



**BERS**

Board of  
Education  
Retirement  
System

**Annual Comprehensive Financial Report**  
of the Qualified Pension Plan and the Tax Deferred Annuity Program

For the Fiscal Years Ended June 30, 2021 and June 30, 2020



**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

**A FIDUCIARY FUND  
OF THE CITY OF NEW YORK**

**ANNUAL COMPREHENSIVE FINANCIAL REPORT  
OF THE  
QUALIFIED PENSION PLAN  
AND THE  
TAX DEFERRED ANNUITY PROGRAM**

**FOR THE FISCAL YEARS ENDED  
JUNE 30, 2021 AND JUNE 30, 2020**

*Prepared by*  
*Sanford R. Rich, Executive Director*  
*Chithra Subramaniam, Director of Fiscal Operations*

**STATE OF NEW YORK**

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# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY

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**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

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OF THE CITY OF NEW YORK

**ANNUAL COMPREHENSIVE FINANCIAL REPORT OF  
THE QUALIFIED PENSION PLAN  
AND THE  
TAX DEFERRED ANNUITY PROGRAM**

**INTRODUCTORY SECTION  
PART I**

**FOR THE YEARS ENDED  
JUNE 30, 2021 AND JUNE 30, 2020**

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December 17, 2021

Board of Trustees  
Board of Education Retirement System  
City of New York  
55 Water Street, 50<sup>th</sup> Floor  
New York, NY 10041

Ladies and Gentlemen:

I am pleased to present the Annual Comprehensive Financial Report (“ACFR”) of the New York City Board of Education Retirement System (“BERS”, “Funds”, the “Plan” or the “System”) for the fiscal years ended June 30, 2021, and June 30, 2020. BERS administers the BERS Qualified Pension Plan (the “QPP”) and the BERS Tax Deferred Annuity Program (the “TDA Program”).

The QPP is a cost sharing, multiple employer Public Employee Retirement System (“PERS”) that was created on August 31, 1921. The QPP provides pension benefits to non-pedagogical employees of the Department of Education, certain other specific schools, school crossing guards employed by the New York City Police Department, and certain employees of the New York City School Construction Authority. The QPP combines features of a defined benefit pension plan with those of a defined contribution plan and functions in accordance with existing State statutes and City laws.

The TDA Program became operational on February 1, 1970 and is administered pursuant to the Internal Revenue Code Section 403(b) and existing State statutes and City laws. Certain members of the QPP have the option to participate in the TDA Program, which provides a means of deferring income tax payments on their voluntary tax-deferred contributions until the period after retirement or upon withdrawal of contributions. Contributions to the TDA Program are made by the members only. The TDA Program is maintained as a separate plan.

The responsibility for the accuracy of the data, and the completeness and fairness of the presentation, including all disclosures, rests with BERS. All disclosures necessary to enable the reader to gain an understanding of the system's financial activities have been included. Analysis of the changes that affected BERS fiduciary net position is presented in the Management’s Discussion and Analysis section of this report.

**MAJOR LEGAL INITIATIVES - July 1, 2018 through June 30, 2021**

**Chapter 266 of 2018**

Extends the time for members or eligible beneficiaries to file a Notice of Participation in World Trade Center Rescue, Recovery, and Cleanup Operations to September 11, 2022. This law takes effect immediately and is deemed to have been in full force and effect on and after September 11, 2001.

Chapter 59 of 2019

Revises the composition of the Board of Education of the City of New York, and hence the BERS Board of Trustees, to include one additional mayoral appointee and one member to be elected by community district education council presidents. This provision takes effect on July 1, 2020.

Chapter 589 of the Laws of 2019

Increases the amount of money a retiree may earn in a position of public service in the year 2020 and thereafter to, \$35,000 from \$30,000.

Chapter 76 of the Laws of 2019

Extends for two fiscal years, until June 30, 2021, the 7% rate of interest used by the Chief Actuary for BERS in valuing the retirement system liabilities for the purpose of computing the amount of employer contributions. The bill also extends for two fiscal years the rate of interest to be paid into certain constituent funds of the City retirement systems and the 8.25% per annum rate to be credited on AMCs and ITHP reserves for Tier 1 and Tier 2 members.

Chapter 89 of the Laws of 2020

Provides death benefits to statutory beneficiaries of members whose death was a result of or was contributed to by COVID-19. This law provides an Accidental Death Benefit to the eligible beneficiaries of a member or a retiree who retired after March 1, 2020, where such member reported for work outside their home and contracted COVID-19 within 45 days after reporting for work, and whose death was caused by COVID-19 or where COVID-19 contributed to such member's death. Amounts payable are reduced by payments of any ordinary death benefits or option benefit paid to another statutory beneficiary.

Chapter 78 of the Laws of 2021

Establishes a COVID-19 public employee death benefit for individuals who reported to their usual place of employment or an alternate worksite at the direction of their employer on or after March 1, 2020 and such individual contracted COVID-19 within 45 days of reporting to such workplace as confirmed by a laboratory test or by a licensed physician and such individual died on or before December 31, 2022.

**FUNDING**

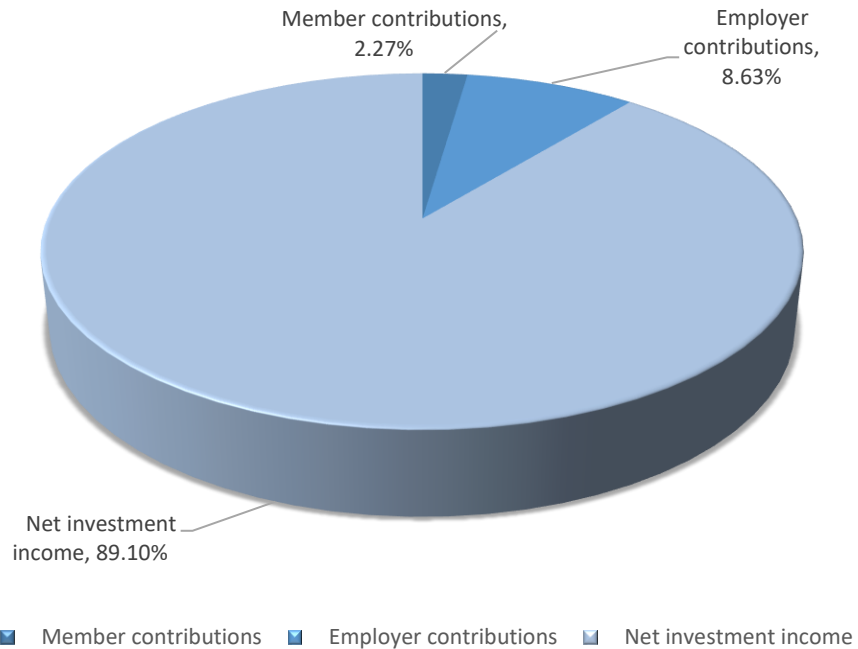
The financial objective of the QPP is to fund members' retirement benefits during their active service. The Employer contributes amounts that, together with member contributions and investment income, would ultimately be sufficient to accumulate assets to pay benefits when due.

The Office of the Actuary establishes employer contribution rates which, expressed as a percentage of annualized covered payroll, remain approximately level from year to year. An adequate funding level provides assurance and security for payment of future benefits. In fiscal year 2021, BERS sought to maintain a level of funding within the established guidelines of the Government Accounting Standards Board ("GASB"). As per GASB 67, a defined benefit pension plan is required to report fiduciary net position as a percentage of plan's total pension liability. As of June 30th, 2021, the QPP's fiduciary net position represents 121.96% of the total pension liability. The funded status of the QPP is expressed by the relationship of assets to liabilities. The ratio of actuarial value of assets to the Entry Age Actuarial Accrued liability, stands at 94.1% as of June 30th, 2019. Funding status has been discussed in detail in the actuarial section of this report.

**Funding Sources**

The chart below summarizes the contribution funding sources for fiscal year 2021 for the QPP.

<b>Funds</b>	<b>Percentage</b>	<b>Contribution (in thousands)</b>
Member Contributions	2.27%	\$ 48,125
Employer Contributions	8.63%	\$ 182,983
Net Investment Income	89.10%	\$1,889,751
<b>Total</b>	<b>100.00%</b>	<b>\$2,120,859</b>



Contributions to the TDA program are made on a voluntarily basis by certain eligible members of the QPP. TDA members who elect to participate in a fixed return fund investment program accounts are credited with the statutory annual rate of interest, currently 7% for members represented by the United Federation of Teachers and 8.25% for all other members. Members can also elect to participate in a variable return fund program.

## **INVESTMENTS**

### **Investment Summary**

The System's assets are invested in two investment programs. These are the fixed return fund, which is managed by BERS, and the variable return fund, consisting primarily of equity securities, which is managed by the Teachers' Retirement System ("TRS").

The Board of Education Retirement System Total Fund from the fixed return program returned +27.97%, net of management fees, for the fiscal year ending June 2021, compared to +27.47% for the Board of Education Policy Benchmark, against which it is measured. Performance for the fiscal year ranked better than 71% of the Wilshire public plans with assets greater than \$1 billion peer group. The Fund increased in value and ended the fiscal year at \$8.73 billion (compared to \$6.8 billion last year). Over the 5-year period ending June 2021, the Fund remains ahead of its benchmarks, with a 13.0% annual net return versus 11.93% for the benchmark. The 5-year performance ranks in the top 1% of peers.

As of June 2021, the variable investments held at TRS, increased to \$828.5 million from \$593.8 million in FY2020. During FY2021, the variable return fund performance was at +30.62% versus +2.23% during FY2020.

### **Investment Description<sup>1</sup>**

The Trustees establish a target asset mix after considering the long-term growth prospects of a diversified portfolio of investments and the expected costs of the Plan participants' benefits. Asset allocation is the percentage of fund assets that are in stocks, bonds and private market investments. In order to participate in the broad market performance while keeping Fund expenses low, the Fund invests in passive, index strategies for most of its U.S. public equity allocation.

There were two major investment initiatives accomplished in FY 2021. An Asset Liability Modeling study was completed to evaluate the plan investment allocation in relation to participant pension obligations. Second, a review of factors related to climate change and fossil fuel stocks was completed. The approved implementation plan incorporated the recommendations with additions to Private Equity, Real Estate and Infrastructure investments, while reducing U.S. equities and developed market non-U.S. equities. The Fund's passive or indexed managers divested from 29 fossil fuel reserve owners that responsibly reduced the exposure of BERS's portfolio to carbon risk and mitigates the financial risks resulting from climate change.

The Fund's target asset mix, approved in FY2021, is 47% Equity (including US and Non-US), 14% Alternative Private Markets (including Private equities, Real Estate and Infrastructure), 27% Fixed Income, and 12% Real Assets. Over the long-term, which is the framework for considering the term structure of the Plan's liabilities, we expect our asset allocation will provide asset base growth to meet the benefit payments while protecting through diversification.

### **Investment Policy**

BERS' investment policy statement, ratified by the Board of Trustees in January 2009 and amended in October 2011, in January 2013, in February 2015, in June 2016, and in April 2020, addresses investment objectives, investment philosophy and strategy, monitoring and evaluating performance, risk management, security lending protocol and rebalancing investment mix. The investment policy is available upon request.

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<sup>1</sup> Michael Wright, Segal Marco Advisors, Report on Investment Activity

## Investment Valuation

Investments are reported at fair value. Fair value is defined as the quoted market price at the end of the last trading day for the specified period, except for Alternative Investments which are considered long-term and illiquid in nature. Alternative investments consist of limited partnership structures invested in privately held 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 funds. They include investments held within Private Equity, Real Estate, Opportunistic Fixed Income, and Infrastructure.

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.

## **ECONOMIC AND MARKET COMMENT**<sup>2</sup>

The Fund is diversified across U.S. and non-U.S. markets. In the first half of 2021, all equities performed strongly with value stocks leading the way with meaningful gains. As COVID vaccination rates climbed, the global re-opening remained on track. Equities in general continued to show strong performance coinciding with the increasing vaccine rates. There are concerns regarding new variants of COVID-19 but thus far, the vaccines have been effective against these.

With U.S. market volatility falling to its lowest levels since 2019, U.S. markets closed the first half of 2021 at record highs despite fears over inflation and the end of the Federal Reserve stimulus. All sectors in the Russell 3000 Index saw positive returns for the fiscal year to date period primarily due to optimism for an imminent global recovery particularly in the U.S. The financial sector (+60.9%) came out the strongest, followed by energy (+55.5%). Non-U.S. developed equities also produced gains during the fiscal period as well as during the first half of 2021. The U.K. market outperformed broad international developed indices, as the country continued to re-open. The Japanese market trailed other developed markets, as the country struggled to vaccinate its population. A rise in COVID-19 cases during the first half of the second quarter of 2021 led the government to delay lifting its country’s state of emergency until June 20th. This was subsequently re-imposed in mid-July until late August. Emerging markets stocks rebounded strongly over the fiscal year to date period despite continued concerns regarding the COVID-19 and its variants as well as access to vaccines. Latin America led the way in the rebound driven primarily by the Brazilian market. Asian markets were the weakest given regulatory actions taken by the Chinese government and renewed COVID lockdowns causing concern among investors and muted return for the Chinese equity markets.

Within the fixed income market, the yield curve continued to flattened, with modest rate increases at the front end of the curve and more dramatic declines at the tail end. Yields began to fall across the curve starting at the 5-year point. Fiscal year returns from fixed income were muted or in negative territory with the exception of U.S. corporate high yields which posted double digit gains.

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<sup>2</sup> Michael Wright, Segal Marco Advisors, Report on Investment Activity

## **OTHER INFORMATION**

### **Internal Control**

The Executive Director is responsible for establishing and maintaining an internal control structure designed to provide reasonable assurance that the assets of the system are safeguarded and to ensure that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The System's internal control practices are designed to provide reasonable assurance that these objectives are met.

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management.

### **Accounting and Reporting**

This ACFR has been prepared in conformity with principles of governmental accounting and reporting, promulgated by the Governmental Accounting Standards Board ("GASB"), and according to guidelines adopted and published by the Government Finance Officers Association of the United States and Canada ("GFOA").

The QPP as well as the TDA Program use the accrual basis of accounting where the measurement focus is on a 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 the members are recognized when respective employers make payroll deductions from the QPP members and the TDA Program participants. Employer contributions to the QPP 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 governing the QPP and the TDA Program.

### **Independent Audit**

The five major retirement systems of the City of New York are required to undergo an annual audit by a firm of certified public accountants, in accordance with generally accepted auditing standards. Grant Thornton LLP, whose opinion is presented in the Financial Section of this report, conducted the audit of the financial statements of BERS for the fiscal year ended June 30, 2021. The five New York City retirement systems also undergo a five-year audit conducted by the New York State Department of Financial Services. During the fiscal year 2020, BERS went through an audit covering fiscal year 2014 thru fiscal year 2018.

### **Professional Services**

The Chief Actuary provides actuarial services for the five major pension systems maintained by the City. The Chief Actuary's actuarial report and certification are included in this ACFR. The New York City Comptroller and the Teachers' Retirement System retain investment managers to assist in the execution of investment policy in accordance with statutory authority, Retirement Board decisions and standard governing fiduciary practices.

BERS went live with the new Enterprise Resource Planning software, known as the Comprehensive Pension Management System ("CPMS") on May 31, 2017. We have moved into the next phase of the project (known as Velocity) which will expand CPMS to enable members to perform transactions online and will also increase the security and stability of the system by moving to cloud-based hosting. This will be a multiyear project. The services of Vitech Systems Group Incorporated have been retained to guide BERS through this phase.

Additional details about the consulting and professional services are mentioned in the introductory section, page 12. Schedule of the investment management fees and the schedule of payments of commissions to brokers are found in the investment section, page 90-99.

### **Awards**

The GFOA awarded a Certificate of Achievement for Excellence in Financial Reporting to BERS for its ACFR for the fiscal year ended June 30, 2020. The Certificate of Achievement is a prestigious national award, recognizing conformance with the highest standards for preparation of a state and local government finance reports. To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. The ACFR must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. BERS has received a Certificate of Achievement over the last thirty-four consecutive years. We believe our current report continues to conform to the Certificate of Achievement program requirements and it will be submitted to the GFOA.

### **Acknowledgments**

The dedicated service of the managers and staff of BERS made the preparation of this ACFR, on a timely basis, possible. In addition, our appreciation is extended to those members of the staffs of the Bureaus of Accountancy and Asset Management of the New York City Comptroller's Office and the Office of the Actuary who worked closely with the BERS personnel in the compilation of this report. We hope that the members of the Retirement Board, officials of the Department of Education of the City of New York, our members and the citizens of the City will find this report informative and helpful.

Respectfully submitted,



Sanford R. Rich  
Executive Director



## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

FOR THE FISCAL YEAR ENDED JUNE 30, 2021

### **BOARD OF TRUSTEES**

Hon. Larian Angelo  
Hon. Isaac Carmignani  
Hon. Geneal Chacon  
Hon. April Chapman  
Hon. Deborah Dillingham  
Hon. Natalie Green Giles  
Hon. Eric C. Henry  
Hon. Michael Kraft  
Hon. Vanessa Leung  
Hon. Gary Linnen  
Hon. John Maderich  
Hon. Donald Nesbit  
Hon. Kathy Park Price  
Hon. Lori Podvesker  
Hon. Meisha Porter, Chancellor  
Hon. Thomas Sheppard  
Hon. Jaclyn Tacoronte  
Hon. Shannon Waite

### **CHANCELLOR'S DESIGNEES**

Hon. Russell Buckley  
Hon. Lindsey Oates

### **ALTERNATE EMPLOYEE-MEMBERS**

Hon. Nicholas Souto  
Hon. Shaun Francois

### **CO-CHAIRS**

Hon. John Maderich  
Hon. Lindsey Oates

### ***Prepared By:***

*Sanford R. Rich, Executive Director*  
*Chithra Subramaniam, Director of Fiscal Operations*

### ***Actuary:***

*Sherry S. Chan, Chief Actuary*

### ***Custodian of the Funds:***

*Scott M. Stringer, Comptroller of the City of New York*  
*Teachers' Retirement System of the City of New York*

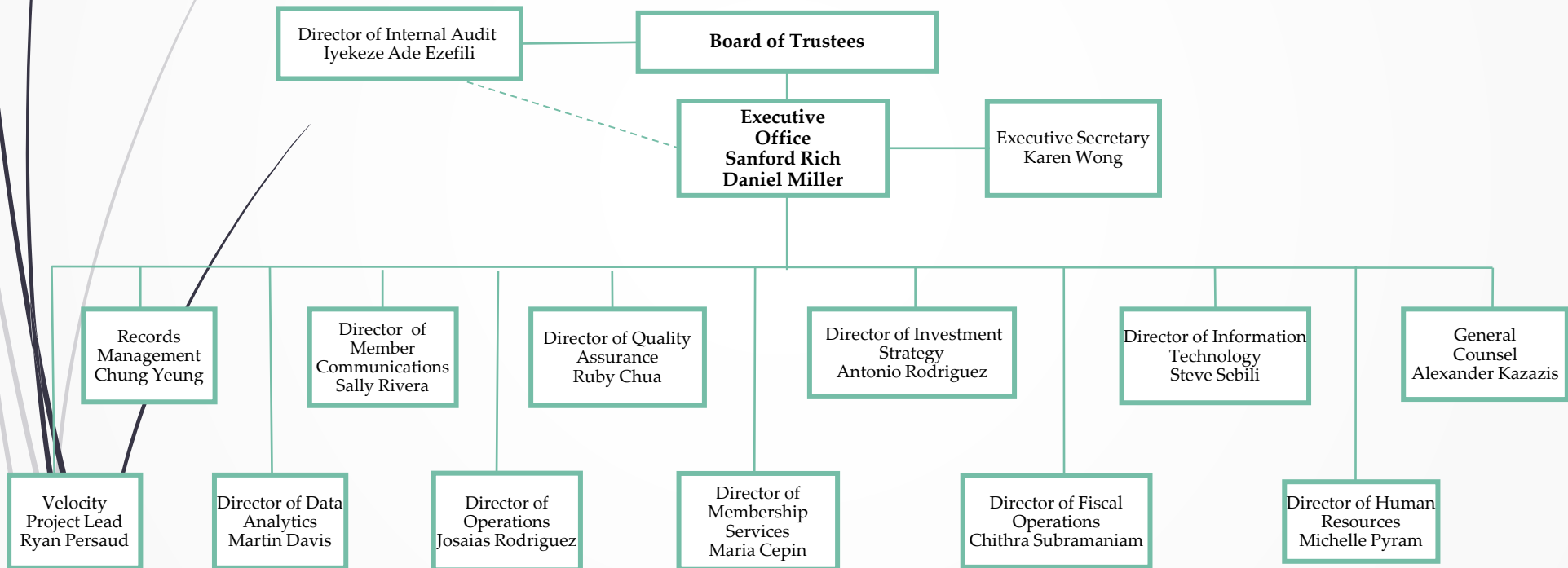
### ***Headquarters Address:***

*Board of Education Retirement System of the City of New York*  
*55 Water Street, 50<sup>th</sup> Floor, New York, New York 10041*



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM FOR THE FISCAL YEAR ENDED JUNE 30, 2021

## BERS Organization Structure



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM**

**CONSULTING AND PROFESSIONAL SERVICES  
FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

**ACCOUNTING SOFTWARE  
CONSULTANT**

Richard Nathan Consulting LLC  
132 East 43rd St, Suite 206  
New York, NY 10017

**RSM US LLP**

151 West 42nd Street, Floors 18-20  
New York, NY 10036

**ACTUARY**

Office of the Actuary  
255 Greenwich street, 9th Floor  
New York, NY 10007

**AUDITORS**

Grant Thornton LLP  
757 Third Ave., 9th Floor  
New York, NY 10017-2013

**CUSTODIAN OF FUNDS**

Office of the Comptroller  
1 Centre Street  
New York, NY 10007

Teachers' Retirement System  
of the City of New York  
55 Water Street  
New York, NY 10041

**HR RESEARCH AND  
ADVISORY SERVICES**

McLean & Company  
3960 Howard Hughes Parkway, Suite 500  
Las Vegas, NV, 89169

**INTERNAL AUDIT CONSULTANT**

Baker Tilly Virchow Krause, LLP  
2801 Via Fortuna, Suite 300  
Austin, TX 78746

**INVESTMENT CONSULTANT**

Aksia TorreyCove Partners LLC  
10180 Barnes Canyon Road, Suite 200  
San Diego, CA 92121

**Cordatus, LLC**

39 W 93rd Street, Suite 9  
New York, NY 10025

**Segal Marco Advisors**

333 West 34th Street  
New York, NY 10001

**LEGAL CONSULTANT**

Groom Law Group, Chartered  
Department 0589  
Washington, DC 20073

**OPERATIONS CONSULTANT**

Segal Company, Inc.  
333 West 34<sup>th</sup> Street  
New York, NY 10001

**VELOCITY PROJECT CONSULTANT**

Vitech Systems Group, Inc.  
401 Park Avenue South, 12th Floor  
New York, NY 10016



Government Finance Officers Association

Certificate of  
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in Financial  
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Presented to

**New York City Board of Education  
Retirement System Qualified Pension Plan**

For its Comprehensive Annual  
Financial Report  
For the Fiscal Year Ended

June 30, 2020

*Christopher P. Morill*

Executive Director/CEO

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**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

A FIDUCIARY FUND  
OF THE CITY OF NEW YORK

**ANNUAL COMPREHENSIVE FINANCIAL REPORT OF  
THE QUALIFIED PENSION PLAN  
AND THE  
TAX DEFERRED ANNUITY PROGRAM**

**FINANCIAL SECTION  
PART II**

**FOR THE YEARS ENDED  
JUNE 30, 2021 AND JUNE 30, 2020**

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**GRANT THORNTON LLP**

757 Third Ave., 9<sup>th</sup> Floor  
New York, NY 10017-2013

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**F** +1 212 370 4520

## REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

To the Board of Trustees of  
New York City Board of Education Retirement System

We have audited the accompanying combining financial statements of New York City Board of Education Retirement System Qualified Pension Plan and the New York City Board of Education Retirement System Tax-Deferred Annuity Program (collectively, the “System”), which comprise the combining statements of fiduciary net position as of June 30, 2021 and 2020 and the related combining statements of changes in fiduciary net position for the years then ended, and the related notes to combining financial statements.

