYMENTS AND FINAL AVERAGE SALARY ORGANIZED BY YEARS OF CREDITED SERVICE**

Year*	Survivor	Other**	Under 5 Yrs***	5 - 9 Yrs	10 - 14 Yrs	15 - 19 Yrs	20 - 24 Yrs	25 - 29 Yrs	30 - 35 Yrs	35 & up Yrs	Total
Retirees	2004	3,434	17,137	256	2,021	3,693	4,994	11,433	12,638	7,088	62,727
Retirees	2005	3,538	14,197	373	2,392	4,040	5,508	12,090	14,378	8,615	65,168
Retirees	2006	3,615	12,447	439	2,623	4,337	6,033	12,706	15,745	9,593	67,576
Retirees	2007	3,666	8,672	641	3,081	4,799	6,685	13,334	17,030	10,537	68,492
Retirees	2008	3,777	8,011	739	3,313	4,995	7,092	13,514	17,415	10,874	69,781
Retirees	2009	3,878	7,546	832	3,476	5,121	7,390	13,933	17,609	10,986	70,825
Retirees	2010	3,935	6,493	934	3,709	5,310	7,829	14,557	18,139	11,391	72,356
Retirees	2011	3,989	6,423	60	3,937	5,466	8,163	15,057	18,401	11,529	74,065
Retirees	2012	4,071	5,882	63	4,382	5,720	8,786	15,942	18,786	11,742	76,539
Retirees	2013****	4,118	5,386	64	4,704	5,862	9,371	16,634	19,064	11,727	78,200

Year*	Under 5 Yrs***	5 - 9 Yrs	10 - 14 Yrs	15 - 19 Yrs	20 - 24 Yrs	25 - 29 Yrs	30 - 34 Yrs	35 & up Yrs
Avg Monthly Benefit	2004	\$324	\$273	\$732	\$1,264	\$1,926	\$3,099	\$4,253
Avg Monthly Benefit	2005	\$460	\$334	\$741	\$1,288	\$1,986	\$3,191	\$4,400
Avg Monthly Benefit	2006	\$610	\$368	\$773	\$1,319	\$2,061	\$3,327	\$4,590
Avg Monthly Benefit	2007	\$896	\$524	\$816	\$1,367	\$2,155	\$3,500	\$4,776
Avg Monthly Benefit	2008	\$996	\$506	\$839	\$1,387	\$2,152	\$3,452	\$4,717
Avg Monthly Benefit	2009	\$998	\$519	\$855	\$1,379	\$2,095	\$3,348	\$4,451
Avg Monthly Benefit	2010	\$1,073	\$609	\$872	\$1,336	\$2,172	\$3,466	\$4,592
Avg Monthly Benefit	2011	\$1,194	\$568	\$951	\$1,459	\$2,394	\$4,004	\$5,451
Avg Monthly Benefit	2012	\$1,265	\$588	\$987	\$1,504	\$2,331	\$3,682	\$4,798
Avg Monthly Benefit	2013****	\$1,292	\$597	\$993	\$1,478	\$2,417	\$3,822	\$4,969

Year*	Under 5 Yrs***	5 - 9 Yrs	10 - 14 Yrs	15 - 19 Yrs	20 - 24 Yrs	25 - 29 Yrs	30 - 34 Yrs	35 & up Yrs
Final Average Salary	2004	\$19,542	\$30,620	\$33,848	\$35,719	\$42,577	\$49,632	\$60,766
Final Average Salary	2005	\$21,125	\$32,062	\$35,371	\$37,207	\$44,482	\$51,312	\$63,832
Final Average Salary	2006	\$22,914	\$32,765	\$36,498	\$38,207	\$46,592	\$53,196	\$65,820
Final Average Salary	2007	\$26,668	\$36,178	\$38,348	\$40,419	\$48,902	\$55,302	\$67,802
Final Average Salary	2008	\$27,614	\$36,927	\$39,399	\$41,535	\$50,662	\$56,679	\$68,899
Final Average Salary	2009	\$27,306	\$38,280	\$40,348	\$42,379	\$51,881	\$58,811	\$69,802
Final Average Salary	2010	\$28,056	\$39,632	\$41,401	\$43,566	\$53,567	\$61,429	\$71,226
Final Average Salary	2011	\$28,895	\$40,803	\$42,607	\$44,701	\$55,226	\$63,830	\$72,377
Final Average Salary	2012	\$30,270	\$42,741	\$44,943	\$46,367	\$57,724	\$66,782	\$73,787
Final Average Salary	2013****	\$31,076	\$43,539	\$46,381	\$47,698	\$59,738	\$69,113	\$74,985