### **Management’s responsibility for the combining financial statements**

Management is responsible for the preparation and fair presentation of these combining 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 combining financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditor’s responsibility**

Our responsibility is to express an opinion on these combining financial statements based on our audit. We conducted our audit 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 combining financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the combining financial statements. The procedures selected depend on the auditor’s judgment, including the assessment of the risks of material misstatement of the combining financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the System’s preparation and fair presentation of the combining 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 System’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 combining 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 combining financial statements referred to above present fairly, in all material respects, the combining fiduciary net position of the System as of June 30, 2021 and 2020, and the changes in the combining fiduciary 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 of Changes in the Employer's Net Pension Liability and Related Ratios, Schedule 2 - Schedules of Employer Contributions, and Schedule 3 - Schedule of Investment Returns, as listed in the table of contents, be presented to supplement the basic combining financial statements. Such information, although not a required part of the basic combining financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the basic combining financial statements in an appropriate operational, economic, or historical context. This required supplementary information is the responsibility of management. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America. These limited procedures 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 combining financial statements, and other knowledge we obtained during our audit of the basic combining financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other information*

Our audit was conducted for the purpose of forming an opinion on the basic combining financial statements. The Introductory 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 combining financial statements.

The Additional Supplementary Information (Schedule 4 - Schedule of Investment Expenses, Schedule 5 - Schedule of Administrative Expenses, and Schedule 6 - Schedule of Direct Payments to Consultants) for the year ended June 30, 2021, is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic combining financial statements. Such information has been subjected to the auditing procedures, applied in the audit of the basic combining financial statements and certain additional procedures, applied in the audit of the basic combining financial statements or to the basic combining financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Additional Supplementary Information is fairly stated, in all material respects, in relation to the basic combining financial statements taken as a whole.



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

*Grant Thornton LLP*

New York, New York

October 28, 2021

(except for the Additional Supplementary Information,  
as to which the date is December 17, 2021)

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**New York City Board of Education Retirement System**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)**

**June 30, 2021 and 2020**

This narrative discussion and analysis of the New York City Board of Education Retirement System's ("BERS", "Funds", the "Plan" or the "System") financial performance provides an overview of the System's combining financial activities for the Fiscal Years ended June 30, 2021 and 2020. It is meant to assist the reader in understanding the System's combining financial statements by providing an overall review of the combining financial activities during the years, the effects of significant changes, and a comparison of the prior years' activities and results. This discussion and analysis is intended to be read in conjunction with the System's combining financial statements. The System administers the BERS Qualified Pension Plan (the "QPP") and the BERS Tax-Deferred Annuity Program (the "TDA Program").

**OVERVIEW OF COMBINING FINANCIAL STATEMENTS**

The following discussion and analysis is intended to serve as an introduction to the System's combining financial statements. The combining financial statements, which are prepared in accordance with Governmental Accounting Standards Board ("GASB") pronouncements and include the financial statements of the QPP and the TDA Program, are as follows:

- **The Combining Statements of Fiduciary Net Position** - presents the financial position of the System at fiscal year end. It provides information about: the nature and amounts of resources with present service capacity that the System presently controls (assets); consumption of net assets by the System that is applicable to a future reporting period (deferred outflow of resources); present obligations to sacrifice resources that the System has little or no discretion to avoid (liabilities); and acquisition of net assets by the System 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 Combining Statements of Changes in Fiduciary Net Position** - presents the results of activities during the fiscal year. All changes affecting the assets/deferred outflow and liabilities/deferred inflow of the System 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 Combining Financial Statements** - provide additional information that is essential to a full understanding of the data provided in the combining financial statements. The notes present information about the System's accounting policies, significant account balances and activities, material risks, obligations, contingencies and subsequent events, if any.
- **Required Supplementary Information (Unaudited)** - as required by GASB includes the management discussion and analysis (this section) and information presented following the notes to combining financial statements.

**FINANCIAL HIGHLIGHTS**

***QPP Fiduciary Net Position***

QPP's net position restricted for pension benefits totaled \$7.04 billion during Fiscal Year 2021, an increase of 35.91% from Fiscal Year 2020. The increase in net position was primarily due to an increase in the fair value of investments. Fair value of investments, which includes the collateral from security lending, increased from \$7.36 billion in Fiscal Year 2020 to \$9.75 billion in Fiscal Year 2021, an increase of 32.37%. Return on investments stood at 19.37%.

**New York City Board of Education Retirement System**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) - CONTINUED**

**June 30, 2021 and 2020**

During Fiscal Year 2020, QPP's net position restricted for pension benefits stood at \$5.18 billion, an increase of 3.82% from Fiscal Year 2019. The increase in the net position during Fiscal Year 2020 was due to an increase in the fair value of investments. Fair value of investments, including the collateral from security lending, stood at \$7.36 billion, an increase of 6.72% from Fiscal Year 2019. Return on investments stood at 4.96%.

**QPP Fiduciary Net Position**

**June 30, 2021, 2020, and 2019**

**(In thousands)**

	<u>2021</u>	<u>2020</u>	<u>2019</u>
<b>Assets:</b>			
Cash	\$ 12,920	\$ 977	\$ 3,694
Receivables	304,182	195,190	240,378
Investments, at fair value	8,958,857	6,915,714	6,491,787
Collateral from securities lending	794,242	452,087	412,005
Other	<u>464,473</u>	<u>242,160</u>	<u>248,466</u>
Total assets	<u>10,534,674</u>	<u>7,806,128</u>	<u>7,396,330</u>
<b>Liabilities:</b>			
Accounts payable	78,462	32,441	43,333
Payable for investment securities purchased	436,597	166,434	182,667
Accrued benefits payable	13,150	12,884	10,034
Due to the TDA Program's fixed return fund from the System	2,167,983	1,959,392	1,756,459
Payables for securities lending	<u>794,242</u>	<u>452,087</u>	<u>412,005</u>
Total liabilities	<u>3,490,434</u>	<u>2,623,238</u>	<u>2,404,498</u>
 Net position restricted for pension benefits	 <u>\$ 7,044,240</u>	 <u>\$ 5,182,890</u>	 <u>\$ 4,991,832</u>

Total receivables increased from \$195.19 million in Fiscal Year 2020 to \$304.18 million in Fiscal Year 2021, an increase of 55.83%. The increase in the receivables was caused by the increase in the receivables for investment securities sold. Receivables for investment securities sold totaled \$232.84 million in Fiscal Year 2021, an increase of 99.97% from Fiscal Year 2020. Payables for investment securities purchased also increased from \$166.43 million in Fiscal Year 2020 to \$436.59 million in Fiscal Year 2021, an increase of \$270.16 million from Fiscal Year 2020.

At the close of Fiscal Year 2020, total receivables decreased from \$240.37 million in Fiscal Year 2019 to \$195.19 million, a decrease of 18.79%. Included in the total receivables are the receivables for investment securities sold, which decreased from \$173.66 million in Fiscal Year 2019 to \$116.43 million in Fiscal Year 2020, a decrease of 32.95% from Fiscal Year 2019.

The QPP's receivables and payables for investments are primarily generated through the timing differences between the trade and settlement dates for investment securities purchased or sold.

Member loans stood at \$47.25 million in Fiscal Year 2021, a decrease of 3.07% from Fiscal Year 2020.

**New York City Board of Education Retirement System**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) - CONTINUED**

**June 30, 2021 and 2020**

The account "Due to the TDA Program's fixed return fund from the System" represents a liability to the TDA program, since the TDA Program assets are pooled with QPP assets for investment purposes. The liability for Fiscal Year 2021 stood at \$2.16 billion, an increase of 10.64% from Fiscal Year 2020. This liability includes the TDA member's account balances for deposits in the fixed investment program.

**Changes in QPP Fiduciary Net Position**

During Fiscal Year 2021, the QPP member contributions decreased to \$48.12 million, a decrease of 3.29% from Fiscal Year 2020. In Fiscal Year 2020, the QPP member contributions increased to \$49.76 million, an increase of 7.47% from Fiscal Year 2019 contributions of \$46.30 million.

**Changes in QPP Program Fiduciary Net Position**

**Years ended June 30, 2021, 2020, and 2019**

**(In thousands)**

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Additions:			
Member contributions	\$ 48,125	\$ 49,766	\$ 46,304
Employer contributions	182,983	257,503	269,637
Net investment income before securities lending transaction	1,888,731	364,295	404,959
Net securities lending income	1,020	1,472	1,920
TDA Program's interest income in the fixed return fund	(171,806)	(155,749)	(141,695)
Other - receipts from (payments to) other retirement systems and other revenues/expenses	239,808	(7,975)	35,624
Total additions	<u>2,188,861</u>	<u>509,312</u>	<u>616,749</u>
Deductions:			
Benefit payments and withdrawals	302,336	296,047	280,463
Administrative expenses	25,175	22,207	17,357
Total deductions	<u>327,511</u>	<u>318,254</u>	<u>297,820</u>
Net increase in net position	1,861,350	191,058	318,929
Net position restricted for pension benefits:			
Beginning of year	<u>5,182,890</u>	<u>4,991,832</u>	<u>4,672,903</u>
End of year	<u>\$ 7,044,240</u>	<u>\$ 5,182,890</u>	<u>\$ 4,991,832</u>

Employer contributions received through the QPP Program decreased from \$257.50 million in the Fiscal Year 2020 to \$182.98 million in Fiscal Year 2021, a decrease of 28.93%. The employer contributions are made on a statutory basis based on the one-year lag methodology.

The net investment income, which includes the security lending income, increased from \$365.76 million in Fiscal Year 2020 to \$1.89 billion in Fiscal Year 2021. Return on investments increased from 4.96% in Fiscal Year 2020 to 19.37% in Fiscal Year 2021.

The benefit payments and withdrawals increased from \$296.04 million in Fiscal Year 2020 to \$302.33 million in Fiscal Year 2021, an increase of 2.12%. During Fiscal Year 2020, the benefits payments and withdrawals increased by 5.55%, from \$280.46 million to \$296.04 million.

**New York City Board of Education Retirement System**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) - CONTINUED**

**June 30, 2021 and 2020**

Administrative expenses increased from \$22.20 million in Fiscal Year 2020 to \$25.17 million in Fiscal Year 2021, a net increase of 13.36%. During Fiscal Year 2020, administrative expenses stood at \$22.20 million, an increase of \$4.85 million from Fiscal Year 2019.

Interest to the TDA Program's fixed return fund represents the statutory interest credited on the TDA Program member account balances. The statutory rate of interest is currently 7.00% for United Federation of Teachers ("UFT") members and 8.25% for all other members. During Fiscal Year 2021, the interest to the TDA Program's fixed return fund stood at \$171.80 million, an increase of \$16.05 million from Fiscal Year 2020. The table below displays revenue (expenses) to the System due to any surplus or deficiency between the actual rate of return on the fixed investments and the statutory rate.

**Net Investment Income (Loss) to the System from TDA Member Holdings in Fixed Return Fund\*:  
Years ended June 30, 2021, 2020, 2019, 2018, 2017, and 2016**

**(In thousands)**

	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>
Net investment income	\$ 1,867,031	\$ 364,638	\$ 403,041	\$ 559,753	\$ 854,992	\$ 164,435
TDA percent of fixed assets (average)	24.60%	26.22%	25.26%	25.13%	25.63%	25.03%
Investment income on account of TDA investment	\$ 459,255	\$ 95,601	\$ 101,812	\$ 140,661	\$ 219,121	\$ 41,165
Less: Statutory interest to TDA	<u>(171,806)</u>	<u>(155,749)</u>	<u>(141,695)</u>	<u>(127,972)</u>	<u>(106,554)</u>	<u>(94,789)</u>
Revenue (expense) to the System	<u>\$ 287,449</u>	<u>\$ (60,148)</u>	<u>\$ (39,883)</u>	<u>\$ 12,689</u>	<u>\$ 112,567</u>	<u>\$ (53,624)</u>

\*Includes security-lending income

***TDA Program Fiduciary Net Position***

The TDA program's net position restricted for TDA benefits was \$2.54 billion during Fiscal Year 2021, a net increase of 8.85% from Fiscal Year 2020. The increase was primarily due to an increase in the fair value of investments and amounts due to the TDA Program's fixed return fund from the System, which increased 45.22% and 10.64%, respectively. The TDA Program's fair value of variable investment including collateral security lending stood at \$789.66 million, an increase of \$245.91 million from Fiscal Year 2020. Amount due to the TDA Program's fixed return fund from the System increased from \$1.95 billion in Fiscal Year 2020 to \$2.16 billion in Fiscal Year 2021.

During Fiscal Year 2020, the TDA Program's net position restricted for TDA benefits increased to \$2.33 billion, a net increase of \$209.33 million or 9.83% from Fiscal Year 2019. The increase in Fiscal Year 2020 was primarily due to an increase in the amounts due to the TDA Program's fixed return fund from the System. Amounts due to the TDA Program's fixed return fund from the System increased by 11.55% in Fiscal Year 2020, from \$1.75 billion for Fiscal Year 2019 to \$1.95 billion in Fiscal Year 2020.

**New York City Board of Education Retirement System**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) - CONTINUED**

**June 30, 2021 and 2020**

**TDA Program Fiduciary Net Position**

**June 30, 2021, 2020, and 2019**

**(In thousands)**

	<u>2021</u>	<u>2020</u>	<u>2019</u>
<b>Assets:</b>			
Cash	\$ 407	\$ 398	\$ 410
Receivables	46,345	44,400	48,205
Due to the TDA Program's fixed return fund from the System	2,167,983	1,959,392	1,756,459
Investments, at fair value	754,622	540,275	544,694
Collateral from securities lending	35,039	3,480	3,583
<b>Total assets</b>	<u>3,004,396</u>	<u>2,547,945</u>	<u>2,353,351</u>
<b>Liabilities:</b>			
Other liability	414,297	195,228	209,241
Payable for investment securities purchased	168	711	3,654
Accrued benefits payable	11,174	11,776	9,455
Payables for securities lending transactions	35,039	3,480	3,583
<b>Total liabilities</b>	<u>460,678</u>	<u>211,195</u>	<u>225,933</u>
<b>Net position restricted for TDA benefits</b>	<u>\$ 2,543,718</u>	<u>\$ 2,336,750</u>	<u>\$ 2,127,418</u>

Total receivables increased by \$1.94 million in Fiscal Year 2021, an increase of 4.38% from Fiscal Year 2020. Fair value of variable investments increased from \$543.75 million in Fiscal Year 2020 to \$789.66 million in Fiscal Year 2021, an increase of 45.22% from Fiscal Year 2020. "Due to TDA program's fixed return fund from the system" increased from \$1.95 billion in Fiscal Year 2020 to \$2.16 billion, an increase of 10.64% from Fiscal Year 2020.

During Fiscal Year 2021, receivables and payables for investment stood at \$0.34 million and \$0.17 million, respectively, payables for collateral security lending stood at \$35.03 million in Fiscal Year 2021. The TDA Program's receivables and payables are primarily generated through the timing differences between the trade and settlement dates for investment securities purchased or sold within the variable return fund.

At the end of Fiscal Year 2020, total receivables decreased by \$3.80 million, a decrease of 7.89% from Fiscal Year 2019. Included in these receivables, the TDA Program's member loans outstanding decreased from \$43.79 million in Fiscal Year 2019 to \$42.81 million in Fiscal Year 2020, a decrease of 2.22% from Fiscal Year 2019.

***Changes in TDA Program Fiduciary Net Position***

During Fiscal Year 2021, member contributions to the TDA Program increased to \$111.58 million, a 1.48% increase from \$109.94 million member contributions in Fiscal Year 2020. Net investment income including net securities lending income increased from \$14.91 million in Fiscal Year 2020 to \$233.35 million in Fiscal Year 2021, an increase of \$218.44 million.

Member contributions to the TDA Program increased to \$109.94 million during Fiscal Year 2020, a 7.57% increase from the \$102.20 million contributed in Fiscal Year 2019. The number of contributing members increased by 1.41%. Net investment income decreased from \$40.08 million in Fiscal Year 2019 to \$14.91 million in Fiscal Year 2020, a net decrease of \$25.17 million.

**New York City Board of Education Retirement System**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) - CONTINUED**

**June 30, 2021 and 2020**

**Changes in TDA Program Fiduciary Net Position**

**Years ended June 30, 2021, 2020, and 2019**

**(In thousands)**

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Additions:			
Member contributions	\$ 111,580	\$ 109,944	\$ 102,203
Net investment income before securities lending transaction	233,245	14,838	40,008
Net securities lending income	112	74	79
TDA Program's interest income in the fixed return fund	171,806	155,749	141,695
Other - receipts from (payments to) other retirement systems and other revenues/expenses	<u>(239,773)</u>	<u>2,945</u>	<u>(43,842)</u>
Total additions	<u>276,970</u>	<u>283,550</u>	<u>240,143</u>
Deductions:			
Benefit payments and withdrawals	69,743	74,051	81,414
Administrative expenses	259	167	119
Total deductions	<u>70,002</u>	<u>74,218</u>	<u>81,533</u>
Net increase in net position	206,968	209,332	158,610
Net position restricted for TDA benefits:			
Beginning of year	<u>2,336,750</u>	<u>2,127,418</u>	<u>1,968,808</u>
End of year	<u>\$ 2,543,718</u>	<u>\$ 2,336,750</u>	<u>\$ 2,127,418</u>

Benefit payments and withdrawals decreased from \$74.05 million in Fiscal Year 2020 to \$69.74 million in Fiscal Year 2021, a decrease of \$4.30 million or 5.81%. The decrease was primarily due to the net impact of the benefit payments towards death benefits and refund payments. The death benefit payments increased from \$20.69 million in Fiscal Year 2020 to \$26.87 million in Fiscal Year 2021, an increase of \$6.17 million from Fiscal Year 2020. The refund payments stood at \$42.40 million in Fiscal Year 2021, a decrease of \$10.47 million from Fiscal Year 2020.

During Fiscal Year 2020, the benefit payments and withdrawals stood at \$74.05 million, a decrease of \$7.36 million from Fiscal Year 2019. The decrease was primarily due to a decrease in the benefit payments towards death benefits and refund payments. The death benefit payments decreased from \$25.49 million in Fiscal Year 2019 to \$20.69 million in Fiscal Year 2020, a decrease of \$4.80 million from Fiscal Year 2019. The refund payments stood at \$52.87 million in Fiscal Year 2020, a decrease of \$2.61 million from Fiscal Year 2019.



## New York City Board of Education Retirement System

### MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) - CONTINUED

June 30, 2021 and 2020

#### **Investment Summary**

Investments held by BERS' QPP and TDA Programs (which includes the fixed fund and the variable fund programs), including collateral from securities lending transactions from both programs, are listed according to their investment classification in the following table:

#### **Investment Summary**

##### **Fair Value**

(In thousands)

	June 30, 2021	June 30, 2020	June 30, 2019
Short-term investments	\$ 350,053	\$ 256,725	\$ 89,806
Debt (fixed income) securities	2,585,380	1,954,884	1,853,710
Equity securities	5,238,122	3,298,510	2,698,595
Collective trust funds	116,667	969,794	1,501,891
Alternative investments	1,423,257	976,076	892,479
Collateral from securities lending	829,281	455,567	415,588
	<u>\$ 10,542,760</u>	<u>\$ 7,911,556</u>	<u>\$ 7,452,069</u>

Because the QPP's liabilities are of a long-term nature, the assets of the QPP and the TDA Programs are invested with a long-term investment horizon. Assets are invested in a diversified portfolio of capital market securities. Investments in these assets are expected to produce higher returns but are also subject to greater volatility and may produce negative returns. The System's investments increased by 33.26% in Fiscal Year 2021, 6.17% in Fiscal Year 2020, and 6.83% in Fiscal Year 2019.

#### **CONTACT INFORMATION**

This financial report is designed to provide a general overview of the New York City Board of Education Retirement System's finances. Questions concerning any data provided in this report or requests for additional information should be directed to the Director of Fiscal Operations, New York City Board of Education Retirement System, 55 Water Street, 50<sup>th</sup> Floor, New York, New York 10041.

**New York City Board of Education Retirement System**  
**COMBINING STATEMENT OF FIDUCIARY NET POSITION**

**June 30, 2021**  
**(In thousands)**

	QPP	TDA Program	Eliminations	Total
<b>ASSETS</b>				
Cash	\$ 12,920	\$ 407	\$ -	\$ 13,327
Receivables:				
Investment securities sold	232,846	341	-	233,187
Accrued interest and dividends	23,673	1,252	-	24,925
Member loans	47,251	44,752	-	92,003
Other	412	-	-	412
Total receivables	<u>304,182</u>	<u>46,345</u>	<u>-</u>	<u>350,527</u>
Investments - at fair value: (Notes 2 and 3)				
Fixed return funds:				
Short-term investments:				
Commercial paper	135,880	-	-	135,880
Short-term investment fund	86,487	-	-	86,487
T-bills and discount notes	121,533	-	-	121,533
Debt (fixed income) securities	2,565,100	-	-	2,565,100
Equity securities	4,436,044	-	-	4,436,044
Collective trust funds:				
International equity	1,964	-	-	1,964
Domestic equity	90,709	-	-	90,709
Mortgage debt security	23,482	-	-	23,482
Fixed income	512	-	-	512
Alternative investments	1,423,257	-	-	1,423,257
Collateral from securities lending	790,811	-	-	790,811
Variable return funds:				
Short-term investments	549	5,604	-	6,153
Debt (fixed income) securities	1,809	18,471	-	20,280
Equities	71,531	730,547	-	802,078
Collateral from securities lending	3,431	35,039	-	38,470
Total investments	<u>9,753,099</u>	<u>789,661</u>	<u>-</u>	<u>10,542,760</u>
Due to the TDA Program's fixed return fund from System	-	2,167,983	(2,167,983)	-
Other assets	464,473	-	(414,297)	50,176
Total assets	<u>10,534,674</u>	<u>3,004,396</u>	<u>(2,582,280)</u>	<u>10,956,790</u>
<b>LIABILITIES</b>				
Accounts payable	78,462	-	-	78,462
Other liability	-	414,297	(414,297)	-
Payable for investment securities purchased	436,597	168	-	436,765
Accrued benefits payable	13,150	11,174	-	24,324
Due to the TDA Program's fixed return fund from System	2,167,983	-	(2,167,983)	-
Payables for securities lending	794,242	35,039	-	829,281
Total liabilities	<u>3,490,434</u>	<u>460,678</u>	<u>(2,582,280)</u>	<u>1,368,832</u>
Net position restricted for benefits:				
Net position restricted for QPP (Qualified Pension Plan) benefits	7,044,240	-	-	7,044,240
Net position restricted for TDA (Tax-Deferred Annuity) benefits	-	2,543,718	-	2,543,718
Total net position restricted for benefits	<u>\$ 7,044,240</u>	<u>\$ 2,543,718</u>	<u>\$ -</u>	<u>\$ 9,587,958</u>

The accompanying notes are an integral part of this combining financial statement.

**New York City Board of Education Retirement System**  
**COMBINING STATEMENT OF FIDUCIARY NET POSITION**

**June 30, 2020**  
**(In thousands)**

	QPP	TDA Program	Eliminations	Total
<b>ASSETS</b>				
Cash	\$ 977	\$ 398	\$ -	\$ 1,375
Receivables:				
Investment securities sold	116,436	514	-	116,950
Accrued interest and dividends	15,279	1,068	-	16,347
Member loans	48,751	42,818	-	91,569
Other	14,724	-	-	14,724
Total receivables	<u>195,190</u>	<u>44,400</u>	<u>-</u>	<u>239,590</u>
Investments - at fair value: (Notes 2 and 3)				
Fixed return funds:				
Short-term investments:				
Commercial paper	29,179	-	-	29,179
Short-term investment fund	73,082	-	-	73,082
T-bills and discount notes	149,094	-	-	149,094
Debt (fixed income) securities	1,941,029	-	-	1,941,029
Equity securities	2,723,900	-	-	2,723,900
Collective trust funds:				
International equity	776,286	-	-	776,286
Domestic equity	51,279	-	-	51,279
Mortgage debt security	22,965	-	-	22,965
Fixed income	119,264	-	-	119,264
Alternative investments	976,076	-	-	976,076
Collateral from securities lending	451,742	-	-	451,742
Variable return funds:				
Short-term investments	484	4,886	-	5,370
Debt (fixed income) securities	1,250	12,605	-	13,855
Equities	51,826	522,784	-	574,610
Collateral from securities lending	345	3,480	-	3,825
Total investments	<u>7,367,801</u>	<u>543,755</u>	<u>-</u>	<u>7,911,556</u>
Due to the TDA Program's fixed return fund from System	-	1,959,392	(1,959,392)	-
Other assets	242,160	-	(195,228)	46,932
Total assets	<u>7,806,128</u>	<u>2,547,945</u>	<u>(2,154,620)</u>	<u>8,199,453</u>
<b>LIABILITIES</b>				
Accounts payable	32,441	-	-	32,441
Other liability	-	195,228	(195,228)	-
Payable for investment securities purchased	166,434	711	-	167,145
Accrued benefits payable	12,884	11,776	-	24,660
Due to the TDA Program's fixed return fund from System	1,959,392	-	(1,959,392)	-
Payables for securities lending	452,087	3,480	-	455,567
Total liabilities	<u>2,623,238</u>	<u>211,195</u>	<u>(2,154,620)</u>	<u>679,813</u>
Net position restricted for benefits:				
Net position restricted for QPP (Qualified Pension Plan) benefits	5,182,890	-	-	5,182,890
Net position restricted for TDA (Tax-Deferred Annuity) benefits	-	2,336,750	-	2,336,750
Total net position restricted for benefits	<u>\$ 5,182,890</u>	<u>\$ 2,336,750</u>	<u>\$ -</u>	<u>\$ 7,519,640</u>

The accompanying notes are an integral part of this combining financial statement.

**New York City Board of Education Retirement System**

**COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION**

**Year ended June 30, 2021**

**(In thousands)**

	<u>QPP</u>	<u>TDA Program</u>	<u>Total</u>
<b>Additions</b>			
Contributions:			
Member contributions	\$ 48,125	\$ 111,580	\$ 159,705
Employer contributions	182,983	-	182,983
Total contributions	<u>231,108</u>	<u>111,580</u>	<u>342,688</u>
Investment income:			
Interest income	95,613	2,884	98,497
Dividend income	82,601	8,632	91,233
Net appreciation in fair value of investments	1,753,472	222,870	1,976,342
Total investment income	<u>1,931,686</u>	<u>234,386</u>	<u>2,166,072</u>
Less - investment expenses	<u>(42,955)</u>	<u>(1,141)</u>	<u>(44,096)</u>
Net investment income, before securities lending transactions	<u>1,888,731</u>	<u>233,245</u>	<u>2,121,976</u>
Securities lending transactions:			
Securities lending income	1,140	124	1,264
Securities lending fees	<u>(120)</u>	<u>(12)</u>	<u>(132)</u>
Net securities lending income	<u>1,020</u>	<u>112</u>	<u>1,132</u>
Net investment income	<u>1,889,751</u>	<u>233,357</u>	<u>2,123,108</u>
Other - receipts from (payments to) other retirement systems and other revenues/expenses	239,808	(239,773)	35
TDA Program's interest income in the fixed return fund	<u>(171,806)</u>	<u>171,806</u>	<u>-</u>
Total additions	<u>2,188,861</u>	<u>276,970</u>	<u>2,465,831</u>
<b>Deductions</b>			
Benefit payments and withdrawals	302,336	69,743	372,079
Administrative expenses	<u>25,175</u>	<u>259</u>	<u>25,434</u>
Total deductions	<u>327,511</u>	<u>70,002</u>	<u>397,513</u>
Net increase in net position	1,861,350	206,968	2,068,318
Net position restricted for benefits:			
Beginning of year	<u>5,182,890</u>	<u>2,336,750</u>	<u>7,519,640</u>
End of year	<u>\$ 7,044,240</u>	<u>\$ 2,543,718</u>	<u>\$ 9,587,958</u>

The accompanying notes are an integral part of this combining financial statement.

**New York City Board of Education Retirement System**

**COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION**

**Year ended June 30, 2020**

**(In thousands)**

	<u>QPP</u>	<u>TDA Program</u>	<u>Total</u>
<b>Additions</b>			
Contributions:			
Member contributions	\$ 49,766	\$ 109,944	\$ 159,710
Employer contributions	257,503	-	257,503
Total contributions	<u>307,269</u>	<u>109,944</u>	<u>417,213</u>
Investment income:			
Interest income	81,870	3,188	85,058
Dividend income	79,419	7,542	86,961
Net appreciation in fair value of investments	235,683	4,888	240,571
Total investment income	<u>396,972</u>	<u>15,618</u>	<u>412,590</u>
Less - investment expenses	<u>(32,677)</u>	<u>(780)</u>	<u>(33,457)</u>
Net investment income, before securities lending transactions	<u>364,295</u>	<u>14,838</u>	<u>379,133</u>
Securities lending transactions:			
Securities lending income	1,608	82	1,690
Securities lending fees	<u>(136)</u>	<u>(8)</u>	<u>(144)</u>
Net securities lending income	<u>1,472</u>	<u>74</u>	<u>1,546</u>
Net investment income	<u>365,767</u>	<u>14,912</u>	<u>380,679</u>
Other - receipts from (payments to) other retirement systems and other revenues/expenses	(7,975)	2,945	(5,030)
TDA Program's interest income in the fixed return fund	<u>(155,749)</u>	<u>155,749</u>	<u>-</u>
Total additions	<u>509,312</u>	<u>283,550</u>	<u>792,862</u>
<b>Deductions</b>			
Benefit payments and withdrawals	296,047	74,051	370,098
Administrative expenses	<u>22,207</u>	<u>167</u>	<u>22,374</u>
Total deductions	<u>318,254</u>	<u>74,218</u>	<u>392,472</u>
Net increase in net position	191,058	209,332	400,390
Net position restricted for benefits:			
Beginning of year	<u>4,991,832</u>	<u>2,127,418</u>	<u>7,119,250</u>
End of year	<u>\$ 5,182,890</u>	<u>\$ 2,336,750</u>	<u>\$ 7,519,640</u>

The accompanying notes are an integral part of this combining financial statement.

**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS**

**June 30, 2021 and 2020**

**NOTE 1 - SYSTEM DESCRIPTION**

The City of New York (“The City” or “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 New York City Board of Education Retirement System (“BERS”, “Funds”, the “Plan” or the “System”), the New York City Employees’ Retirement System (“NYCERS”), the Teachers’ Retirement System of the City of New York (“TRS”), the New York City Police Pension Funds (“POLICE”), and the New York City Fire Pension Funds (“FIRE”). Each pension system is a separate Public Employee Retirement System (“PERS”) with a separate oversight body and is financially independent of the other.

BERS administers the BERS Qualified Pension Plan (the “QPP”) and the BERS Tax-Deferred Annuity Program (the “TDA Program”). BERS is the fiduciary for the QPP and the TDA Program, which are included under BERS in the Pension and Other Employee Benefit Trust Funds section of The City’s Annual Comprehensive Financial Report (“ACFR”). GASB Statement No. 98, *The Annual Comprehensive Financial Report*, establishes the term annual comprehensive financial report and its acronym ACFR. The new term replaces comprehensive annual financial report and its acronym in generally accepted accounting principles for state and local governments. The System has decided to early implement this pronouncement and has applied the change as of the issuance of this report.

The QPP is a cost-sharing, multiple-employer pension plan. The QPP provides pension benefits for non-pedagogical employees of the New York City Department of Education, certain other specific schools, and certain employees of the New York City School Construction Authority (collectively, the “Employer”). Substantially, all Department of Education non-pedagogical permanent employees, other than members of TRS, become members of the QPP on the first day of permanent employment. Employees classified as noncompetitive, exempt or provisional by Civil Service are eligible to enroll in the QPP voluntarily. For voluntary enrollment, membership date is governed by the date of filing.

The QPP functions in accordance with existing State statutes and City laws, which establish and amend the benefit terms and the Employer and member contribution requirements. It combines features of a defined benefit pension plan with those of a defined contribution pension plan but is considered a defined benefit pension plan for financial reporting purposes. Contributions are made by the Employer and the members.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

At June 30, 2021, June 30, 2020, June 30, 2019, June 30, 2018, June 30, 2017, and June 30, 2016, the QPP's membership consisted of:

	<u>2021*</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>
Retirees and beneficiaries receiving benefits	19,626	19,120	18,502	18,041	17,425	16,937
Terminated vested members not receiving benefits	2,005	1,972	2,019	1,934	1,528	851
Terminated non-vested members **	8,532	8,826	11,422	10,525	2,618	2,629
Active members receiving salary	<u>28,340</u>	<u>28,183</u>	<u>25,825</u>	<u>25,864</u>	<u>25,794</u>	<u>25,864</u>
Total	<u><u>58,503</u></u>	<u><u>58,101</u></u>	<u><u>57,768</u></u>	<u><u>56,364</u></u>	<u><u>47,365</u></u>	<u><u>46,281</u></u>

\* Preliminary figures.

\*\* As of June 30, 2020, represents terminated members (and members deemed to be terminated) who are not vested in a pension benefit but who are eligible to withdraw their employee contribution account balance only. As of June 30, 2018, represents terminated members who are not vested in a pension benefit but who are eligible to withdraw their employee contribution account balance, and members who are no longer on payroll but who are not otherwise classified. Prior to June 30, 2018, represents members who are no longer on payroll but not otherwise classified.

BERS is a fiduciary component unit of The City and is included in The City's Annual Report as a Pension and Other Employee Benefit Trust Fund ("ACFR").

The TDA Program was created and is administered pursuant to the Internal Revenue Code ("IRC") Section 403(b) and existing State statutes and City laws. Certain members of the QPP have the option to participate in the TDA Program, which provides a means of deferring income tax payments on members' voluntary tax-deferred contributions until the period after retirement or upon withdrawal of contributions. Contributions to the TDA Program are made by the members only. The TDA Program is maintained as a separate plan.

The TDA Program participants consisted of the following as of June 30:

	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>
Contributing members	18,551	19,148	18,881	17,899	16,917	16,113
Retired members with TDA balances	7,628	7,102	6,798	6,484	6,673	5,844

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**Summary of Benefits**

*QPP Benefits*

The New York State Constitution provides that 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 New York State Retirement and Social Security Law (“RSSL”) modified certain benefits and member contributions for employees joining the QPP on or after the effective date of such amendments. As such, benefits under the QPP fall into various categories based on the year when an employee joined the QPP. A brief overview follows:

- Members who joined prior to July 1, 1973 (“Tier 1”) are entitled to service retirement benefits of 55% of “final salary” (as defined within State statutes and City laws) after 25 years of qualifying service and attainment of age 55, a portion of which is provided from member contributions. Additional benefits equal to a specified percentage per year of service of “final salary” are payable for years in excess of the 25-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 25th 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 QPP 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. Tier 1 members contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership and which is dependent upon age and actuarial tables in effect at the time of membership.

In addition, these same members could elect a service retirement benefit with no minimum service requirement which 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 upon attainment of age 55. This benefit is increased, where applicable, by an annuity attributable to the member contributions and ITHP contributions.

- For all members who enrolled in the QPP prior to July 27, 1976 (“Tier 1” and “Tier 2”), ITHP contributions made on their behalf as well as their own contributions are invested, at their election, in either the fixed return fund or the variable return fund, or 50% of such contributions in each. These investment elections can be changed every two years. The QPP guaranteed a 7.5% return on member contributions or ITHP contributions to the fixed return fund until June 30, 1982, increased the guaranteed return to 8% as of July 1, 1982, and to 8.25% as of July 1, 1988, for members who enrolled in the QPP prior to July 27, 1976 (5% on member contributions for members enrolled on or after July 27, 1976). The variable return fund includes only member contributions and ITHP contributions made on their behalf as described above and is expressed in terms of units, which are valued monthly, based on investment experience.
- Certain members of Tier 1 and Tier 2 have the right to make voluntary member contributions (“Voluntary Contributions”) in excess of their required member contributions (“Required Contributions”). The investment of the Voluntary Contributions and the Required Contributions is directed by each member. A member may invest: (1) in the QPP’s fixed return fund, which is credited with interest at the Statutory Interest Rate (currently 8.25% (7.0% for United Federation of Teachers (“UFT”) members)); and/or (2) in the QPP’s variable return fund. At the time of retirement or refund of contributions, a member’s aggregate balance of actual Required Contributions and Voluntary Contributions, including the actual accumulated earnings thereon, less the outstanding balance of any member loans (“Net Actual Contributions”), may exceed (“Excess



## New York City Board of Education Retirement System

### NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED

June 30, 2021 and 2020

of Contributions”) or fall short of (“Deficiency of Contributions”) the member’s Expected Balance. The Expected Balance is the sum of the Required Contributions which a member should have made during his or her credited service, plus the earnings that would have accumulated thereon at the Statutory Interest rate. The amount of the member’s retirement annuity or the refund of contributions that he or she is entitled to is increased by any Excess of Contributions or reduced by any Deficiency of Contributions. The total value of active members’ Excess of Contributions, net of all Deficiencies of Contributions, is \$2.62 million and \$2.57 million, for the years ended June 30, 2021 and 2020, respectively. Actuarial estimates of the impacts of Excesses and Deficiencies are incorporated into the calculation of the QPP’s net pension liability (see Note 5).

- Members who joined after July 1, 1973 and before July 27, 1976 (“Tier 2”) have provisions similar to Tier 1, except that the eligibility requirements for retirement and the salary base for benefits are different and there was a limitation on their maximum benefit. Also, certain members retiring prior to age 62 may have their benefit reduced by an age-based factor. This maximum benefit limitation was subsequently eliminated under Chapter 574 of the Laws of 2000 for all Tier 2 members who retired after December 8, 2000. Tier 2 members contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership.
- Members who joined the QPP on or after July 27, 1976 and prior to September 1, 1983 (“Tier 3”) were originally entitled to a retirement benefit upon the completion of 10 years of service at age 62. The formula for this benefit was 1.67% of “Final Average Salary” (“FAS”) per year of credited service for members with less than 20 years of service, or 2% of FAS per year of service for members with 20 to 30 years of service. Tier 3 benefits were reduced by one half of the primary Social Security benefit attributable to service with the Employer and provided an annual cost-of-living escalator in pension benefits of not more than 3%. Tier 3 required member contributions of 3% of salary for a period not to exceed 30 years. After September 1, 1983, all Tier 3 members were mandated into the Tier 4 plan. However, these members retain their Tier 3 rights. Effective October 1, 2000, Tier 4 members with Tier 3 rights, like other Tier 4 members, are not required to make contributions once the 10th anniversary of their membership date has passed, or upon completion of 10 years of credited service, whichever is earlier, and are eligible for a pension upon the completion of five years of credited service at age 62.
- Members who joined the QPP on or after September 1, 1983 and prior to April 1, 2012 (“Tier 4”) are eligible for a pension upon the completion of five years of credited service at age 62. The annual benefit is 1.67% of FAS per year of service for members with less than 20 years of service, or 2% of FAS per year of service for members with 20 to 30 years of service, plus an addition of 1.5% of FAS per year of service for service in excess of 30 years of service. Tier 4 members were originally required to make contributions of 3% of salary until termination of service. As of October 1, 2000, these members are not required to make contributions after the 10th anniversary of their membership date or upon completion of 10 years of credited service, whichever is earlier (Chapter 126 of Laws of 2000). Certain members retiring prior to age 62 have their benefit reduced by an age-based factor.
- Effective June 28, 1995, active Tier 2 and Tier 4 members, excluding those who hold a position represented by the recognized teacher organization for collective bargaining purposes (currently, the UFT), were eligible to enroll in an early retirement program permitting them to retire at age 55 with 25 years of credited service (“55/25”), with no age reduction factor to their retirement allowance, or at age 50 with 25 years of credited service in a physically taxing position (Chapter 96 of the Laws of 1995). Additionally, Tier 4 members in non-UFT positions who joined BERS on or after June 28, 1995 and before April 1, 2012 were mandated into an early retirement program permitting them to retire at age 57 with 5 years of credited service (“57/5”), with no age reduction

## New York City Board of Education Retirement System

### NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED

June 30, 2021 and 2020

factor to their retirement allowance, or at age 50 with 25 years of credited service in a physically taxing position. Participants in the 55/25 and 57/5 early retirement programs are required to remit additional contributions of 1.85%, or 3.83% for physically taxing positions.