\* Retiree figures for 2004-2012 take into account retirement valuation reports.  
 \*\* Refers to retirees with a payment setup processed by a previous database system. The current payment system was initiated in 1998.  
 \*\*\* Retirees include Service Retirement, Accidental Disability and Ordinary Disability. The majority of retirees with under 5 Yrs. of service are Accidental Disability.  
 \*\*\*\* Retiree figures for 2013 include Service or FAS retirement revision cases previously categorized as "Other."

**Note:** If elected, total monthly benefits for Tier I and Tier II members depend on current unit value.

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**SCHEDULE 10: SERVICE RETIREMENT ALLOWANCES**

*As of June 30, 2012*

MEN			WOMEN		
Age	Number of Retirees	Average Annual Allowance	Age	Number of Retirees	Average Annual Allowance
under 30	0	-	under 30	0	-
30-34	0	-	30-34	0	-
35-39	0	-	35-39	0	-
40-44	0	-	40-44	0	-
45-49	0	-	45-49	0	-
50-54	1	\$30,230	50-54	0	-
55-59	693	50,395	55-59	2,126	\$48,630
60-64	3,542	60,472	60-64	8,909	53,553
65-69	6,419	59,196	65-69	11,585	47,599
70-74	3,675	51,294	70-74	8,399	39,695
75-79	2,789	49,366	75-79	6,166	35,255
80-84	2,217	46,700	80-84	5,136	33,725
85-89	1,340	44,110	85-89	3,587	31,537
90 & over	620	41,000	90 & over	2,311	28,411
<b>TOTAL</b>	<b>21,296</b>	<b>\$53,690</b>	<b>TOTAL</b>	<b>48,219</b>	<b>\$42,197</b>
<b>TOTAL ANNUAL ALLOWANCES PAID \$1,143,371,848</b>			<b>TOTAL ANNUAL ALLOWANCES PAID \$2,034,701,656</b>		

**SCHEDULE 11: ORDINARY DISABILITY RETIREMENT ALLOWANCES**

*As of June 30, 2012*

MEN			WOMEN		
Age	Number of Retirees	Average Annual Allowance	Age	Number of Retirees	Average Annual Allowance
under 30	0	-	under 30	0	-
30-34	0	-	30-34	0	-
35-39	1	\$19,990	35-39	6	\$22,204
40-44	6	24,747	40-44	21	21,192
45-49	17	21,133	45-49	61	21,367
50-54	50	25,791	50-54	165	21,931
55-59	83	23,022	55-59	270	21,683
60-64	117	24,674	60-64	405	21,440
65-69	129	22,824	65-69	318	19,541
70-74	55	20,870	70-74	186	15,775
75-79	30	21,127	75-79	97	14,761
80-84	18	20,664	80-84	65	14,731
85-89	10	21,018	85-89	49	16,361
90 & over	14	30,873	90 & over	69	19,399
<b>TOTAL</b>	<b>530</b>	<b>\$23,312</b>	<b>TOTAL</b>	<b>1,712</b>	<b>\$19,694</b>
<b>TOTAL ANNUAL BENEFITS PAID \$12,355,219</b>			<b>TOTAL ANNUAL BENEFITS PAID \$33,715,452</b>		

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**SCHEDULE 12: ACCIDENT DISABILITY RETIREMENT ALLOWANCES**

*As of June 30, 2012*

MEN			WOMEN		
Age	Number of Retirees	Average Annual Allowance	Age	Number of Retirees	Average Annual Allowance
Under 30	0	-	Under 30	1	\$38,810
30-34	0	-	30-34	2	24,191
35-39	2	\$51,517	35-39	1	27,094
40-44	3	40,565	40-44	8	47,085
45-49	4	40,473	45-49	23	33,513
50-54	10	44,955	50-54	42	39,537
55-59	20	49,919	55-59	64	39,068
60-64	41	42,686	60-64	117	38,429
65-69	66	43,938	65-69	99	37,039
70-74	27	45,884	70-74	44	40,615
75-79	16	37,003	75-79	46	30,498
80-84	10	36,043	80-84	26	33,896
85-89	9	37,853	85-89	14	37,084
90 & over	1	40,383	90 & over	15	38,536
<b>TOTAL</b>	<b>209</b>	<b>\$43,335</b>	<b>TOTAL</b>	<b>502</b>	<b>\$37,359</b>
<b>TOTAL ANNUAL ALLOWANCES PAID</b>		<b>\$9,056,991</b>	<b>TOTAL ANNUAL ALLOWANCES PAID</b>		<b>\$18,754,188</b>

**SCHEDULE 13: SURVIVORS' BENEFITS—QPP**

*As of June 30, 2012*

MEN			WOMEN		
Age	Number of Beneficiaries	Average Annual Benefit	Age	Number of Beneficiaries	Average Annual Benefit
under 30	6	\$19,256	under 30	5	\$25,807
30-34	5	29,402	30-34	12	25,970
35-39	7	18,649	35-39	12	17,656
40-44	11	20,820	40-44	12	20,772
45-49	20	9,275	45-49	30	15,704
50-54	29	18,166	50-54	59	17,536
55-59	29	12,658	55-59	66	23,854
60-64	83	22,445	60-64	174	36,807
65-69	146	31,701	65-69	306	35,301
70-74	119	26,664	70-74	327	34,840
75-79	135	24,366	75-79	396	33,528
80-84	165	23,080	80-84	492	31,327
85-89	191	25,210	85-89	526	26,661
90 & over	200	21,154	90 & over	508	23,900
<b>TOTAL</b>	<b>1,146</b>	<b>\$24,005</b>	<b>TOTAL</b>	<b>2,925</b>	<b>\$29,893</b>
<b>TOTAL ANNUAL BENEFITS PAID</b>		<b>\$27,509,286</b>	<b>TOTAL ANNUAL BENEFITS PAID</b>		<b>\$87,435,936</b>

TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

**SCHEDULE 14: NUMBER AND COST OF INVESTMENT AND ADMINISTRATIVE SERVICES**

<b>Year Ended</b>	<b>Investment Agent Count</b>	<b>Investment Expenses</b>	<b>**TRS Employees Count</b>	<b>Administrative Expenses</b>
2004	83	\$40,928,503	330	\$28,592,264
2005	101	\$60,183,462	333	\$33,559,785
2006	114	\$63,308,733	364	\$33,937,944
2007	144	\$81,687,843	367	\$37,564,973
2008	170	\$96,652,601	375	\$40,389,281
2009	200	\$101,973,449	374	\$37,639,364
2010	206	\$129,646,695	365	\$41,464,523
2011	188	\$125,545,571	364	\$39,548,780
2012	221	\$110,381,834	368	\$39,712,644
2013	227*	\$139,154,365*	373	\$39,682,470

\* 2013 details are found in the schedule: Summary of Investment Managers and Fees of the Investment Section.

\*\* Employee count does not include Consultants, Temporary Employees, and Summer Interns.