- Effective February 27, 2008, active Tier 4 members who hold a position represented by the recognized teacher organization for collective bargaining purposes (currently, UFT) were eligible to enroll in an early retirement program permitting them to retire at age 55 with 25 years of credited service ("55/25 UFT"), with no age reduction factor to their retirement allowance (Chapter 19 of the Laws of 2008). 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. UFT members in eligible titles who joined after February 27, 2008, but before December 10, 2009 were automatically enrolled in the 55/27 retirement program. Participants in the 55/27 retirement may retire if they are at least age 55 as of their retirement date and have attained at least 27 years of credited service. These members are required to make additional plan contributions of 1.85% of salary until they have accumulated 27 years of credited service.
- UFT members in covered titles who joined the QPP after December 10, 2009 and prior to April 1, 2012 are covered by 55/27 UFT but 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 (Chapter 504 of the Laws of 2009). Additionally, QPP benefits for this population vest in 10 years, rather than five years, as for other Tier 4 members.
- Members who join the QPP on or after April 1, 2012 are subject to the provisions of Chapter 18 of the Laws of 2012 ("Chapter 18/12"), also known as "Tier 6". BERS members in Tier 6 are eligible for a pension upon the completion of 10 years of credited service at age 63. The annual benefit is 1.67% of FAS for the first 20 years of credited service, or 35% upon the attainment of 20 years of service plus an addition of 2% of FAS per year of service for service in excess of 20 years of service. Additionally, the FAS period is five years, rather than three, and a cap is imposed on the maximum permissible FAS. Tier 6 members are required to make Basic Member Contributions ("BMC") until they separate from service or until they retire. The BMC rate is dependent on annual wages earned during a plan year and ranges from 3% for salaries less than \$45,000 to 6% for salaries greater than \$100,000. Tier 6 members become vested after 10 years of service.
- 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 as to QPP benefits upon the completion of five years of credited service, or 10 years of credited service for Tier 4 55/27 UFT members who joined after December 10, 2009 and for Tier 6 members.
- The QPP 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") signed laws that provide automatic Cost-of-Living Adjustments ("COLA") for certain retirees and beneficiaries (Chapter 125 of the Laws of 2000). It also provides additional service credits for certain Tier 1 and Tier 2 members and reduced member contributions for certain Tier 3 and Tier 4 members (Chapter 126 of the Laws of 2000). COLA is payable to all members who are either: (1) at least age 62 and have been retired for at least five years; or (2) at least age 55 and have been retired for at least 10 years. Additionally, COLA is payable to members who retired for disability after being retired for five or more years and beneficiaries receiving accidental death

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

benefits who have been receiving them for at least five years. COLA is one-half of the increase in the CPI-U based on the year ending March 31, rounding to the next higher 0.1%, not less than 1% nor greater than 3% of the first \$18,000 of the sum of the maximum retirement allowance and prior COLA.

*TDA Program Benefits*

Contributions to the TDA Program are made by the members only and are voluntary. In order to contribute to the TDA Program, certain active members of the QPP are required to submit a salary reduction agreement and TDA enrollment request. A participant may elect to exclude an amount of his or her compensation from current taxable income (within the maximum allowed by the Internal Revenue Service ("IRS")) by contributing it to the TDA Program. The basic contribution limit, as of 2021 is \$19,500. Participants, who have attained age 50, are permitted to make additional contributions. The additional contribution limit for 2021 is \$6,500. Additionally, participants can elect to invest their contributions in either the fixed return fund or the variable return fund.

Benefits provided under the TDA Program are derived from participants' accumulated contributions and earnings on those contributions. No contributions are provided by the Employer.

A participant may withdraw all or part of the balance of his or her account at the time of retirement, termination of employment, or under certain hardship conditions. Beginning January 1, 1989, the tax laws restricted withdrawals of TDA contributions and accumulated earnings thereon for reasons other than retirement or termination.

Contributions made after December 31, 1988, and investment earnings credited after that date, may only be withdrawn by active participants upon attainment of age 59½ or for reasons of hardship (as defined by IRS regulations).

Contributions made on or before December 31, 1989, and earnings credited on or before that date, may be withdrawn by active participants even before age 59½. A member who has received a hardship withdrawal may continue to contribute to the TDA Program for the remainder of the current year.

If a member dies in active service or after retirement while his or her TDA account is in deferral, the full value of his or her account at the date of death is paid to the member's beneficiary(ies) or estate.

When a member resigns before attaining vested rights under the QPP, he or she may withdraw the value of his or her TDA Program account or leave the funds in the account for a period of up to five years after the date of resignation. If a member resigns after attaining vested rights under the QPP, he or she may leave his or her funds in the TDA Program account, accruing earnings until reaching the age at which minimum distributions are required by IRS regulations. Once a member withdraws from the QPP, participation in the TDA Program will cease, and the member will receive a refund of the value of his or her account in the TDA Program.

When a TDA Program participant applies to retire from the QPP and has a positive TDA Program account balance, the participant has three options:

- a. The participant may withdraw the total balance, either by receiving it as a taxable distribution or by rolling it over into an Individual Retirement Account ("IRA");
- b. The participant may defer distribution of the account; or
- c. The participant may elect to receive the balance of the account as a life annuity. The available benefit options depend on the member's Tier.

## New York City Board of Education Retirement System

### NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED

June 30, 2021 and 2020

#### NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

**Basis of Accounting** - The QPP and the TDA Program use the accrual basis of accounting where the measurement focus is on a 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 respective employers make payroll deductions from the QPP's members and the TDA Program participants. Employer contributions to the QPP are recognized when due and the Employer has made a formal commitment to provide the contributions. Benefit payments and withdrawals are recognized when due and payable in accordance with the terms of governing the QPP and the TDA Program.

**Use of Estimates** - The preparation of combining financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the combining financial statements and revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Cash and Cash Equivalents** - Cash equivalents consist of financial instruments with original maturity dates of three months or less.

**Investment Valuation** - Investments are reported at fair value. Fair value is defined as the quoted market price at the end of the last trading day for the specified period, except for alternative investments which are considered long term and illiquid in nature. Alternative investments consist of limited partnership structures invested in privately held 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 Funds. They include investments held within Hedge Funds, Private Equity, Real Estate, Opportunistic-Fixed Income, and Infrastructure.

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.

**Investment Programs** - The System's assets are invested in two investment programs. These are the fixed return fund, which is managed by BERS and the variable return fund (consisting primarily of equity securities), which is managed by TRS.

Under the fixed return program, members' TDA Program accounts are credited with the statutory rate of interest, currently 7% for UFT members and 8.25% for all other members. TDA Program members and certain Tier 1 and 2 QPP members may transfer their balances between the fixed return fund and the variable investment fund on a quarterly basis.

The QPP's assets within the variable return fund are co-invested with those assets of the TDA Program that are earmarked for the variable return fund. These combining financial statements reflect the QPP investment activity in the fixed return fund; as well as the variable return fund.

**Income Taxes** - Income earned by the QPP and TDA Program is not subject to federal income tax.

**Accounts Payable** - Accounts payable is principally comprised of amounts owed by BERS for overdrawn bank balances, accrued administrative and investment expenses. BERS'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.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**Accrued Benefits Payable** - Accrued benefits payable represent benefits due and unpaid by the QPP and the TDA Program for the Fiscal Year ended on June 30.

**Interest (to) from TDA Program's Fixed Return Fund** - The statutory interest credited on TDA Program member account balances invested in the fixed return fund is reported as the "Interest (to) from TDA Program's Fixed Return Fund."

**Securities Lending Transactions** - State statutes and Board policies permit the System to lend its investments to broker-dealers and other entities for collateral, for the same securities in the future with a simultaneous agreement to return the collateral in the form of cash, treasury and U.S. Government securities. The Systems' agent lends the following types of securities: short-term securities, common stocks, 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, the System receives collateral in the form of cash, U.S. Treasury and U.S. Government agency securities at 100% to 105% of the principal plus accrued interest for reinvestment. At June 30, 2021 and 2020, management believes that the System has no credit risk exposure to because the fair value of collateral held by the System equaled or exceeded the fair value of securities lent to the borrowers. The contracts with the System's Securities Lending Agent (the "Agent") require the Agent to indemnify the System as follows: In the situation when a borrower goes into default, the Agent will liquidate the collateral to purchase replacement securities. Any shortfall before the replacement securities cost and the collateral value is covered by the Agent. All Securities loans can be terminated on demand within a period specified in each agreement by either the System or the borrowers. Cash collateral is invested by the securities lending agent using approved Lender's Investment guidelines. The weighted-average maturity is 40.18 days for collateral investments.

The securities lending program in which the System 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 fiduciary net position. Cash received as collateral on securities lending transactions and investments made with that cash are reported as assets. Securities received as collateral are also reported as assets if the government entity has the ability to pledge or sell them without a borrower default. Accordingly, the System recorded the investments purchased with the cash collateral as collateral from securities lending with a corresponding liability for securities lending. Securities on loan are carried at market value, the values reported by the QPP as of June 30, 2021 and 2020 are \$774.48 million and \$447.39 million, respectively. As of net position date, the maturities of the investments made with cash collateral on average exceed the maturities of the securities loans by approximately 26.75 days.

GASB Statement No. 72, *Fair Value Measurement and Application* ("GASB 72") describes fair value as an exit price, requiring investments to be categorized under a fair value hierarchy prescribed by GASB. GASB 72 establishes a hierarchy of inputs used to measure fair value consisting of three levels based on market price observability. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs, other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs, and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. GASB 72 also contains note disclosure requirements regarding the hierarchy of valuation inputs and valuation techniques that was used for the fair value measurements.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**NOTE 3 - INVESTMENTS AND DEPOSITS**

The Comptroller of the City of New York (the "Comptroller") acts as an investment advisor to BERS. In addition, BERS employs staff and an independent investment consultant as an investment advisor. BERS 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.

The BERS investment policy statement was ratified by the Board of Trustees in January 2009 and amended in October 2011, January 2013, February 2015, June 2016, and April 2020. It addresses investment objectives, investment philosophy and strategy, monitoring and evaluating performance, risk management, security lending protocol and rebalancing investment mix. Assets may be invested in fixed income, equity and other vehicles as permitted by 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. However, investments up to 25% of total System assets may be made in instruments not expressly permitted by the RSSL.

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

State Street Bank and Trust Company ("State Street") is the primary custodian for the fixed return fund. The variable return fund assets are held in custody at JPMorgan Chase Bank.

The legal requirements for the System's investments are as follows:

- a. Fixed income, equity and other investments may be made as permitted by 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 RSSL.

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. Such information is prepared as a result of the Custodian's Risk Management Analysis.

**Concentrations** - In accordance with RSSL § 177, no investment in any individual company may represent more than 2% of the Plan's total net assets or 5% of the company's total outstanding shares. Exclusions apply for obligations of the United States, or those for which the faith of the United States is pledged to provide payment of the interest and principal.

**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**Credit Risk** - The possibility of a loss or default resulting from a borrower's inability to repay a loan or fulfill its contractual debt obligations. Portfolios other than U.S. Government and related portfolios, have credit rating limitations. Investment Grade portfolios are limited to mostly ratings, of BBB/Baa2 and above, except that they are also permitted a 10% maximum exposure to BB & B/Ba2 & B2 rated securities. While high yield non-investment grade managers primarily invest in BB & B/Ba2 & B2 rated securities, they can also invest up to 10% of their portfolio in securities rated CCC/Caa2. The quality ratings of the fund's investments, by percentage of the rated portfolio, as described by nationally recognized statistical rating organizations, at June 30, 2021 and 2020 are as follows:

Investment Type Fixed Funds June 30, 2021	Moody's Quality Ratings																			
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa & Below	NR	Total	
U.S. government	43.72%	0.02%	0.01%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	4.69%	48.44%	
Corporate bonds	1.00%	0.12%	0.22%	0.15%	0.60%	2.69%	2.01%	2.57%	3.09%	3.64%	2.78%	3.49%	4.35%	4.89%	3.29%	3.06%	3.55%	2.60%	44.10%	
Short term:																				
Commercial paper	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	4.49%	4.49%	
STIF	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	2.97%	2.97%	
<b>Portfolio</b>	<b>44.72%</b>	<b>0.14%</b>	<b>0.23%</b>	<b>0.15%</b>	<b>0.60%</b>	<b>2.69%</b>	<b>2.01%</b>	<b>2.57%</b>	<b>3.09%</b>	<b>3.64%</b>	<b>2.78%</b>	<b>3.49%</b>	<b>4.35%</b>	<b>4.89%</b>	<b>3.29%</b>	<b>3.06%</b>	<b>3.55%</b>	<b>14.75%</b>	<b>100.00%</b>	

Investment Type Fixed Funds June 30, 2020	Moody's Quality Ratings																			
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa & Below	NR	Total	
U.S. government	55.89%	0.03%	0.01%	0.01%	-%	0.01%	-%	0.04%	0.08%	0.01%	-%	-%	-%	-%	-%	-%	-%	7.24%	63.32%	
Corporate bonds	0.46%	0.27%	0.18%	0.30%	0.66%	1.48%	1.28%	1.88%	2.26%	1.96%	1.76%	2.40%	3.38%	3.09%	3.05%	2.34%	2.37%	2.60%	31.72%	
Short term:																				
Commercial paper	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	1.25%	1.25%	
STIF	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	3.71%	3.71%	
<b>Portfolio</b>	<b>56.35%</b>	<b>0.30%</b>	<b>0.19%</b>	<b>0.31%</b>	<b>0.66%</b>	<b>1.49%</b>	<b>1.28%</b>	<b>1.92%</b>	<b>2.34%</b>	<b>1.97%</b>	<b>1.76%</b>	<b>2.40%</b>	<b>3.38%</b>	<b>3.09%</b>	<b>3.05%</b>	<b>2.34%</b>	<b>2.37%</b>	<b>14.80%</b>	<b>100.00%</b>	

**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

The quality ratings of investments of the variable return fund, by percentage of the rated portfolio, as described by nationally recognized statistical rating organizations, at June 30, 2021 and 2020, are as follows:

Investment Type Variable Funds June 30, 2021	Moody's Quality Ratings																			Total
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	NR	
Corporate bond	-%	-%	-%	-%	-%	0.14%	-%	1.25%	1.13%	0.72%	-%	0.84%	-%	0.87%	-%	-%	-%	-%	60.45%	65.40%
Short term:																				
U.S. Treasury bills	0.12%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	0.12%
Money market	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	34.48%	34.48%
Cash equivalent	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%
<b>Portfolio</b>	<b>0.12%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>0.14%</b>	<b>-%</b>	<b>1.25%</b>	<b>1.13%</b>	<b>0.72%</b>	<b>-%</b>	<b>0.84%</b>	<b>-%</b>	<b>0.87%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>94.93%</b>	<b>100.00%</b>

Investment Type Variable Funds June 30, 2020	Moody's Quality Ratings																			Total
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	NR	
Corporate bond	-%	-%	-%	-%	-%	0.45%	0.73%	1.00%	0.63%	0.59%	-%	0.38%	-%	0.87%	-%	-%	-%	-%	52.91%	57.56%
Short term:																				
U.S. Treasury bills	0.43%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	0.43%
Money market	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	42.01%	42.01%
Cash equivalent	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%
<b>Portfolio</b>	<b>0.43%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>0.45%</b>	<b>0.73%</b>	<b>1.00%</b>	<b>0.63%</b>	<b>0.59%</b>	<b>-%</b>	<b>0.38%</b>	<b>-%</b>	<b>0.87%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>	<b>94.92%</b>	<b>100.00%</b>



**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**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 or depository financial institution, the Funds 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 not registered in the name of the Funds and are held by either the counterparty or the counterparty's trust department or agent but not in the name of the Funds. Consistent with the Funds' investment policy, the investments are held by the Funds' custodian and registered in the name of the Funds. All of the Funds' deposits are insured by the Federal Deposit Insurance Corporation ("FDIC") are collateralized by securities held by a financial institution separate from the Funds' depository financial institution. However, the System's cash balances can exceed FDIC insured limits. Non-invested cash is swept into a State Street Short-Term Investment Intraday account, which is not FDIC insured.

**Interest Rate Risk** - The risk that the value of debt securities will be affected by fluctuations in market interest rates. Although there is no formal interest rate risk management policy, the duration of the portfolio, relative to the duration of the portfolio's benchmark, is monitored by the Comptroller's Bureau of Asset Management. The lengths of investment maturities for fixed return fund (in years), as shown by the percent of the rated portfolio, at June 30, 2021 and 2020 are as follows:

Years to Maturity Investment Type June 30, 2021	Investment Maturities				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S. government	48.44%	4.18%	16.03%	9.28%	18.95%
Corporate bonds	44.10	0.32	12.07	22.32	9.39
Short term:					
Commercial paper	4.49	4.49	-	-	-
STIF	2.97	2.97	-	-	-
Portfolio	<u>100.00%</u>	<u>11.96%</u>	<u>28.10%</u>	<u>31.60%</u>	<u>28.34%</u>

Years to Maturity Investment Type June 30, 2020	Investment Maturities				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S. government	63.32%	6.41%	15.78%	18.56%	22.57%
Corporate bonds	31.72	1.00	11.55	13.01	6.16
Short term:					
Commercial paper	1.25	1.25	-	-	-
STIF	3.71	3.71	-	-	-
Portfolio	<u>100.00%</u>	<u>12.37%</u>	<u>27.33%</u>	<u>31.57%</u>	<u>28.73%</u>

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

The lengths of investment maturities (in years) of the variable return fund, as shown by the percent of the rated portfolio, at June 30, 2021 and 2020 are as follows:

Years to Maturity Investment Type June 30, 2021	Investment Maturities				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
Corporate bonds	65.40%	1.74%	47.68%	14.20%	1.78%
Short term:					
U.S. Treasury bills	0.12	0.12	-	-	-
Money market	34.48	34.48	-	-	-
Cash equivalent	-	-	-	-	-
Portfolio	<u>100.00%</u>	<u>36.34%</u>	<u>47.68%</u>	<u>14.20%</u>	<u>1.78%</u>

Years to Maturity Investment Type June 30, 2020	Investment Maturities				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
Corporate bonds	57.56%	3.18%	35.58%	16.46%	2.34%
Short term:					
U.S. Treasury bills	0.43	0.43	-	-	-
Money market	42.01	42.01	-	-	-
Cash equivalent	-	-	-	-	-
Portfolio	<u>100.00%</u>	<u>45.62%</u>	<u>35.58%</u>	<u>16.46%</u>	<u>2.34%</u>

**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 stocks and/or bonds. The currency markets are effective diversifiers in a total portfolio context; therefore, the System 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 System has no formal risk policy.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

In addition, the System has investments in foreign stocks and/or bonds denominated in foreign currencies. The System's foreign currency exposures as of June 30, 2021 and 2020 in the fixed return fund are as follows (amounts in thousands of U.S. dollars):

Trade Currency	June 30, 2021	June 30, 2020
Euro Currency	\$ 450,512	\$ 359,167
Hong Kong Dollar	184,131	173,319
British Pound Sterling	138,600	98,967
Japanese Yen	123,174	133,559
New Taiwan Dollar	98,913	55,729
South Korean Won	83,860	61,177
Indian Rupee	74,723	43,088
Swiss Franc	64,073	49,737
Brazilian Real	39,439	19,627
Australian Dollar	36,109	20,347
Chinese Yuan Renminbi	35,365	24,761
Danish Krone	29,362	25,644
Canadian Dollar	28,712	18,782
South African Rand	24,268	16,164
Swedish Krona	24,197	17,682
Chinese Yuan (Offshore)	20,736	3,391
Singapore Dollar	17,983	13,034
Norwegian Krone	15,499	12,486
Polish Zloty	12,817	6,197
Thailand Baht	4,269	11,041
Indonesian Rupiah	3,853	4,492
Mexican Peso	3,506	3,100
Malaysian Ringgit	3,376	4,507
Hungarian Forint	2,780	2,325
Turkish Lira	2,499	13,516
Chilean Peso	999	2,278
New Israeli Shekel	749	1,341
Czech Koruna	594	200
Qatari Rial	335	1,841
New Zealand Dollar	237	433
UAE Dirham	230	2,387
Russian Ruble	103	98
Philippine Peso	85	1,690
Egyptian Pound	62	187
Colombian Peso	16	532
Kuwaiti Dinar	13	-
Pakistan Rupee	1	80
Moroccan Dirham	-	1
Peruvian Nouveau Sol	-	80
	<u>\$ 1,526,180</u>	<u>\$ 1,202,987</u>

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

The foreign currency exposures of the variable return funds as of June 30, 2021 and 2020 are as follows (amounts in thousands of U.S. dollars):

Trade Currency	June 30, 2021	June 30, 2020
Euro Currency	\$ 39,174	\$ 29,070
Japanese Yen	23,994	20,792
British Pound Sterling	18,221	13,057
Hong Kong Dollar	12,128	9,067
Swiss Franc	9,744	8,804
South Korean Won	8,703	2,752
Taiwan Dollar	5,806	2,776
Australian Dollar	5,614	4,333
Indian Rupee	5,613	2,112
Canadian Dollar	3,948	2,194
Swedish Krona	3,578	2,484
Danish Krone	3,119	2,210
Brazilian Real	2,382	692
South African Rand	1,810	446
Chinese Renminbi (Yuan)	1,635	890
Singapore Dollar	1,331	1,058
Norwegian Krone	961	569
Mexican Nuevo Peso	950	151
Saudi Arabian Ryal	790	39
Thailand Baht	692	379
Indonesian Rupiah	649	249
Polish Zloty	525	74
New Zealand Dollar	399	291
UAE Dirham	317	131
Egyptian Pound	268	36
Turkish Lira	252	436
Israeli Shekel	249	171
Malaysian Ringgit	161	63
Russian Rubble	144	-
Chilean Peso	42	42
Hungarian Forint	10	59
Czech Koruna	2	2
Philippine Peso	1	5
Total	<u>\$ 153,212</u>	<u>\$ 105,434</u>

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

**Securities Lending Transactions: Credit Risk** - The quality ratings of investments held as collateral for Securities Lending at June 30, 2021 and 2020 are as follows:

Investment Type and Fair Value - Fixed Return Fund  
 Securities Lending Transactions  
 June 30, 2021  
 (In thousands)

	Moody's Quality Ratings											
	Aaa	Aa	A1	A2	A3	Baa	Ba	B	Caa	Ca	NR	Total
U.S. government												
Short term:												
Tri Party Repo	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 389,546	\$ 389,546
Money market	321,584	-	-	-	-	-	-	-	-	-	-	321,584
Overnight Citibank Account	-	-	79,014	-	-	-	-	-	-	-	-	79,014
Uninvested	-	-	-	-	-	-	-	-	-	-	667	667
<b>Total</b>	<b>\$ 321,584</b>	<b>\$ -</b>	<b>\$ 79,014</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 390,213</b>	<b>\$ 790,811</b>
Percent of securities lending portfolio	40.66%	-%	10.00%	-%	-%	-%	-%	-%	-%	-%	49.34%	100.00%

Investment Type and Fair Value - Fixed Return Fund  
 Securities Lending Transactions  
 June 30, 2020  
 (In thousands)

	Moody's Quality Ratings											
	Aaa	Aa	A1	A2	A3	Baa	Ba	B	Caa	Ca	NR	Total
U.S. government												
Short term:												
Reverse repurchase agreements	\$ -	\$ -	\$ -	\$ 19,635	\$ 119,646	\$ 6,071	\$ -	\$ -	\$ -	\$ -	\$ 132,902	\$ 278,254
Money market	80,766	-	-	-	-	-	-	-	-	-	44,554	125,320
U.S. agency	-	-	-	-	-	-	-	-	-	-	2,997	2,997
Cash or cash equivalent	-	-	45,171	-	-	-	-	-	-	-	-	45,171
<b>Total</b>	<b>\$ 80,766</b>	<b>\$ -</b>	<b>\$ 45,171</b>	<b>\$ 19,635</b>	<b>\$ 119,646</b>	<b>\$ 6,071</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 180,453</b>	<b>\$ 451,742</b>
Percent of securities lending portfolio	17.88%	-%	10.00%	4.35%	26.48%	1.34%	-%	-%	-%	-%	39.95%	100.00%

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

Investment Type and Fair Value - Variable Return Fund  
Securities Lending Transactions  
June 30, 2021  
(In thousands)

	Moody's Quality Ratings																	Total	
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba	B1	B2	B3	Caa		NR
U.S. government	\$ 31,286	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,286
Short term:																			
U.S. Treasury bills	1,409	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,409
Repurchase agreements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,774	5,774
Uninvested	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
<b>Total</b>	<b>\$ 32,695</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,775</b>	<b>\$ 38,470</b>
By percent	84.99%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	15.01%	100.00%

Investment Type and Fair Value - Variable Return Fund  
Securities Lending Transactions  
June 30, 2020  
(In thousands)

	Moody's Quality Ratings																	Total	
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba	B1	B2	B3	Caa		NR
U.S. government	\$ 751	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 751
Short term:																			
U.S. Treasury bills	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104
Repurchase agreements	2,018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	952	2,970
Uninvested	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>\$ 2,873</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 952</b>	<b>\$ 3,825</b>
By percent	75.11%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%	24.89%	100.00%

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**Interest Rate Risk** - The lengths of investment maturities of the collateral for Securities Lending at June 30, 2021 and 2020 are as follows:

Years to Maturity Fixed Return Fund June 30, 2021 (In thousands)	Investment Maturities (in Years)				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S. government Short term:					
Tri Party Repo	\$ 389,546	\$ 389,546	\$ -	\$ -	\$ -
Money market	321,584	321,584	-	-	-
Overnight Citibank Account	79,014	79,014	-	-	-
Uninvested	667	667	-	-	-
<b>Total</b>	<b>\$ 790,811</b>	<b>\$ 790,811</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>By percent</b>	<b>100.00%</b>	<b>100.00%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>
Years to Maturity Fixed Return Fund June 30, 2020 (In thousands)	Investment Maturities (in Years)				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S. government Short term:					
Reverse repurchase agreements	\$ 278,254	\$ 278,254	\$ -	\$ -	\$ -
Money market	125,320	125,320	-	-	-
U.S. agency	2,997	2,997	-	-	-
Cash or cash equivalent	45,171	45,171	-	-	-
<b>Total</b>	<b>\$ 451,742</b>	<b>\$ 451,742</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>By percent</b>	<b>100.00%</b>	<b>100.00%</b>	<b>-%</b>	<b>-%</b>	<b>-%</b>

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

Years to Maturity Variable Return Fund June 30, 2021 (In thousands)	Investment Maturities (in Years)				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S. government	\$ 31,286	\$ 3,355	\$ 15,749	\$ 6,838	\$ 5,344
Short term:					
Repurchase agreements	5,774	5,774	-	-	-
U.S. treasury	1,409	1,409	-	-	-
Uninvested	1	1	-	-	-
Total	<u>\$ 38,470</u>	<u>\$ 10,539</u>	<u>\$ 15,749</u>	<u>\$ 6,838</u>	<u>\$ 5,344</u>
By percent	<u>100.00%</u>	<u>27.40%</u>	<u>40.94%</u>	<u>17.77%</u>	<u>13.89%</u>
Years to Maturity Variable Return Fund June 30, 2020 (In thousands)	Investment Maturities (in Years)				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S. government	\$ 751	\$ 90	\$ 343	\$ 146	\$ 172
Short term:					
Repurchase agreements	2,970	2,970	-	-	-
U.S. treasury	104	104	-	-	-
Total	<u>\$ 3,825</u>	<u>\$ 3,164</u>	<u>\$ 343</u>	<u>\$ 146</u>	<u>\$ 172</u>
By percent	<u>100.00%</u>	<u>82.72%</u>	<u>8.97%</u>	<u>3.82%</u>	<u>4.49%</u>

**Rate of Return** - For the years ended June 30, 2021 and 2020, the annual money-weighted rate of return on the System's fixed return fund investments, net of investment expense on the System's fixed return fund, was 27.97% and 5.75%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense adjusted for the changing amounts invested.

In Fiscal Year 2015, the System adopted GASB 72. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements.



**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles ("GAAP"). The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. The System has the following recurring fair value measurements as of June 30, 2021 and 2020:

GASB 72 - Disclosure  
Fixed Return Funds  
Investments - at fair value  
(In thousands)

	2021			Total
	Level 1	Level 2	Level 3	
Short-term investments:				
Commercial paper	\$ -	\$ 135,880	\$ -	\$ 135,880
Short-term investment fund	-	86,487	-	86,487
U.S. Treasury bills and agencies	-	121,533	-	121,533
Debt (fixed income) securities:				
Bank loans	-	18,692	274	18,966
Corporate and other	-	1,206,668	2,229	1,208,897
Mortgage debt securities	-	419,922	-	419,922
Treasury inflation-protected securities	-	306,727	-	306,727
U.S. government and agency	-	610,588	-	610,588
Equity securities	4,414,294	-	21,750	4,436,044
Collective trust funds:				
Bank loans	-	512	-	512
Domestic equity	90,501	-	208	90,709
International equity	1,964	-	-	1,964
Mortgage debt securities	-	10,655	12,827	23,482
Alternative investments	-	-	1,423,257	1,423,257
	<u>\$ 4,506,759</u>	<u>\$ 2,917,664</u>	<u>\$ 1,460,545</u>	<u>\$ 8,884,968</u>

**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

GASB 72 - Disclosure  
Fixed Return Funds  
Investments - at fair value  
(In thousands)

	2020			
	Level 1	Level 2	Level 3	Total
Short-term investments:				
Commercial paper	\$ -	\$ 29,179	\$ -	\$ 29,179
Short-term investment fund	-	73,082	-	73,082
U.S. Treasury bills and agencies	-	149,094	-	149,094
Debt (fixed income) securities:				
Bank loans	-	11,389	74	11,463
Corporate and other	-	581,446	2,433	583,879
Mortgage debt securities	-	232,438	-	232,438
Treasury inflation-protected securities	-	285,623	-	285,623
U.S. government and agency	-	827,626	-	827,626
Equity securities	2,723,691	-	209	2,723,900
Collective trust funds:				
Bank loans	-	115,248	3,289	118,537
Corporate and other	-	727	-	727
Domestic equity	51,103	-	176	51,279
International equity	774,933	-	1,353	776,286
Mortgage debt securities	-	10,346	12,619	22,965
Alternative investments	-	-	976,076	976,076
	<u>\$ 3,549,727</u>	<u>\$ 2,316,198</u>	<u>\$ 996,229</u>	<u>\$ 6,862,154</u>

**Equity and Debt (Fixed Income) Securities** - Equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors for these securities. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using prices determined by the use of matrix pricing techniques maintained by the various pricing vendors for these securities. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Debt and equity securities classified in Level 3 of the fair value hierarchy are securities whose stated market price is unobservable by the marketplace; many of these securities are priced by the issuers or industry groups for these securities. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by the System's custodian bank. Collective trust funds are reported using net asset value ("NAV"). The debt and equity securities held in collective trust funds are held in those funds on behalf of the pension system and there is no restriction on the use and or liquidation of those assets for the exclusive benefit of the Funds' participants.

**Collective Trust Funds** - Collective trust funds are separately managed accounts which are owned 100% by The City's pension systems. The investments underlying the collective trust funds are presented as Level 1, Level 2 or Level 3 based on their respective fair value hierarchy classifications.

**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**Alternative Investments** - include Private Equity, Real Estate, Opportunistic-Fixed Income and Infrastructure Investments. These are investments for which exchange quotations are not readily available and are valued at net assets value calculated by the GP's valuation policy. Alternative investments are mainly illiquid and typically not sold or redeemed. The assets in the System's Alternative Investment program are classified as mainly Level 3 assets. A more detailed explanation of the Level 3 valuation methodologies follows:

Investments in non-public equity securities are valued by the GP or the fund administrator using one or more valuation methodologies outlined in GASB 72, depending upon the availability of data required by each methodology. In some cases, the GP may use multiple approaches to estimate a valuation range. For the immediate time period following a transaction, the determination of Fair Value for equity securities in which no liquid trading market exists can generally be approximated based on the transaction price (absent any significant developments). Thereafter, or in the interim, if significant developments relating to such portfolio company or industry occur which may suggest a material change in value, the GP should value each investment by applying generally accepted valuation methods including (1) the market approach (such as market transaction and comparable public company multiples, which are based on a measurement of the company's historical and projected financial performance with typical metrics including enterprise value/latest 12 months earnings before interest, taxes, depreciation and amortization ("EBITDA") or projected fiscal year EBITDA) or (2) the income or discounted cash flow approach to measure fair value.

In the market approach, valuation multiples that are relevant to the industry and company in the investments held should be considered and relied upon. Valuation multiples should be assessed and may be adjusted on a go-forward basis based on the business risk associated with the subject company in which the investment is held. In addition, the implied entry multiples should be considered as benchmarks in valuing unlisted equity. In circumstances where no financial performance metrics are available, the GP should rely on other non-financial related metrics applicable to relevant progress from the original investment date to the valuation date. In the income or discounted cash flow approach, forecasted cash flows that may be generated by the subject company are discounted to present value at an appropriate discount rate. These methodologies can be utilized to determine an enterprise value ("Enterprise Valuation Methodologies") from which net debt is subtracted to estimate equity value.

The determination of fair value using these methodologies should take into consideration a range of factors, including but not limited to, the price at which the investment was acquired, the nature of the investment, local market conditions, trading values on public exchanges for comparable securities, current and projected operating performance and financing transactions subsequent to the acquisition of the investment. Because of the subjective nature of estimated fair value of the private investments, such value may differ significantly from the values that would have been used had a ready market existed for these investments. These financial instruments have been classified as Level 3 in the fair value hierarchy.

**New York City Board of Education Retirement System**

**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

Alternative investments are not fully funded upon subscribing to the investment. The GP can draw down or call for capital as the fund goes into more investments or when the need arises such as expenses associated with the partnership. The residual balance of uncalled capital is also known as unfunded commitments which are restricted to the maximum amount of the limited partners total committed amount.

GASB 72 - Disclosure  
Variable Return Funds  
(In thousands)

	2021			
	Level 1	Level 2	Level 3	Total
Variable Return Funds:				
Short-term investments	\$ -	\$ 6,153	\$ -	\$ 6,153
Debt (fixed income) securities	-	20,280	-	20,280
Equities	765,050	22,889	14,139	802,078
<b>Total</b>	<b>\$ 765,050</b>	<b>\$ 49,322</b>	<b>\$ 14,139</b>	<b>\$ 828,511</b>

GASB 72 - Disclosure  
Variable Return Funds  
(In thousands)

	2020			
	Level 1	Level 2	Level 3	Total
Variable Return Funds:				
Short-term investments	\$ -	\$ 5,370	\$ -	\$ 5,370
Debt (fixed income) securities	-	13,855	-	13,855
Equities	546,475	24,171	3,964	574,610
<b>Total</b>	<b>\$ 546,475</b>	<b>\$ 43,396</b>	<b>\$ 3,964</b>	<b>\$ 593,835</b>

Level 1 - Valued using prices quoted in active markets.

Level 2 - Valued using a matrix pricing technique: based on relationship to benchmark quoted prices.

Level 3 - Valued using discounted cash flow techniques.

**NOTE 4 - CONTRIBUTIONS AND ACTUARIAL ASSUMPTIONS**

The financial objective of the QPP is to fund members' retirement benefits during their active service and to establish employer contribution rates which, 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, would ultimately be sufficient to accumulate assets to pay benefits when due.

Contributions to the TDA program are made on a voluntary basis by certain members of the QPP.

**Member Contributions**

- Members who joined the QPP prior to July 1, 1973 ("Tier 1") contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership. Tier 1 members can also make Increased Take Home Pay ("ITHP") contributions, for which they can receive an additional annuity after retirement.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

- Members who joined after July 1, 1973 and before July 27, 1976 (“Tier 2”) also contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership. Note that the actuarial tables are different in Tier 2. Tier 2 members can also make ITHP contributions, for which they can receive an additional annuity after retirement.
- Members who joined after July 27, 1976 and before April 1, 2012 (“Tier 4”) contribute 3% of salary until the earlier of the 10th anniversary of their membership date, or upon the completion of 10 years of credited service. Certain Tier 4 members are enrolled in special early retirement plans and must therefore also make Additional Member Contributions (“AMC”), depending on the specific plan.
- Members who joined on or after April 1, 2012 (“Tier 6”) are required to make Basic Member Contributions (“BMC”) until they separate from service or until they retire. The BMC rate is dependent on annual wages earned during a plan year and ranges from 3% for salaries less than \$45,000 to 6% for salaries greater than \$100,000. Certain Tier 6 members are enrolled in special early retirement plans and must therefore also make Additional Member Contributions (“AMC”), depending on the specific plan.

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

**NOTE 5 - QPP NET PENSION LIABILITY**

The components of the net pension liability of the Employers at June 30, 2021 and 2020 were as follows:

(In thousands)	2021	2020
Total pension liability	\$ 5,776,055	\$ 5,460,141
Fiduciary net position *	7,044,240	5,182,890
Employers’ net pension liability	\$ (1,268,185)	\$ 277,251
Fiduciary net position as a percentage of the total pension liability	121.96%	94.92%

\* Such amounts represent the preliminary Systems’ fiduciary net position and may differ from the final Systems’ fiduciary net position.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**Actuarial Methods and Assumptions** - The total pension liability as of June 30, 2021 and 2020 was calculated from the actuarial valuations as of June 30, 2020 (Updated Preliminary) and June 30, 2019 (Preliminary), respectively, that were rolled forward to develop the total pension liability to the respective fiscal year end. The following actuarial assumptions were applied to all periods included in the measurement:

Projected salary increases	In general, merit and promotion increases plus assumed general wage increases of 3.0% per annum.
Investment rate of return	7.0% per annum, net of investment expenses.
COLA	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.

The above assumptions were developed assuming a long-term Consumer Price Inflation assumption of 2.5% per annum.

The Fiscal Year 2021 results reflect changes in the actuarial assumptions and methods from the prior year. These changes reflect refinements and improvements to the actuarial assumptions and methods under the judgment of the Chief Actuary.

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 recent of these studies was performed by Bolton, Inc. and included experience through June 30, 2017.

On January 24, 2019, the Actuary issued a Report titled "Proposed Changes in Actuarial Assumptions and Methods used in Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2018 for the New York City Board of Education Retirement System." The actuarial assumptions and methods described in that report are referred to as the "2019 A&M."

The June 30, 2020 total pension liability was calculated from the Preliminary June 30, 2019 actuarial valuation, which was based on the 2019 A&M.

On July 16, 2021, the Actuary issued a memorandum titled "Proposed Changes to Actuarial Assumptions and Methods (Revised 2021 A&M)." The actuarial assumptions and methods described in that memorandum amend certain assumptions and methods from the 2019 A&M. This revised set of actuarial assumptions and methods are referred to as the "Revised 2021 A&M."

The June 30, 2021 total pension liability was calculated from the Updated Preliminary June 30, 2020 actuarial valuation, which was based on the Revised 2021 A&M.

The Entry Age Normal ("EAN") cost method of funding is utilized by the System's Actuary to calculate the contribution required of the Employer.

Under this method, the Present Value ("PV") of Future Benefits ("PVFB") 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 PVFB allocated to a valuation year is the Normal Cost. The portion of this PVFB not provided for at a valuation date by the PV of Future Normal Costs or future member contributions is the Accrued Liability ("AL").

The excess, if any, of the AL over the Actuarial Value of Asset ("AVA") is the Unfunded Accrued Liability ("UAL").

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

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

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

**Expected Rate of Return on Investments** - The long-term expected rate of return on QPP investments was determined using a building-block method in which best-estimate ranges of expected real rates of return (i.e., expected returns, net of QPP investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class</u>	<u>Target Asset Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Public Markets		
U.S. public market equities	31.0%	7.1%
Developed public market equities	10.0	7.8%
Emerging public market equities	6.0	9.7%
Fixed income	27.0	1.9%
Private Markets (Alternative Investments)		
Private equity	9.0	11.0%
Private real estate	8.0	6.9%
Infrastructure	4.0	6.3%
Opportunistic-fixed income	5.0	6.3%
Total	<u>100.0%</u>	

**Discount Rate** - The discount rate used to measure the total pension liability was 7%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the rates applicable to the current Tier for each member and that Employer contributions will be made at rates as determined by the Actuary. Based on those assumptions, the QPP's fiduciary net position was projected to be available to make all projected future benefit payments of current active and non-active QPP members. Therefore, the long-term expected rate of return on QPP investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following presents the net pension liability of the Employers, calculated using the discount rate of 7.0%, as well as what the Employers' net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.0%) or 1-percentage-point higher (8.0%) than the current rate:

(In thousands)	1% Decrease (6.0%)	Discount Rate (7.0%)	1% Increase (8.0%)
Employers' net pension liability - June 30, 2021	\$ (580,898)	\$ (1,268,185)	\$ (1,848,509)

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

**NOTE 6 - MEMBER LOANS**

Members of the QPP are permitted to borrow up to 75% of their employee contribution account balances, including accumulated interest, subject to the limitations of Section 72 of the IRC. The balance of QPP member loans receivable at June 30, 2021 and 2020 is \$47.25 million and \$48.75 million, respectively. When a member withdraws from the QPP with an outstanding QPP loan balance, this outstanding QPP loan balance will be deducted from the refund of the member's contribution balance. When a member retires with an outstanding QPP loan balance, the member's retirement benefit will be reduced by the actuarial value of the amount of the outstanding QPP loan balance, unless this balance is paid off.

Members of the TDA Program are permitted to borrow up to 75% of their TDA Program account balances, including accumulated interest, subject to the limitations of Section 72 of the IRC. The balance of TDA Program member loans receivable at June 30, 2021 and 2020 is \$44.75 million and \$42.81 million, respectively.

**NOTE 7 - RELATED PARTIES**

The Comptroller has been appointed by law as custodian for the assets of the QPP and the TDA Program. QPP fixed return fund securities are held by certain banks under custodial agreements with the Comptroller. The Comptroller, the Financial Information Services Agency ("FISA"), and the Office of Payroll Administration ("OPA") also provides cash receipt and cash disbursement services to the System. Actuarial services are provided to the System by the New York City Office of the Actuary. The City's Corporation Counsel provides legal services to the System. Other administrative services are also provided by The City. Costs of \$2.82 million and \$2.66 million were incurred on behalf of the System by other City agencies, primarily the Comptroller's Office for 2021 and 2020, respectively. The fixed return fund assets of the QPP are co-invested with those of the TDA Program. The variable return fund assets of the QPP are co-invested with those of the TDA Program and TRS (see Note 2). TRS holds the assets of the variable return fund.

**NOTE 8 - ADMINISTRATIVE EXPENSES**

In Fiscal Years 2021 and 2020, as per Chapter 307 of the New York State Laws of 2002, the System provided BERS with corpus funding for administrative expenses in the amount of \$25.43 million and \$22.37 million, respectively.