**PENSION FUND**  
**Performance Highlights**  
 Fiscal Year 2013

**Return: 11.90%**

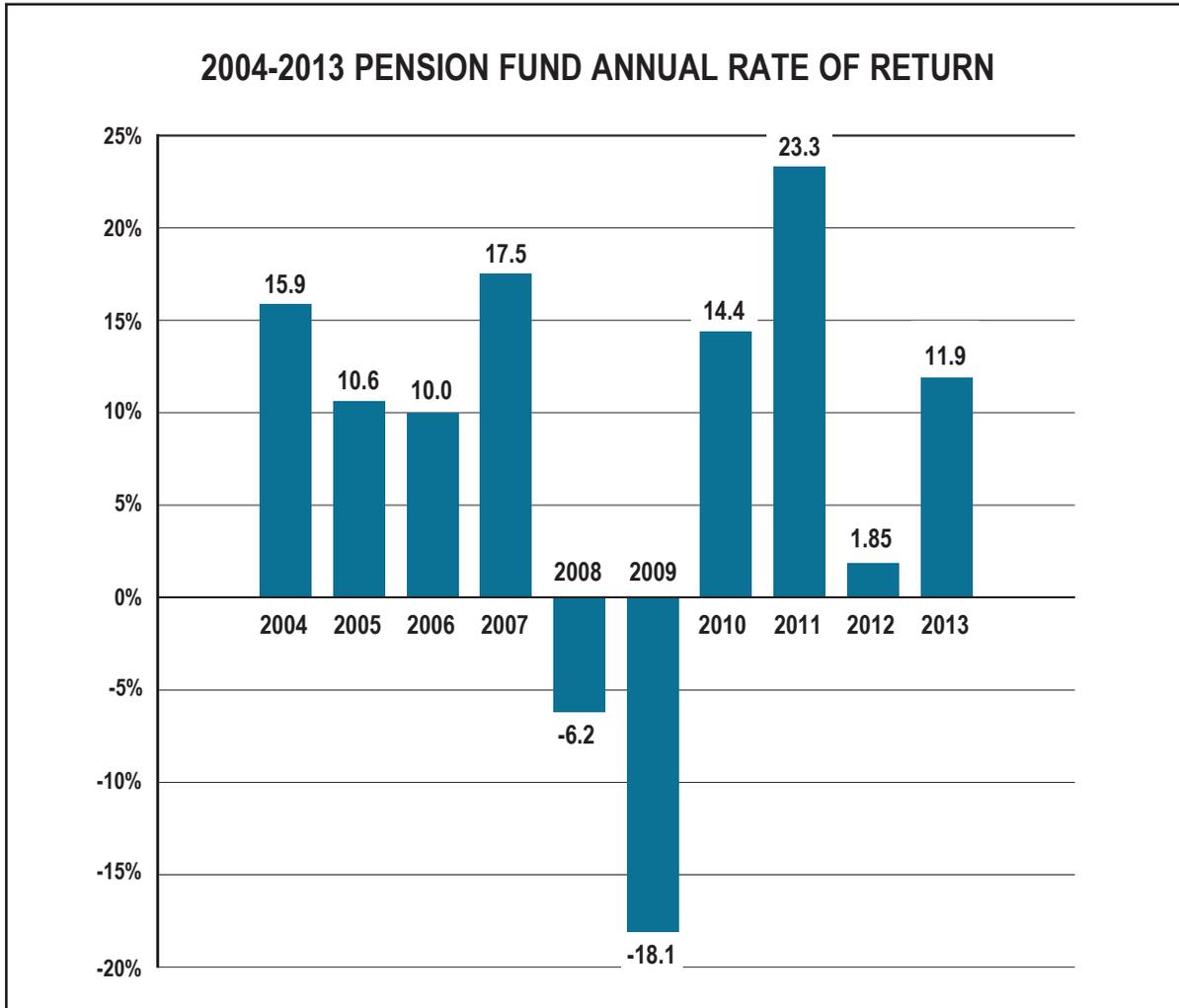
**Total Investments: \$34.930 Billion**

During Fiscal Year 2013, the Pension Fund's portfolio, consisting primarily of equities and fixed-income instruments, yielded a gross return of 11.90%. This was a decrease from the 1.85% return for Fiscal Year 2012.

The Pension Fund includes all pension contributions to the Qualified Pension Plan (QPP) made by Tiers III/IV/VI members; all pension contributions invested in the Fixed Return Fund by Tiers I/II members; all contributions to the Tax-Deferred Annuity (TDA) Program that are invested in the Fixed Return Fund; and all investment return

associated with these funds. (Note: This CAFR reports on the QPP only; the Total Investments figure above does not reflect any TDA investments.) The Fixed Return Fund provides an annual rate of return that is set by the New York State Legislature in accordance with applicable laws.