In August 2019, the System entered into a Sub-sublease agreement for office space. The agreement is for a term of six years and seven months and requires a total commitment of approximately \$11,180,000 over the term of the lease. Rent expense under the lease agreement for the year ended June 30, 2021 was \$1.63 million.

**NOTE 9 - CONTINGENT LIABILITIES AND OTHER MATTERS**

**Contingent Liabilities** - The System has claims pending against it and has been named as a defendant in lawsuits and also has certain other contingent liabilities. Management of the System, on the advice of legal counsel, believes that such proceedings and contingencies will not have a material effect on the net position of the System or changes in the net position of the System. Under the existing State statutes and City laws that govern the functioning of the System, increases in the obligations of the System to members and beneficiaries ordinarily result in increases in the obligations of the New York City Board of Education to the System.

**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 NYCRS are conducted every two years.



**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

**Revisions to Actuarial Assumptions and Methods** - 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 NYCERS are to periodically review and adopt actuarial assumptions as proposed by the Actuary for use in the determination of Employer Contributions.

The most recently completed study was published by Bolton, Inc., dated June 2019. Bolton analyzed experience for the four and 10-year periods ended June 30, 2017 and made recommendations with respect to the actuarial assumptions and methods based on their analysis. Based in part on these recommendations, the Actuary proposed new assumptions and methods for use in determining Employer Contributions for Fiscal Years beginning on and after July 1, 2018. These assumptions and methods have been adopted by the Board of Trustees during Fiscal Year 2019.

Previously, Gabriel, Roeder, Smith & Company (GRS) published their study in October 2015.

***New York State Legislation (only significant laws since Fiscal Year 2012 included)***

Chapter 18 of the Laws of 2012 ("Chapter 18/12") placed certain limitations on the Tier 3 and Tier 4 benefits available to participants hired on and after April 1, 2012 in most New York State PERS, including BERS. These changes are sometimes referred to as Tier 6.

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"), established an Actuarial Interest Rate ("AIR") assumption of 7.0% per annum, net of investment expenses, and defined the amortization of Unfunded Actuarial Accrued Liabilities ("UAAL").

Chapter 489 of the Laws of 2013 extended the Notice of Participation filing deadline to September 11, 2014 for vested members to file a sworn statement indicating participation in the World Trade Center Rescue, Recovery and Clean-up Operations.

Chapter 427 of the Laws of 2014 ("Chapter 427/14") provides non-contributory retirement service credit for members called to active military duty on or after September 11, 2001 and prior to January 1, 2006 who did not receive their full salary from a participating employer and are otherwise eligible to receive retirement service credit for such service. Such member would not be required to make member contributions to receive such credit.

Chapter 510 of the Laws of 2015 ("Chapter 510/15") clarifies for Tier 6 the definition of multiple employers for the purpose of exclusion of wages and changes the Plan year for contributions from plan year April 1 to March 31 to plan year January 1 to December 31.

Chapter 41 of the Laws of 2016 was enacted on May 31, 2016. This amendment removes the specified periods of time, medal requirements, and theaters of operation in which military service would have to have been rendered for a service purchase pursuant to RSSL § 1000. Accordingly, for a member to be eligible to purchase service credit pursuant to RSSL § 1000 for pre-membership military service, the member need only have been honorably discharged from the military; all other requirements of RSSL § 1000 remain the same. This law is not retroactive and does not permit retired members to purchase service credit.

Chapter 326 of the Laws of 2016, enacted on September 11, 2016, extends the deadline to file a Notice of Participation in the World Trade Center Rescue, Recovery and Clean-up Operations to September 11, 2018. Proper filing of a Notice of Participation is a requirement for a member to be eligible for a World Trade Center disability or death benefit.

Chapter 438 of the Laws of 2016, enacted on November 14, 2016, amends Retirement and Social Security Law Section 43 to eliminate restrictions upon transferring between public retirement systems.

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**

**June 30, 2021 and 2020**

Chapter 71 of the Laws of 2017, enacted on June 29, 2017, continues for Fiscal Year 2019, the Actuarial Interest Rate assumption of 7.0% per annum used to determine employer contributions to the New York City Pension Funds and Retirement Systems. This act also extends through Fiscal Year 2019, the interest rate of 8.25% per annum to credit interest on Tier 1 and Tier 2 member contributions and Increased-Take-Home-Pay (“ITHP”) Reserves.

Chapter 266 of 2018 extends the time for members or eligible beneficiaries to file a Notice of Participation in World Trade Center Rescue, Recovery, and Cleanup Operations to September 11, 2022.

Chapter 59 of the Laws of 2019 revises the composition of the Board of Education of The City of New York, and therefore the BERS Board of Trustees, to include one additional mayoral appointee and one member to be elected by community district education council presidents. This provision took effect on July 1, 2020.

Chapter 589 of the Laws of 2019 increases the amount of money a retiree may earn in a position of public service in the year 2020 and thereafter to \$35,000 from \$30,000.

Chapter 76 of the Laws of 2019 extends for two fiscal years, until June 30, 2021, the 7% rate of interest used by the Chief Actuary for BERS in valuing the retirement system liabilities for the purpose of computing the amount of Employer contributions. The bill also extends for two fiscal years the rate of interest to be paid into certain constituent funds of The City retirement systems and the 8.25% per annum rate to be credited on AMCs and ITHP reserves for Tier 1 and Tier 2 members.

Chapter 89 of the Laws of 2020 provides death benefits to statutory beneficiaries of members whose death was a result of or was contributed to by coronavirus disease (“COVID-19”). This law provides an Accidental Death Benefit to the eligible beneficiaries of a member or a retiree who retired after March 1, 2020, where such member reported for work outside their home and contracted COVID-19 within 45 days after reporting for work, and whose death was caused by COVID-19 or where COVID-19 contributed to such member’s death. Amounts payable are reduced by payments of any ordinary death benefits or option benefit paid to another statutory beneficiary.

Chapter 78 of the Laws of 2021 establishes a COVID-19 public employee death benefit for individuals who reported to their usual place of employment or an alternate worksite at the direction of their employer on or after March 1, 2020 and such individual contracted COVID-19 within 45 days of reporting to such workplace as confirmed by a laboratory test or by a licensed physician and such individual died on or before December 31, 2022.

***The Coronavirus Aid, Relief, and Economic Security (“CARES”) Act***

The CARES Act, signed into law on March 27, 2020, is a major piece of federal legislation providing relief to individuals, as well as state and local governments, in connection with the impact of the COVID-19 outbreak. The CARES Act impacted the operations of BERS in six principal ways during Fiscal Year 2021 and 2020:

- a) all required minimum distributions (“RMDs”) were suspended between March 27, 2020 and December 31, 2020;
- b) qualified individuals who were entitled to receive a QPP refund (other than a refund of a deduction in error) were permitted to classify such a refund as a coronavirus-related distribution, not subject to the 10% penalty for individuals younger than 59½ years of age (subject to the limitation that the sum of all coronavirus-related distributions cannot exceed \$100,000), until December 30, 2020;
- c) qualified individuals were permitted to request a TDA refund, even if they would not otherwise have been eligible to do so, as a coronavirus-related distribution, not subject to the 10% penalty for

**New York City Board of Education Retirement System**  
**NOTES TO COMBINING FINANCIAL STATEMENTS - CONTINUED**  
**June 30, 2021 and 2020**

individuals younger than 59½ years of age (subject to the limitation that the sum of all coronavirus-related distributions cannot exceed \$100,000), until December 30, 2020;

- d) qualified individuals were permitted to apply for coronavirus-related loans, with a higher aggregate maximum amount than ordinary loans (for QPP/AMC loans, the expanded limit was the lesser of \$100,000 or 75% of the account balance; for TDA loans, the expanded limit was the lesser of \$100,000 or 100% of the account balance), until September 23, 2020;
- e) qualified individuals with outstanding loans of any type were permitted to apply for extension of any loan payments due between March 27, 2020 and December 31, 2020 by up to one year; and
- f) For the purposes of the above provisions, the CARES Act defined a “qualified individual” as an individual who:
  - 1. is diagnosed with COVID-19 by a test approved by the Centers for Disease Control and Prevention; or
  - 2. has a spouse or dependent diagnosed with COVID-19 by a test approved by the Centers for Disease Control and Prevention; or
  - 3. experiences adverse financial consequences as a result of (i) being quarantined, furloughed or laid off or having work hours reduced due to COVID-19, (ii) being unable to work due to lack of child care due to COVID-19, (iii) being unable to work due to closing or reducing hours of a business owned or operated by the individual due to COVID-19, or (iv) other factors as determined by the Secretary of the Treasury.

***The Setting Every Community Up for Retirement Enhancement (“SECURE”) Act***

The SECURE Act of December 2019 increased the age at which RMDs must commence from 70.5 to 72. It also required that certain inherited retirement plan accounts be more rapidly distributed to their owners.

***COVID-19***

The outbreak of the COVID-19, has been declared a pandemic by the World Health Organization. The Governor declared a state of emergency in the State on March 7, 2020 and the Mayor declared a state of emergency in The City on March 12, 2020. The Governor declared an end to the state of emergency due to the COVID-19 pandemic in the State on June 24, 2021, effective June 25, 2021. The state of emergency in The City remains in effect. The ultimate impact of the COVID-19 pandemic on the Plan cannot be determined at this time.

**New York City Board of Education Retirement System**  
**REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)**  
**QUALIFIED PENSION PLAN**  
**SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS**

**June 30,**  
**(In thousands)**

	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:								
Service cost	\$ 175,281	\$ 166,792	\$ 168,501	\$ 176,110	\$ 168,625	\$ 153,107	\$ 147,898	\$ 142,867
Interest	405,690	369,904	366,084	350,999	346,510	320,315	299,592	288,162
Differences between expected and actual experience	38,132	(46,574)	152,160	(164,587)	19,938	(75,907)	50,148	50,148
Changes of assumptions	(853)	-	(314,503)	-	-	183,677	-	-
Benefit payments/withdrawals	(302,336)	(296,047)	(280,463)	(261,574)	(262,432)	(240,727)	(223,244)	(214,315)
Net change in total pension liability	315,914	194,075	91,779	100,948	272,641	340,465	274,394	216,534
Total pension liability - beginning	5,460,141	5,266,066	5,174,287	5,073,339	4,800,698	4,460,233	4,185,839	3,969,305
Total pension liability - ending (a)	5,776,055	5,460,141	5,266,066	5,174,287	5,073,339	4,800,698	4,460,233	4,185,839
Plan fiduciary net position:								
Employer contributions	182,983	257,503	269,637	318,643	288,233	265,532	258,099	214,590
Member contributions	48,125	49,766	46,304	40,846	39,821	38,581	39,564	37,193
Net investment income	1,889,751	365,767	406,879	565,577	862,510	164,144	177,166	875,453
Payment of interest on TDA program fixed return funds	(171,806)	(155,749)	(141,695)	(127,972)	(106,554)	(94,789)	(85,104)	(206,615)
Benefit payments and withdrawals	(302,336)	(296,047)	(280,463)	(261,574)	(262,432)	(240,727)	(223,244)	(214,315)
Administrative expenses	(25,175)	(22,207)	(17,357)	(13,212)	(15,486)	(12,818)	(10,956)	(9,776)
Other	239,808	(7,975)	35,624	51,024	(122,954)	(157,499)	(52,021)	(70,916)
Net change in plan fiduciary net position	1,861,350	191,058	318,929	573,332	683,138	(37,576)	103,504	625,614
Plan fiduciary net position - beginning*	5,182,890	4,991,832	4,672,903	4,099,571	3,416,433	3,454,009	3,350,505	2,653,652
Plan fiduciary net position - ending (b)	7,044,240	5,182,890	4,991,832	4,672,903	4,099,571	3,416,433	3,454,009	3,279,266
BERS's net pension liability - ending (a)-(b)	<u>\$ (1,268,185)</u>	<u>\$ 277,251</u>	<u>\$ 274,234</u>	<u>\$ 501,384</u>	<u>\$ 973,768</u>	<u>\$ 1,384,265</u>	<u>\$ 1,006,224</u>	<u>\$ 906,573</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>121.96%</u>	<u>94.92%</u>	<u>94.79%</u>	<u>90.31%</u>	<u>80.81%</u>	<u>71.17%</u>	<u>77.44%</u>	<u>78.34%</u>
Covered payroll <sup>1</sup>	<u>\$ 1,476,598</u>	<u>\$ 1,353,266</u>	<u>\$ 1,264,079</u>	<u>\$ 1,102,184</u>	<u>\$ 1,052,171</u>	<u>\$ 1,008,056</u>	<u>\$ 1,016,822</u>	<u>\$ 989,168</u>
BERS's net pension liability as percentage of covered payroll	<u>-85.89%</u>	<u>20.49%</u>	<u>21.69%</u>	<u>45.49%</u>	<u>92.55%</u>	<u>137.32%</u>	<u>98.96%</u>	<u>91.65%</u>

\*FY 2015 Plan fiduciary net position - beginning was revised from the prior year.

<sup>1</sup> Projected employee payroll at time 1.0 under previous roll-forward methodology through 2018. Actual employee payroll at valuation date (time = 0) beginning in 2019.

In accordance with paragraph 50 of GASB No. 67, this schedule should present information for 10 years, if available. The information presented here pertains to periods beginning with the June 30, 2014 fiscal year, the System's adoption year of GASB No. 67. Additional years will be added until the 10-year requirement is met.

See Report of Independent Certified Public Accountants.

New York City Board of Education Retirement System

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
 QUALIFIED PENSION PLAN  
 SCHEDULES OF EMPLOYER CONTRIBUTIONS

Fiscal years ended June 30,  
 (In thousands)

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Actuarially determined contribution	\$ 182,983	\$ 257,503	\$ 269,637	\$ 318,643	\$ 288,233	\$ 265,532	\$ 258,099	\$ 214,590	\$ 196,246	\$ 213,651
Contributions in relation to the actuarially determined contribution	182,983	257,503	269,637	318,643	288,233	265,532	258,099	214,590	196,246	213,651
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Covered payroll <sup>1</sup>	\$ 1,476,598	\$ 1,353,266	\$ 1,264,079	\$ 1,102,184	\$ 1,052,171	\$ 1,008,056	\$ 1,016,822	\$ 989,168	\$ 886,186	\$ 879,476
Contributions as a percentage of covered-employee payroll	12.39%	19.03%	21.33%	28.91%	27.39%	26.34%	25.38%	21.69%	22.15%	24.29%

<sup>1</sup> Projected employee payroll at time 1.0 under previous roll-forward methodology through 2018. Actual employee payroll at valuation date (time = 0) beginning in 2019.

See Report of Independent Certified Public Accountants.

New York City Board of Education Retirement System

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
 QUALIFIED PENSION PLAN  
 SCHEDULES OF EMPLOYER CONTRIBUTIONS

Note to Schedule:

The above actuarially determined contributions were developed using a One-Year Lag Methodology, under which the actuarial valuation determines the Employer contribution for the second following fiscal year (e.g., fiscal year 2021 contributions were determined using an actuarial valuation as of June 30, 2019). The methods and assumptions used to determine the actuarially determined contributions are as follows:

Valuation Dates	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015
Actuarial cost method	Entry age	Entry age	Entry age	Entry age	Entry age
Amortization method for unfunded actuarial accrued liabilities:					
Initial unfunded	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar
Post-2010 unfunded	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar
Remaining amortization period:					
Initial unfunded	13 years (closed)	14 years (closed)	15 years (closed)	16 years (closed)	17 years (closed)
2010 ERI	0 year (closed)	0 year (closed)	0 year (closed)	0 year (closed)	1 year (closed)
2011 Actuarial gain/loss	7 years (closed)	8 years (closed)	9 years (closed)	10 years (closed)	11 years (closed)
2012 Actuarial gain/loss	8 years (closed)	9 years (closed)	10 years (closed)	11 years (closed)	12 years (closed)
2013 Actuarial gain/loss	9 years (closed)	10 years (closed)	11 years (closed)	12 years (closed)	13 years (closed)
2014 Actuarial gain/loss	10 years (closed)	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)
2015 Actuarial gain/loss	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)
2016 Actuarial gain/loss	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA
2017 Actuarial gain/loss	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA
2017 Assumption change	18 years (closed)	19 years (closed)	20 years (closed)	NA	NA
2017 Method change	18 years (closed)	19 years (closed)	20 years (closed)	NA	NA
2018 Actuarial gain/loss	14 years (closed)	15 years (closed)	NA	NA	NA
2018 Method change	19 years (closed)	20 years (closed)	NA	NA	NA
2019 Actuarial gain/loss	15 years (closed)	NA	NA	NA	NA
2019 Method change	20 years (closed)	NA	NA	NA	NA
2019 Assumption change	20 years (closed)	NA	NA	NA	NA
Actuarial assets valuation method <sup>1</sup>	Five-year moving average of market values with a "Market Value Restart" as of June 30, 2019.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.

<sup>1</sup> As of the June 30, 2014 (Lag) valuation, the AVA is constrained to be no more than 20% from Market Value.

See Report of Independent Certified Public Accountants.

New York City Board of Education Retirement System

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
 QUALIFIED PENSION PLAN  
 SCHEDULES OF EMPLOYER CONTRIBUTIONS

Note to Schedule:

The above actuarially determined contributions were developed using a One-Year Lag Methodology, under which the actuarial valuation determines the Employer contribution for the second following fiscal year (e.g., fiscal year 2021 contributions were determined using an actuarial valuation as of June 30, 2019). The methods and assumptions used to determine the actuarially determined contributions are as follows:

Valuation Dates	June 30, 2014	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010
Actuarial cost method	Entry age	Entry age	Entry age	Entry age	Entry age
Amortization method for unfunded actuarial accrued liabilities:					
Initial unfunded	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar
Post-2010 unfunded	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar
Remaining amortization period:					
Initial unfunded	18 years (closed)	19 years (closed)	20 years (closed)	21 years (closed)	22 years (closed)
2010 ERI	2 years (closed)	3 years (closed)	4 years (closed)	5 years (closed)	NA
2011 Actuarial gain/loss	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA
2012 Actuarial gain/loss	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA
2013 Actuarial gain/loss	14 years (closed)	15 years (closed)	NA	NA	NA
2014 Actuarial gain/loss	15 years (closed)	NA	NA	NA	NA
2015 Actuarial gain/loss	NA	NA	NA	NA	NA
2016 Actuarial gain/loss	NA	NA	NA	NA	NA
2017 Actuarial gain/loss	NA	NA	NA	NA	NA
2017 Assumption change	NA	NA	NA	NA	NA
2017 Method change	NA	NA	NA	NA	NA
2018 Actuarial gain/loss	NA	NA	NA	NA	NA
2018 Method change	NA	NA	NA	NA	NA
2019 Actuarial gain/loss	NA	NA	NA	NA	NA
2019 Method change	NA	NA	NA	NA	NA
2019 Assumption change	NA	NA	NA	NA	NA
Actuarial assets valuation method <sup>1</sup>	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AVA is defined to recognize Fiscal Year 2010 investment performance.

<sup>1</sup> As of the June 30, 2014 (Lag) valuation, the AVA is constrained to be no more than 20% from Market Value.

See Report of Independent Certified Public Accountants.

New York City Board of Education Retirement System

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
 QUALIFIED PENSION PLAN  
 SCHEDULES OF EMPLOYER CONTRIBUTIONS

Valuation Dates	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015
Actuarial assumptions:					
Assumed rate of return <sup>2</sup>	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.
Post-retirement mortality <sup>3</sup>	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2016	Tables adopted by Board of Trustees during Fiscal Year 2016
Active service: withdrawal, death, disability, service retirement <sup>3</sup>	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012
Salary increases <sup>2</sup>	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.
Cost-of-living adjustments <sup>2</sup>	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.

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

<sup>3</sup> As of June 30, 2019, applies mortality improvement scale MP-2020 published by the Society of Actuaries to post-retirement mortality, active ordinary death mortality rates, and pre-commencement mortality rates for terminated vested. Prior to June 30, 2019, MP-2018 was applied to post-retirement mortality. Prior to June 30, 2017, MP-2015 was applied to post-retirement mortality. Prior to June 30, 2014, Scale AA was applied to post-retirement mortality.

See Report of Independent Certified Public Accountants.



New York City Board of Education Retirement System

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)  
 QUALIFIED PENSION PLAN  
 SCHEDULES OF EMPLOYER CONTRIBUTIONS

Valuation Dates	June 30, 2014	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010
Actuarial assumptions:					
Assumed rate of return <sup>2</sup>	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.	7.0% per annum, net of investment expenses.
Post-retirement mortality <sup>3</sup>	Tables adopted by Board of Trustees during Fiscal Year 2016	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012
Active service: withdrawal, death, disability, service retirement <sup>3</sup>	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012
Salary increases <sup>2</sup>	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.
Cost-of-living adjustments <sup>2</sup>	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.

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

<sup>3</sup> As of June 30, 2019, applies mortality improvement scale MP-2020 published by the Society of Actuaries to post-retirement mortality, active ordinary death mortality rates, and pre-commencement mortality rates for terminated vesteds. Prior to June 30, 2019, MP-2018 was applied to post-retirement mortality. Prior to June 30, 2017, MP-2015 was applied to post-retirement mortality. Prior to June 30, 2014, Scale AA was applied to post-retirement mortality.

See Report of Independent Certified Public Accountants.

**New York City Board of Education Retirement System**  
**REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)**  
**QUALIFIED PENSION PLAN**  
**SCHEDULE OF INVESTMENT RETURNS**

The following table displays annual money-weighted rate of return from fixed investments for each of the past eight fiscal years:

<u>Fiscal years ended</u>	<u>Money-Weighted Rate of Return</u>
June 30, 2021	27.97%
June 30, 2020	5.75%
June 30, 2019	7.00%
June 30, 2018	10.31%
June 30, 2017	15.33%
June 30, 2016	0.20%
June 30, 2015	3.15%
June 30, 2014	19.51%

Note: In accordance with paragraph 50 of GASB Statement No. 67, *Financial Reporting for Pension Plans* ("GASB 67"), this schedule should present information for 10 years, if available. The information presented here pertains to periods beginning with the June 30, 2014 fiscal year, the Plan's adoption year of GASB 67. Additional years will be added until the 10-year requirement is met.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

### ADDITIONAL SUPPLEMENTARY INFORMATION

SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES  
FISCAL YEAR ENDED JUNE 30, 2021

Fund Manager	Category	Amount (in \$)
<b>1 Fixed Investment Expenses (net)</b>		
Actis Energy 4	Alternative Investment - Infrastructure	\$ 181,133
Ardian Infra Fund V	Alternative Investment - Infrastructure	146,843
ASF VII Infrastructure B	Alternative Investment - Infrastructure	152,364
Axium Infrastructure Canada II Class E	Alternative Investment - Infrastructure	3,326
Axium Infrastructure US II Class A	Alternative Investment - Infrastructure	26,514
BIF IV Co-Invest Snow	Alternative Investment - Infrastructure	266
Brookfield Infra Fund III Co-Invest	Alternative Investment - Infrastructure	556
Brookfield Infra Fund IV-B	Alternative Investment - Infrastructure	211,104
Brookfield Infrastructure Fund II	Alternative Investment - Infrastructure	259,030
Brookfield Infrastructure Fund III	Alternative Investment - Infrastructure	63,186
EIG Energy Ptnrs Gbl Private Debt A	Alternative Investment - Infrastructure	46,417
EQT Infra Fund IV	Alternative Investment - Infrastructure	463,636
EQT Infra IV Co-Inv Saber	Alternative Investment - Infrastructure	3,470
EQT Infrastructure III	Alternative Investment - Infrastructure	131,739
Global Energy & Power Infra Fund II	Alternative Investment - Infrastructure	327,412
Global Energy & Power Infra Fund III	Alternative Investment - Infrastructure	6,508
Global Infra Partners IV-A/B	Alternative Investment - Infrastructure	313,843
Global Infrastructure Partners III	Alternative Investment - Infrastructure	154,911
IFM Global Infrastructure	Alternative Investment - Infrastructure	264,200
KKR Global Infrastructure Investors II	Alternative Investment - Infrastructure	217,619
KKR Global Infrastructure Investors III	Alternative Investment - Infrastructure	192,572
Stonepeak Infrastructure Fund IV	Alternative Investment - Infrastructure	393,860
KKR NYC Credit C	Alternative Investment - OFI	104,278
Marathon Centre Street Partnership	Alternative Investment - OFI	90,807
Oak Hill Centre Street Partnership	Alternative Investment - OFI	208,999
American Securities Partners VII	Alternative Investment - Private Equity	69,406
Apax IX USD	Alternative Investment - Private Equity	200,732
Apax X USD	Alternative Investment - Private Equity	272,190
Apollo Investment Fund IX	Alternative Investment - Private Equity	523,978
Apollo Investment Fund VIII	Alternative Investment - Private Equity	184,454
Ares Corporate Opportunities Fund V	Alternative Investment - Private Equity	96,598
ASF VI B	Alternative Investment - Private Equity	88,017
ASF VI B NYC Co-Invest	Alternative Investment - Private Equity	10,411
ASF VII B	Alternative Investment - Private Equity	57,498
ASF VII B NYC Co-Invest	Alternative Investment - Private Equity	4,978
ASF VIII B	Alternative Investment - Private Equity	255,334
ASF VIII B Co-Invest	Alternative Investment - Private Equity	8,577
BC European Capital X	Alternative Investment - Private Equity	145,283
BC European Capital X SideCar	Alternative Investment - Private Equity	3,735
Bridgepoint Europe V	Alternative Investment - Private Equity	67,967
Bridgepoint Europe V Co-Invest	Alternative Investment - Private Equity	861
Bridgepoint Europe VI	Alternative Investment - Private Equity	260,143
Bridgepoint Europe VI Co-Invest	Alternative Investment - Private Equity	22,861
Carlyle Partners VI	Alternative Investment - Private Equity	672,566
Carlyle Partners VI SideCar	Alternative Investment - Private Equity	(197)
Centerbridge Capital Partners III	Alternative Investment - Private Equity	194,954
Clearlake Capital Partners VI	Alternative Investment - Private Equity	152,550
Crestview Partners III	Alternative Investment - Private Equity	139,556
Crestview Partners III SideCar	Alternative Investment - Private Equity	8,865
Crestview Partners IV	Alternative Investment - Private Equity	128,731
Crestview Partners IV SideCar	Alternative Investment - Private Equity	20,402

(Continued)

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

### ADDITIONAL SUPPLEMENTARY INFORMATION

#### SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2021

Fund Manager	Category	Amount (in \$)
CVC Capital Partners VI	Alternative Investment - Private Equity	150,754
CVC Capital Partners VII	Alternative Investment - Private Equity	351,965
EQT IX Co-Invest	Alternative Investment - Private Equity	55,586
EQT IX USD	Alternative Investment - Private Equity	231,925
EQT VII (No.2)	Alternative Investment - Private Equity	1,019,859
EQT VIII	Alternative Investment - Private Equity	224,663
EQT VIII Co-Invest	Alternative Investment - Private Equity	17,763
FTV V	Alternative Investment - Private Equity	66,768
FTV VI	Alternative Investment - Private Equity	104,793
Grain Communications Opportunity FD III	Alternative Investment - Private Equity	36,779
Grain Fund II	Alternative Investment - Private Equity	116,220
Green Equity Investors VII	Alternative Investment - Private Equity	317,247
Heartwood Partners III	Alternative Investment - Private Equity	42,528
ICG Strategic Equity Co-Invest Fund IV	Alternative Investment - Private Equity	29,548
ICG Strategic Equity Fund III	Alternative Investment - Private Equity	346,412
ICG Strategic Equity Fund III SideCar	Alternative Investment - Private Equity	13,502
ICV Partners IV	Alternative Investment - Private Equity	64,892
KKR Americas Fund XII	Alternative Investment - Private Equity	207,417
KKR Asian Fund IV	Alternative Investment - Private Equity	74,586
KKR Europe V	Alternative Investment - Private Equity	145,540
Landmark - NYC Fund I	Alternative Investment - Private Equity	8,691
Landmark Equity Partners XV	Alternative Investment - Private Equity	259,685
Lexington Capital Partners IX	Alternative Investment - Private Equity	223,614
Lexington Capital Partners IX SideCar	Alternative Investment - Private Equity	9,327
Lexington Capital Partners VIII	Alternative Investment - Private Equity	225,495
Lindsay Goldberg V	Alternative Investment - Private Equity	106,821
Mesirow Financial Private Equity Fd III	Alternative Investment - Private Equity	194,727
Mesirow Financial Private Equity Fund IV	Alternative Investment - Private Equity	112,046
Mesirow Financial Private Equity Fund V	Alternative Investment - Private Equity	53,115
Mill City Fund II	Alternative Investment - Private Equity	20,253
New Mainstream Capital II	Alternative Investment - Private Equity	28,831
New York Fairview Private Equity Fund	Alternative Investment - Private Equity	82,864
NMS Fund III	Alternative Investment - Private Equity	38,342
One Rock Capital Partners III	Alternative Investment - Private Equity	290,858
Palladium V	Alternative Investment - Private Equity	175,254
Patriot Financial Partners II	Alternative Investment - Private Equity	57,704
Patriot Partners III	Alternative Investment - Private Equity	55,701
Platinum Equity Partners III	Alternative Investment - Private Equity	1,032,417
Platinum Equity Partners IV	Alternative Investment - Private Equity	245,718
Platinum Equity Partners IV SideCar	Alternative Investment - Private Equity	648
Platinum Equity Small Cap Fund I	Alternative Investment - Private Equity	11,467
Raine Partners II	Alternative Investment - Private Equity	357,791
Raine Partners III	Alternative Investment - Private Equity	266,251
Reverence Capital II	Alternative Investment - Private Equity	61,098
Reverence Capital II SideCar	Alternative Investment - Private Equity	826
Siris Partners III	Alternative Investment - Private Equity	56,308
Siris Partners IV	Alternative Investment - Private Equity	110,397
Stellex Capital Partners	Alternative Investment - Private Equity	42,694
Valor Equity Partners III	Alternative Investment - Private Equity	30,401
Valor Equity Partners IV	Alternative Investment - Private Equity	79,180
Valor Equity Partners V	Alternative Investment - Private Equity	144,649
Vista Equity Partners V	Alternative Investment - Private Equity	257,059
Vista Equity Partners VI	Alternative Investment - Private Equity	1,694,349

(Continued)

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

### ADDITIONAL SUPPLEMENTARY INFORMATION

#### SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2021

Fund Manager	Category	Amount (in \$)
Vista Equity Partners VII	Alternative Investment - Private Equity	333,023
Vistria Fund III	Alternative Investment - Private Equity	46,855
Warburg Pincus Financial Sector Fund	Alternative Investment - Private Equity	173,132
Warburg Pincus Global Growth	Alternative Investment - Private Equity	286,976
Warburg Pincus XI	Alternative Investment - Private Equity	331,819
Warburg Pincus XII	Alternative Investment - Private Equity	674,973
Webster Capital III	Alternative Investment - Private Equity	184,815
Welsh Carson Anderson & Stowe XII	Alternative Investment - Private Equity	720,013
Welsh Carson Anderson & Stowe XIII	Alternative Investment - Private Equity	263,354
Aermont Capital Real Estate Fund IV	Alternative Investment - Real Estate	133,702
Almanac Realty Securities VIII	Alternative Investment - Real Estate	130,561
Almanac Realty Securities VIII SideCar	Alternative Investment - Real Estate	10,284
Artemis Co-Investment	Alternative Investment - Real Estate	118,695
Artemis Income & Growth	Alternative Investment - Real Estate	22,683
Blackstone RE Partners Europe IV	Alternative Investment - Real Estate	124,539
Blackstone RE PTNRS IX	Alternative Investment - Real Estate	235,895
Blackstone Real Estate Partners VIII	Alternative Investment - Real Estate	890,406
Brookfield Premier Real Estate Partners	Alternative Investment - Real Estate	303,741
Brookfield Strategic RE Partners I	Alternative Investment - Real Estate	96,346
Brookfield Strategic RE Partners III	Alternative Investment - Real Estate	127,809
Carlyle Realty Partners VII	Alternative Investment - Real Estate	407,662
Cortland Growth and Income	Alternative Investment - Real Estate	51,958
DivcoWest Fund V	Alternative Investment - Real Estate	273,589
Divcowest Fund VI-A	Alternative Investment - Real Estate	331,161
DRA Growth and Income Fund IX	Alternative Investment - Real Estate	164,855
EPIISO IV	Alternative Investment - Real Estate	219,368
Exeter Core Industrial Club Fund II	Alternative Investment - Real Estate	88,164
Exeter Industrial Core Fund III	Alternative Investment - Real Estate	22,111
Exeter Industrial Value Fund IV	Alternative Investment - Real Estate	112,148
Exeter Industrial Value Fund V	Alternative Investment - Real Estate	30,948
Franklin Templeton Private RE FD	Alternative Investment - Real Estate	84,025
GreenOak Asia USD III	Alternative Investment - Real Estate	193,656
H/2 Special Opportunities III	Alternative Investment - Real Estate	114,622
H/2 Special Opportunities IV	Alternative Investment - Real Estate	126,801
Harrison St Core Prop SideCar	Alternative Investment - Real Estate	14,173
Harrison Street Core Prop	Alternative Investment - Real Estate	87,710
Heitman Capital Management LLC	Alternative Investment - Real Estate	64,793
Hudson SEP AC	Alternative Investment - Real Estate	65,380
Jamestown Premier Property Fund	Alternative Investment - Real Estate	84,584
KKR RE Security Dislocation Opp CoInvest	Alternative Investment - Real Estate	3,645
KKR Real Estate Credit Opp Prtnrs Agg I	Alternative Investment - Real Estate	161,848
KKR Real Estate Partners Americas II	Alternative Investment - Real Estate	143,973
KKR Real Estate Partners Europe II USD	Alternative Investment - Real Estate	87,787
LaSalle Property Fund	Alternative Investment - Real Estate	408,806
Lion Industrial Trust	Alternative Investment - Real Estate	174,865
Lone Star Real Estate Fund V	Alternative Investment - Real Estate	12,781
Mesirow Financial Real Estate Value IV	Alternative Investment - Real Estate	6,575
MetLife Core Property Fund	Alternative Investment - Real Estate	120,232
NYC Asset 1 - Vanbarton (fka Emmes)	Alternative Investment - Real Estate	348,696
Pramerica Real Estate VI	Alternative Investment - Real Estate	101,826
Pre FRM Sandy	Alternative Investment - Real Estate	114,911
PW Real Estate Fund III	Alternative Investment - Real Estate	88,457
Rialto Real Estate Fund IV - Debt	Alternative Investment - Real Estate	641,276

(Continued)

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

### ADDITIONAL SUPPLEMENTARY INFORMATION

#### SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2021

Fund Manager	Category	Amount (in \$)
UBS Trumbull Property Fund	Alternative Investment - Real Estate	235,763
USAA Eagle Real Estate Fund	Alternative Investment - Real Estate	139,599
Westbrook Fund XI	Alternative Investment - Real Estate	207,622
Westbrook Real Estate Fund X Co-Inv	Alternative Investment - Real Estate	130,080
RBC Access MBS	CTF - Fixed Income - Mortgage	18,976
Barings-Bank Loans	CTF - Fixed Income - Other	126,039
BlackRock-US SC R2000 Growth	CTF-Domestic Equity	3
BlackRock-US SC R2000 Value	CTF-Domestic Equity	6,894
Acadian-EM	CTF-International Equity	889,864
Acadian-WorldxUS SCC	CTF-International Equity	108,480
Baillie Gifford-WorldxUS LMCC	CTF-International Equity	2,398
BlackRock MSCI-EM Core	CTF-International Equity	344,348
Sprucegrove-WorldxUS LMCC	CTF-International Equity	653,829
Altravue-US SCV - Legato	Domestic Equity	12,684
Ballast-US SCV - Legato	Domestic Equity	1,483
BlackRock-US LMC R1000 Core	Domestic Equity	40,553
Bowling-US SCV - Legato	Domestic Equity	1,988
Bridge City-US SCG - Legato	Domestic Equity	10,266
Dean-US SCV - Legato	Domestic Equity	18,394
Essex-US SCG - Legato	Domestic Equity	12,783
Legato Transition-US	Domestic Equity	545
Lisanti-US SCG - Legato	Domestic Equity	14,077
Nicholas Investment-US SCG - Legato	Domestic Equity	805
SSGA-US LMC RTOP200 Core	Domestic Equity	31,691
Wasatch-US SCG	Domestic Equity	285,677
Wellington-US MCC	Domestic Equity	660,820
Fail Float	Fixed Income - Cash	195
SSGA-IT Treasury 1-10Y	Fixed Income - Government	23,194
SSGA-LI Treasury	Fixed Income - Government	99,822
SSGA-LT Treasury 10Y Plus	Fixed Income - Government	1,439
SSGA-ST Treasury 1-3Y	Fixed Income - Government	13,087
AFL-CIO Housing Investment Trust	Fixed Income - Mortgage	58,098
BlackRock-Mortgages	Fixed Income - Mortgage	187,077
Mackay Shields-High Yield	Fixed Income - Other	743,361
Nomura-High Yield	Fixed Income - Other	854,437
Prudential-Credit	Fixed Income - Other	76,781
Pugh-CorePlus	Fixed Income - Other	231,893
T Rowe Price-Credit	Fixed Income - Other	149,711
Taplin-Credit	Fixed Income - Other	76,318
SSGA-TIPS	Fixed Income - TIPS	14,841
Acadian-EM	International Equity	3,437,087
Acadian-WorldxUS SCC	International Equity	295,201
Algert-EAFE SCC	International Equity	139,646
ARGA-WorldxUS LMCV - Xponance	International Equity	41,317
Ativo-EAFE ACG - Xponance	International Equity	2,975
Aubrey-EM ACG - Xponance	International Equity	47,586
Baillie Gifford-WorldxUS LMCC	International Equity	1,058,197
Change Global-EM ACV - Xponance	International Equity	33,012
Denali-EAFE ACV - Xponance	International Equity	2,649
Dundas-EAFE ACG - Xponance	International Equity	44,430
Fiera-Global	International Equity	431,090
Foresight-EAFE LMCV - Xponance	International Equity	22,288
JP Morgan AM-EM ACG	International Equity	428,490

(Continued)

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

### ADDITIONAL SUPPLEMENTARY INFORMATION

#### SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2021

Fund Manager	Category	Amount (in \$)
Martin-EAFE ACG - Xponance	International Equity	31,504
Metis-EAFE ACV - Xponance	International Equity	1,766
Morgan Stanley-Global	International Equity	455,232
North of South-EM ACV - Xponance	International Equity	13,055
Osmosis-EAFE ACV - Xponance	International Equity	38,635
Redwood-EAFE ACG - Xponance	International Equity	27,086
Sprucegrove-WorldxUS LMCC	International Equity	539,611
Rebal-Transition	International Equity	3,707
Xponance Transition-WorldxUS	International Equity	8,605
	Sub total	<u>41,260,462</u>
<b><u>Legal Fees</u></b>		
Cox Castle Nicholson LLP		3,662
Day Pitney LLP		3,833
Foley & Lardner LLC		29,080
Foster Pepper PLLC		9,640
Hitchcock Law Firm PLLC		275
Morgan Lewis Bockius LLP		16,032
Pillsbury Winthrop Shaw Pittman LLP		6,356
Reinhart Boerner Van Dueren		17,926
Seward Kissel LLP		(2,343)
	Sub total	<u>84,461</u>
<b><u>Consultant Fees</u></b>		
Aksia TorreyCove Capital Partners LLC		213,717
Cordatus, LLC		20,000
Hamilton Lane Advisors LLC		95,000
Meketa Investment Group		128,333
MSCI - Esg Research LLC		3,158
MSCI - IPD		5,110
MSCI - BARRA		35,198
Segal Macro Advisors		203,333
Stepstone Group Real Estate LP		30,828
The Burgiss Group		5,242
Institutional Shareholder Services		8,461
	Sub total	<u>748,380</u>
<b><u>Other Investment Expenses</u></b>		
	Sub total	<u>744,951</u>
<b><u>2 Variable Investment Expenses</u></b>		
Qualified Pension Plan		116,621
Tax-Deferred Annuity		1,140,839
<b>Investment Expenses FY 2021</b>		<u><u>\$ 44,095,714</u></u>

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
 QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM**

**ADDITIONAL SUPPLEMENTARY INFORMATION**

**SCHEDULE 5 - SCHEDULE OF ADMINISTRATIVE EXPENSES  
 FISCAL YEAR ENDED JUNE 30, 2021**

<b>EXPENSE TYPE</b>	<b>AMOUNT (in \$)</b>
<b>1 ADMINISTRATIVE EXPENSES (QPP):</b>	
Consumable Supplies and Materials	\$ 138,675
Contractual Services	5,833,317
Furniture and Equipment	1,031,983
General Services	1,800,514
Salaries paid to Plan Personnel	16,370,906
Sub-Total	<u>25,175,395</u>
<b>2 ADMINISTRATIVE EXPENSES (TDA):</b>	
Contractual Services	258,843
Sub-Total	<u>258,843</u>
<b>3 MISCELLANEOUS EXPENSES:</b>	
Related Parties Administrative Expenses (Adm expenses made by the Comptroller on our behalf. Charged on investment)	Sub-Total <u>2,817,847</u>
<b>Total Administrative Expenses for FY 2021:</b>	<u>\$ 28,252,085</u>



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM**

**ADDITIONAL SUPPLEMENTARY INFORMATION**

**SCHEDULE 6 - SCHEDULE OF DIRECT PAYMENTS TO CONSULTANTS  
FISCAL YEAR ENDED JUNE 30, 2021**

<b>INDIVIDUAL OR FIRM NAME</b>	<b>NATURE OF SERVICES</b>	<b>AMOUNT (in \$)</b>
<b>Richard Nathan Consulting LLC</b> 132 East 43rd St, Suite 206 New York, NY 10017	Accounting Software Consultant	\$ 20,000
<b>RSM US LLP</b> 151 West 42nd Street, Floors 18-20 New York, NY 10036	Accounting Software Consultant	99,840
<b>Baker Tilly Virchow Krause, LLP</b> 2801 Via Fortuna, Suite 300 Austin, TX 78746	Internal Audit Service Consultant	258,585
<b>McLean &amp; Company</b> 3960 Howard Hughes Parkway, Suite 500 Las Vegas, NV, 89169	HR Research and Advisory Services	54,882
<b>Cordatus, LLC</b> 39 W 93rd Street, Suite 9 New York, NY 10025	Investment Consultant	20,000
<b>Segal Marco Advisors</b> 333 West 34th Street New York, NY 10001	Investment Consultant	203,333
<b>TorreyCove Capital Partners LLC</b> 10180 Barnes Canyon Road, Suite 200 San Diego, CA 92121	Investment Consultant	213,717
<b>Groom Law Group, Chartered</b> Department #0589 Washington, DC 20073	Legal Consultant	16,934
<b>Segal Company, Inc</b> 333 West 34th Street New York, NY 10001	Operations Consultant	510,941
<b>Vitech Systems Group, Inc.</b> 401 Park Avenue South, 12th Floor New York, NY 10016	Velocity Project Consultant	3,190,000
<b>Total Consulting Fees for FY 2021</b>		<b>\$ 4,588,232</b>

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**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

A FIDUCIARY FUND  
OF THE CITY OF NEW YORK

**ANNUAL COMPREHENSIVE FINANCIAL REPORT OF  
THE QUALIFIED PENSION PLAN  
AND THE  
TAX DEFERRED ANNUITY PROGRAM**

**INVESTMENT SECTION  
PART III**

**FOR THE YEARS ENDED  
JUNE 30, 2021 AND JUNE 30, 2020**

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# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## INTRODUCTION

The investment section presents the following:

- Investment report for FY 2021, prepared by Segal Marco Advisors, investment consultant for BERS.
- The investment schedules following the investment report supplement the investment information presented in the financial section and the investment report as presented by the investment consultant.