The Comptroller of the City of New York invests the Pension Fund's holdings in a diversified portfolio, as authorized by the Teachers' Retirement Board. This portfolio consists of U.S. and international equities and fixed-income instruments, with smaller allocations to private equity and real estate investments.



## DIVERSIFIED EQUITY FUND

### Performance Highlights

Fiscal Year 2013

**Return: 20.05%**

**Total Investments: \$3.270 Billion**

For the 12-month period ending June 30, 2013, the U.S. equity market, as measured by the Russell 3000 Index, returned 21.46%. The Russell 3000 Index includes no fees and provides a passive representation of the overall U.S. stock market. For the same 12-month period ending June 30, 2013, the Diversified Equity Fund returned 20.05%, after fees. The Fund invests in a diversified blend of investment strategies that historically have made the Diversified Equity Fund less volatile over long time periods than the overall U.S. equity market. The Hybrid Benchmark, which includes no fees, is constructed based upon a passive reflection of the Diversified Equity Fund's target asset allocation among domestic stocks, domestic fixed-income securities, and international equities. The hybrid benchmark is 70% Russell 3000 Index, 15% MSCI EAFE Index and 15% Defensive Strategies benchmark. Over the 12-month period ending June 30, 2013, the Diversified Equity Fund outperformed the hybrid benchmark's return of 19.87%.

For the three-year period ending June 30, 2013 the Diversified Equity Fund returned 16.69% on an annualized basis after fees, trailing the Russell 3000 Index's annualized return of 18.63% and the Hybrid Benchmark's annualized returns of 17.16% over the same period. For the five-year period ending June 30, 2013, the Diversified Equity Fund returned 5.72%, annualized after fees, behind the Russell 3000 Index's annualized return of 7.25% and the Hybrid Benchmark's annualized returns of 6.50%. Due to its diversified structure, the Diversified Equity Fund has exhibited less performance volatility than the Russell 3000 Index over the same five-year period.

As of June 30, 2013, approximately 81% of the Diversified Equity Fund's portfolio was invested in the U.S. common stock market. The Diversified Equity Fund's portfolio also contained approximately 14% in international stocks and approximately 5% in fixed income, cash-equivalents and other securities as of the fiscal year end. The international stock and the fixed income allocations contribute to portfolio diversification.

The Diversified Equity Fund utilizes a number of different investment strategies managed by professional money management firms. These strategies are classified into the component sectors described here. Returns after fees for all of the Diversified Equity Fund's component sectors for the one-year period ending June 30, 2013 are as follows:

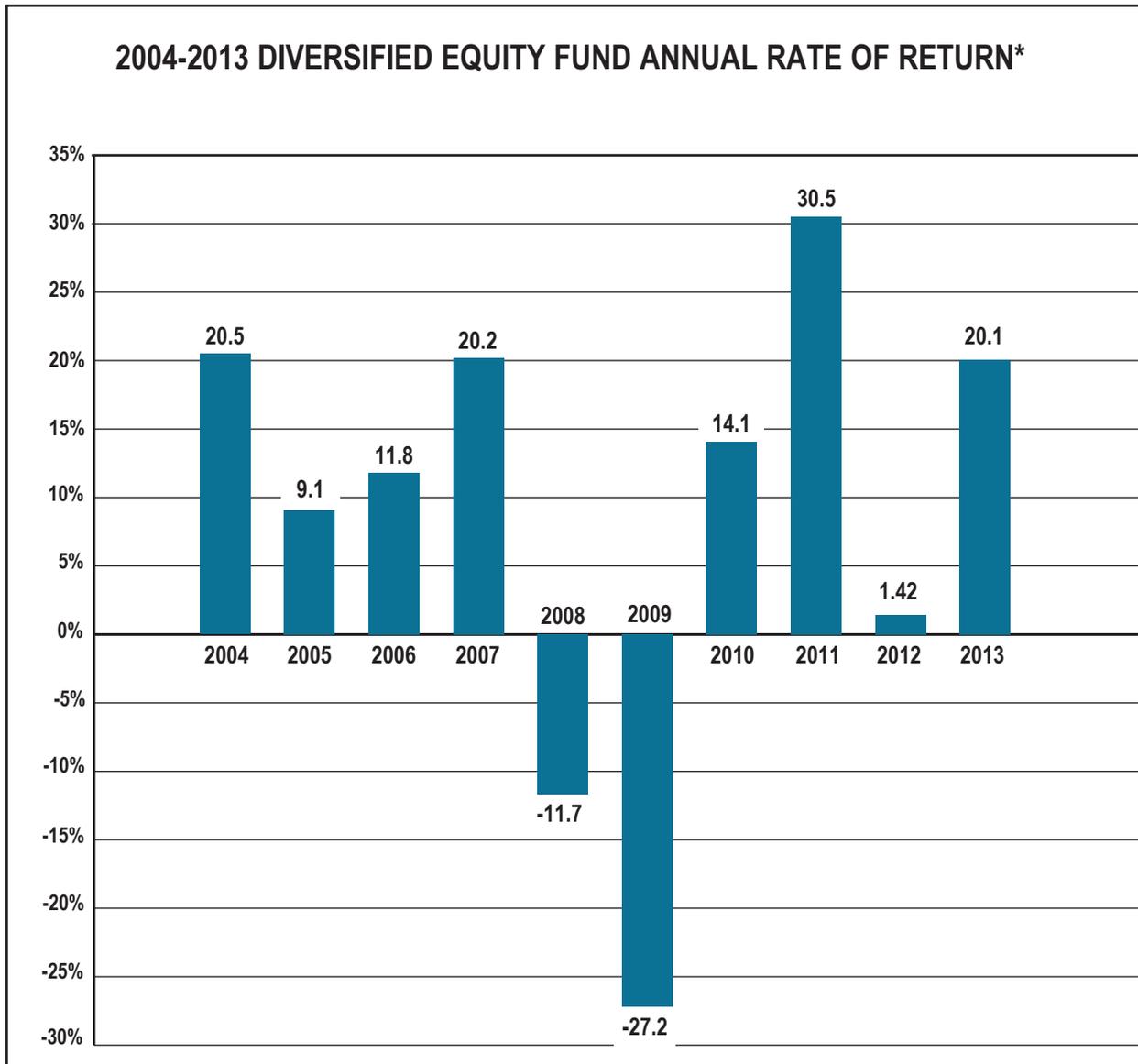
- The Passive Core (or index) sector earned a return of 21.58%, outperforming the Russell 3000 Index's return of 21.46%.
- The Active Domestic Equity sector is comprised of strategies focused on particular market capitalization ranges and investment styles. For the one-year period ending June 30, 2013 the Active Domestic Equity composite returned 23.16%, outperforming the Russell 3000 Index.
- The Defensive Strategies sector returned 14.45%, outperforming the Defensive Strategies benchmark (currently 30% Russell 1000 Index / 24.8% Russell 3000 Index / 15.2% Citigroup WGFI / 8.9% BofA ML Convertibles Yield Index / 8.9% BofA ML All Convertibles / 8.7% MSCI EAFE / 3.5% Barclays Gov't / Credit), which returned 13.40%. The Defensive Strategies sector is designed to provide a diversification benefit to the overall fund and has generally been beneficial to the fund during periods of market decline. The Tactical Asset

## TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

Allocation manager within this sector, which can modify its mix of equity, bonds and cash equivalents, was positioned with 62.3% equity exposure and 37.7% fixed income exposure in their portfolio as of June 30, 2013. In early 2011, two low expected volatility equity strategies were added to the Defensive Strategies sector. These strategies invest primarily in lower beta stocks with the objective of offering equity-like performance with lower volatility over market cycles. During the

first half of 2013, a defensively-oriented mutual fund was added to the Defensive Strategies sector. The convertible bond portfolios within this sector provide exposure that has a hybrid of equity and fixed income characteristics. The fixed income exposure of the overall Diversified Equity Fund comes from the Defensive Strategies sector.

- The International Equity sector earned 16.98%, while its benchmark, the MSCI EAFE Index returned 19.14%.



\* After expenses

**BOND FUND**  
**Performance Highlights**  
Fiscal Year 2013

**Return: 0.29%**

**Total Investments: \$66.144 Million**

The Bond Fund invests primarily in a portfolio of high-quality bonds that will provide for participant transactions at market value. These bonds may include Treasuries, Agencies, Corporates, Mortgages, and other types of fixed-income instruments. Effective January 1, 2012, the Bond Fund discontinued much of its use of "wrapper agreements" from banks or insurance companies, which provide under certain conditions that members' withdrawals from the portfolio will be

processed at book value, even if the current market value of the underlying investments has fluctuated due to changes in market conditions. As of June 30th, 2012 there were no longer any wrapper agreements, however the Fund still held small amounts of stable value investments. Since its inception in January 2012, the Bond Fund has returned 1.02% versus its benchmark, the Barclays 1-5 Year Government/Credit Index, which returned 1.16% over the same period. Please note that the total return of this option includes the impact of the ongoing transition from a book valued option to a market valued option.

**INTERNATIONAL EQUITY FUND**  
**Performance Highlights**  
Fiscal Year 2013

**Return: 16.85%**

**Total Investments: \$12.153 Million**

As of June 30, 2013, the International Equity Fund was comprised of 1 passive and 5 active equity managers which invest primarily in the stocks of non-U.S. companies located in developed markets. The International Equity Fund began on July 1, 2008. For the one year period ending 6/30/2013 the International

Equity Fund returned 16.85 %, after fees, versus its benchmark, the MSCI EAFE Index, which returned 19.14%. Since the July 1, 2008 inception, the Fund has returned 2.74%, after fees, outperforming its benchmark, the MSCI EAFE Index, which returned -0.16% for the same period. The total return of this option reflects performance of the underlying managers as well as the impact of cash flows into and out of the fund.

**INFLATION PROTECTION FUND**  
**Performance Highlights**  
Fiscal Year 2013

**Return: 5.54%**

**Total Investments: \$5.939 Billion**

The Inflation Protection Fund primarily invests in an actively managed mutual fund that seeks exposure to multiple asset classes with the goal of providing a real rate of return that exceeds inflation over a full market cycle. The Inflation Protection Fund began on July 1, 2008. For the one year period ending 6/30/2013 the Inflation Protection Fund returned 5.54%, after fees, versus the Barclays

Capital US TIPS 1-10 Year Index's return of -3.14%. The Fund's alternate benchmark, the Consumer Price Index (CPI) plus 5%, was 6.88% for the same period. Since the July 1, 2008 inception, the Fund has returned an annualized 6.06%, after fees, compared to its primary benchmark, the Barclays Capital US TIPS 1-10 Year Index, which returned 3.31% for the same period. The total return of this option reflects performance of the underlying manager as well as the impact of cash flows into and out of the fund.

**SOCIALLY RESPONSIVE EQUITY FUND**  
**Performance Highlights**  
Fiscal Year 2013

**Return: 25.63%**

**Total Investments: \$6.286 Million**

The Socially Responsive Equity Fund primarily invests in an actively managed mutual fund with the goal of providing a return comparable to the large capitalization U.S. equity market over a full market cycle while reflecting social priorities. The Socially Responsive Equity Fund was incepted on July 1, 2008. For the one year period ending

6/30/2013, the Socially Responsive Equity Fund returned 25.63%, after fees, versus the S&P 500 Index's return of 20.60%. Since the July 1, 2008 inception, the Fund has returned an annualized 8.27%, after fees, ahead of its benchmark, the S&P 500 Index, which returned 7.01% for the same period. The total return of this option reflects performance of the underlying manager as well as the impact of cash flows into and out of the fund.







**Teachers' Retirement System of the City of New York**

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