Schedules are presented for the following categories

- a. Consolidated investment performance
- b. Asset Pie: focusing on the current fiscal year asset composition
- c. Asset Allocation: presents 10-year comparison of the invested assets
- d. Investment Holdings
- e. Management fees and brokers commission
- f. Investment Summary

The investment section has been prepared based on data provided by:

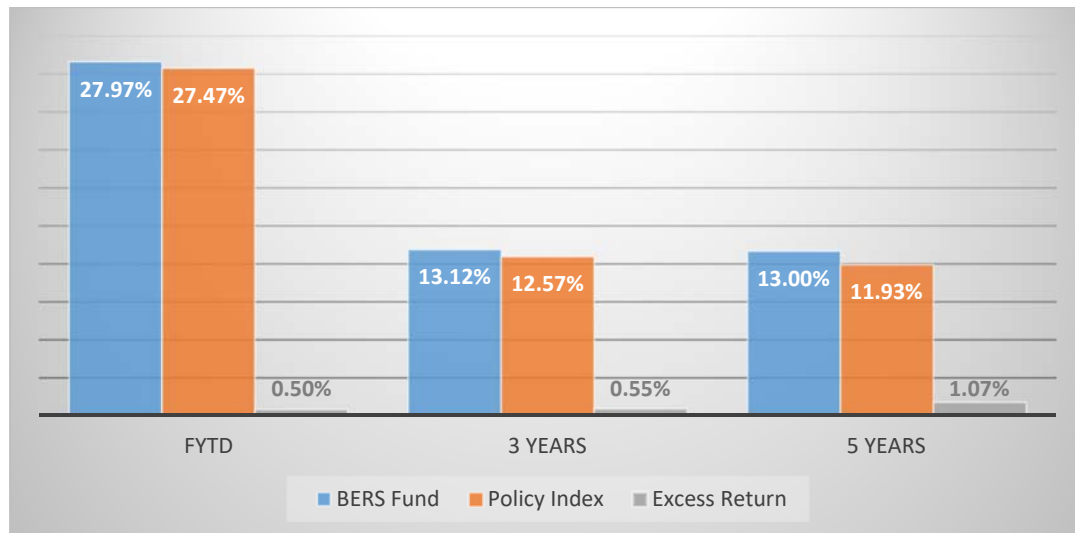
- The Comptroller of the City of New York through BAM;
- Teachers' Retirement System of The City of New York;
- Segal Marco, independent investment advisor for BERS;
- Custodians of investments; and the
- Investment managers.

**To:** New York City Board of Education Retirement System (BERS)  
**From:** Segal Marco Advisors (Michael C. Wright and Vanessa Vargas Guijarro)  
**Date:** October 14, 2021  
**Re:** Report of Investment Activity for Fiscal Year 2021

Dear Members of the New York City Board of Education Retirement System:

**Fund Summary of investment performance**

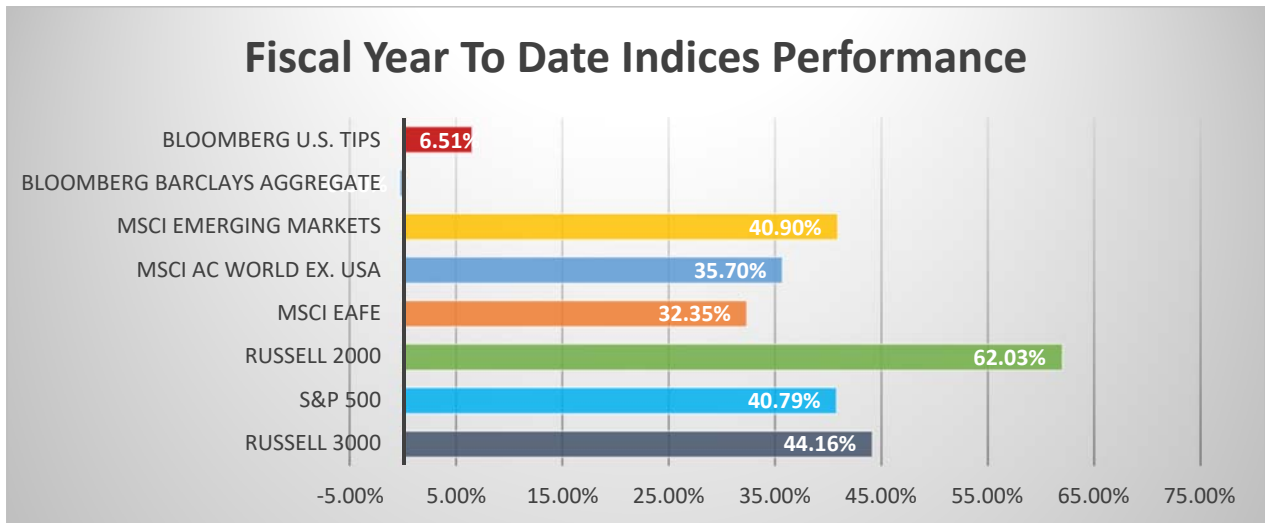
The Board of Education Retirement System (“BERS”) Total Fund returned +27.97%, net of fees, for the Fiscal Year (FY) ending June 2021 compared to +27.47% for the BERS Policy Benchmark<sup>1</sup>, against which it is measured. Gross performance for the FY ranked better than 71% of the Wilshire public plans with assets greater than \$1 billion peer group. We consider performance above benchmark and in the top quartile of peers as very good. The Fund increased in value and ended the fiscal year at \$8.73 billion (compared to \$6.83 billion last year). It is important to note that a pension fund is a long-term investment established to pay for participants’ benefits. Over the long term, the expected return used for the actuarial valuation of the benefits is 7%. However, the Fund is not expected to outperform these benchmarks every year. Over the 5-year time period ending June 2021, the Fund has averaged a +13.00% annual net return versus 11.93% for the Policy Benchmark. The 5-year performance ranks in the top 1% of public funds’ peers group.



<sup>1</sup> The Board of Education Policy Benchmark is a custom index representing the weighted average return of the benchmarks for each major investment program in the Fund. The Policy Benchmark as of 6/30 consisted of: 34.7% Russell 3000, 14.6% MSCI EAFE, 6.7% MSCI Emerging Markets, 5.91% Russell 3000 + 300 bps, 5.6% NFI ODCE Net + 100 bps, 1.2% Infrastructure index, 18.6% fixed income, 4.7% Barclays Capital US TIPS, 6.0% Citigroup BB&B Index, and 2.0% Credit Suisse Leveraged Loan Index.

**Capital Market Comment**

The BERS Fund is diversified across U.S. and non-U.S. markets. In the first half of 2021, all equities performed strongly with value stocks leading the way with meaningful gains. As COVID vaccination rates climbed, the global re-opening remained on track. Equities in general continued to show strong performance coinciding with the increasing vaccine rates. Vaccination rates for both the U.S. and U.K are over 50%. Meanwhile, Japan has shown to be the laggard with only 15% of its population vaccinated. There are concerns regarding new variants of COVID-19 but thus far, the vaccines have been effective against these.



The U.S. stock market, as measured by the benchmark, Russell 3000 Index, returned +44.2% for the Fiscal Year 2021. With U.S. market volatility falling to its lowest levels since 2019, U.S. markets closed the first half of 2021 at record highs despite fears over inflation and the end of the Federal Reserve stimulus. All sectors in the Russell 3000 Index saw positive returns for the fiscal year to date period primarily due to optimism for an imminent global recovery particularly in the U.S. The financials sector (+60.9%) came out the strongest, followed by energy (+55.5%).

Non-U.S. developed equities also produced gains during the fiscal period as well as during the first half of 2021. The non-U.S. equity market, as measured by the benchmark, MSCI EAFE Index, returned +32.35% for the Fiscal Year 2020. The U.K. market outperformed broad international developed indices, as the country continued to re-open. The Japanese market trailed other developed markets, as the country struggled to vaccinate its population. A rise in COVID-19 cases during the first half of the second quarter of 2021 led the government to delay lifting its country’s state of emergency until June 20<sup>th</sup>. This was subsequently re-imposed in mid-July until late August. All sectors in the MSCI EAFE posted double digit gains during the fiscal year period with consumer discretionary (+49.83%) and materials (+47.16%) being the notable leaders.

Emerging markets stocks rebounded strongly over the fiscal year to date period despite continued concerns regarding the COVID-19 and its variants as well as access to vaccines. Latin America led the way in the rebound driven primarily by the Brazilian market. Asian markets were the weakest given regulatory actions

taken by the Chinese government and renewed COVID lockdowns causing concern among investors and muted return for the Chinese equity markets. The emerging market asset class as measured by the benchmark, MSCI Emerging Markets Index, returned +40.90% for the Fiscal Year 2021.

Within the fixed income market, the yield curve continued to flattened, with modest rate increases at the front end of the curve and more dramatic declines at the tail end. Yields began to fall across the curve starting at the 5-year point. Fiscal year returns from fixed income were muted or in negative territory with the exception of U.S. corporate high yields which posted double digit gains.

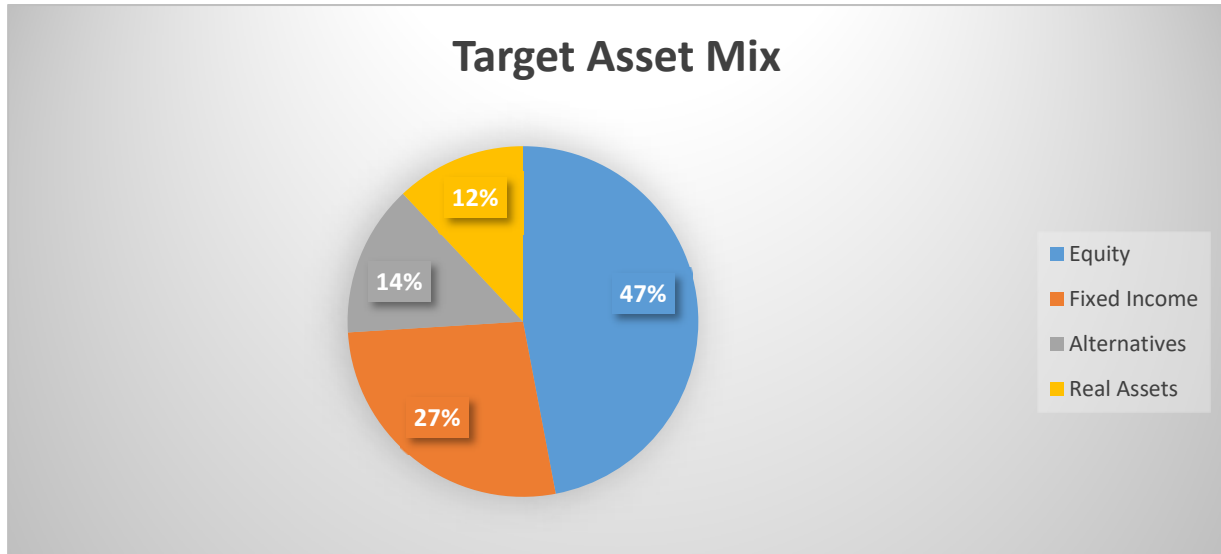
<b>U.S. Fixed Income Indices</b>	<b>Fiscal Year To Date</b>
<b>Bloomberg Barclays U.S. Aggregate</b>	-0.33%
<b>Bloomberg Barclays Government</b>	-3.10%
<b>Bloomberg Barclays Investment Grade Corporates</b>	+3.30%
<b>Bloomberg Barclays U.S. Corporate High Yield</b>	+15.37%

**BERS Fund Description**

The Trustees establish an Investment Policy asset allocation targets after considering the long-term growth prospects of a diversified portfolio of investments and the expected costs of the Plan participants’ benefits. Asset allocation refers to the percentages of the BERS Fund assets that are in stocks, bonds and private markets investments. In order to participate in the broad market performance, while keeping Fund expenses low, the Fund invests in passive, index strategies for the majority of its U.S. public equity allocation.

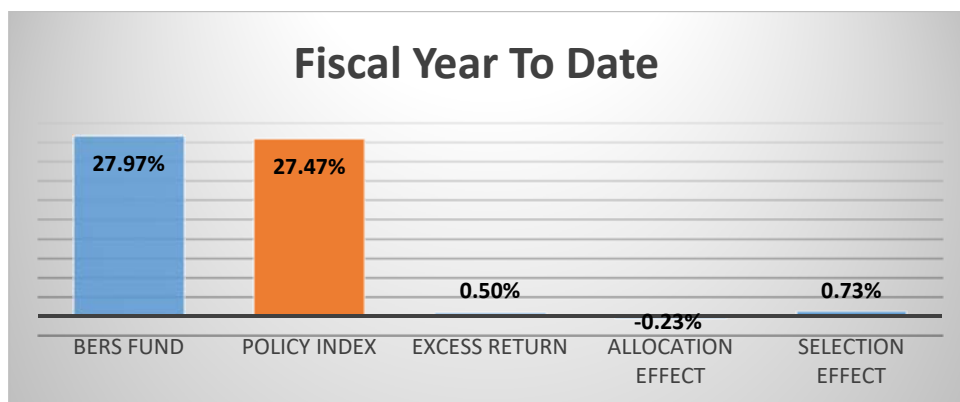
For BERS, diversification and the focus on low investment expenses and fees are very important to the long term planning. There were two major investment initiatives accomplished in FY 2021. An Asset Liability Modeling study was completed to evaluate the plan investment allocation in relation to participant pension obligations. Second, a review of factors related to climate change and fossil fuel stocks was completed. The approved implementation plan incorporated the recommendations with additions to Private Equity, Real Estate and Infrastructure investments, while reducing U.S. equities and developed market non-U.S. equities. The Fund’s passive or indexed managers divested from 29 fossil fuel reserve owners that responsibly reduced the exposure of BERS’s portfolio to carbon risk and mitigates the financial risks resulting from climate change.





The Fund’s target asset mix, approved in FY2021, is shown in the graph depicted above. Over the long-term, which is the framework for considering the term structure of the Plans’ liabilities, we expect the asset allocation will provide asset base growth to meet the benefit payments while protecting principal through diversification.

During this most recent FY, the Fund’s asset allocation, primarily the weightings in Fixed Income, since Fixed Income underperformed Equities was attributable for a portion of relative performance versus the Policy benchmark. Manager selection, the component contributed by the active management of the individual stock and bond purchases made up the for the allocation effect. This breakout of the attribution of returns is shown in the chart below. The comparison is based on the FY return of +27.97%. The policy benchmark return, measuring if the Fund was all invested in passive, index funds, was lower at +27.47%. The breakout of the contribution to return is shown in the chart below.



The diversified holdings of the BERS Fund have been a contributor to its long-term success. The Fund is overweight to U.S. investments while still maintaining a diversified geographic and asset class structure. The Fund has investments across all the major public and private equity, fixed income and real estate capital markets. Pension investors such as the BERS Fund have long term horizons over which benefits will be paid. Therefore, BERS and its peers diversify a portion to less liquid, private investments with higher

expected returns where the invested capital is not needed for benefit payments over a 5 to 7-year period. These private market investments are not similarly affected by short-term moves in stocks, interest rates and inflation.

The passive managers essentially matched their benchmarks while active manager selection in U.S. stocks was a not favorable compared to the benchmark (43.79% vs. 44.16% for the index). World ex-U.S. equity performed very well with a 47.71% return versus a 34.82% return for the benchmark. Global equity strategies added value returning +42.28% versus +39.26% for the MSCI AC World Index. A small amount of the underperformance within non-U.S. equity came from the emerging market sub-component. The Total Fixed Income return was 4.24%. As part of our ongoing monitoring, we review the manager contributions and the structure of the Fund in order to achieve the expected levels of returns net of fees. The Fund's current level of diversification into alternative assets had generally a positive impact in FY 2021, as the Private Real Estate and Private Infrastructure investments out performed their respective benchmarks while the Private Equity fell below its benchmark (Russell 3000 Index plus 300 basis points). Investments in private equity did not outperform public markets in FY 2021. These investments have added value to the Fund over longer periods and continue to be an important allocation.

Market conditions and Fund performance will continue to be monitored closely to accomplish the goal of providing the benefits as promised to participants.

Sincerely,



Michael Wright  
Senior Vice President &  
Senior Consultant



Vanessa Vargas Guijarro  
Vice President &  
Senior Consultant

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

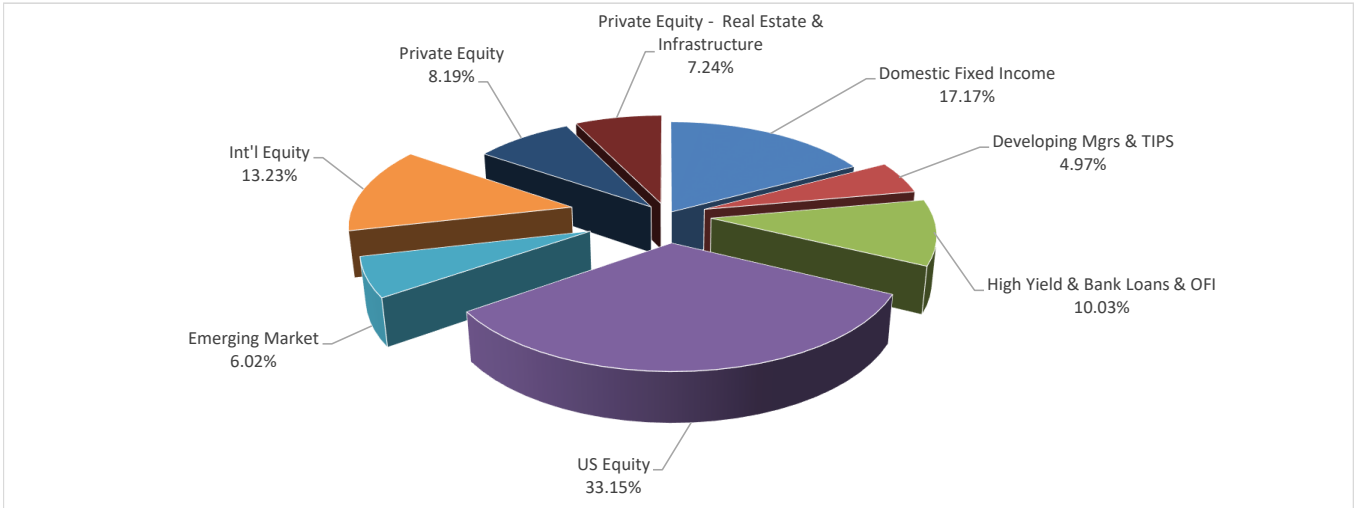
## SCHEDULE OF INVESTMENT RETURNS (FIXED) ANNUALIZED INVESTMENTS RESULTS (UNAUDITED) FISCAL YEAR ENDED JUNE 30, 2021

	3 Mos Apr-21 Jun-21 %	6 Mos Jan-21 Jun-21 %	1 Yr Jul-20 Jun-21 %	3 Yrs Jul-18 Jun-21 %	5 Yrs Jul-16 Jun-21 %	10 Yrs Jul-11 Jun-21 %
<b>Total Equity</b>	7.59	13.38	41.1	16.32	16.87	-
<b>Domestic Equity</b>	7.95	14.59	43.79	18.75	18.22	14.72
Russell 3000 Index	8.24	15.11	44.16	18.73	17.89	14.70
<b>Total World ex-USA Equity</b>	5.99	8.63	47.71	15.76	18.00	10.01
NYC Developed Equity Benchmark	5.52	9.92	34.82	8.62	10.64	6.06
<b>Total Emerging Markets</b>	5.99	9.11	39.44	9.18	12.56	4.53
MSCI Emerging Markets	5.05	7.45	40.90	11.27	13.03	4.28
<b>International Fund of Funds</b>	8.16	9.81	40.05	11.13	-	-
MSCI ACWI EX USA IMI NET	5.60	9.58	37.18	9.42	-	-
<b>Total Global Equity</b>	8.78	9.15	42.28	21.70	-	-
MSCI AC World (Daily Const)	7.39	12.30	39.26	14.57	-	-
<b>Private Equity</b>	12.77	24.41	52.48	22.03	19.68	17.19
Russell 3K + 300bps	7.12	23.72	67.21	20.59	20.09	17.30
<b>Real Estate</b>	3.78	7.55	9.46	6.52	8.56	10.91
NCREIF NFI-ODCE NET + 100 BP	3.94	6.16	8.15	5.64	6.68	9.68
<b>Infrastructure</b>	4.14	8.97	19.45	12.52	14.03	-
CPI + 4%	3.35	5.65	9.57	6.66	6.54	-
<b>Total Fixed Income</b>	2.37	0.70	4.24	6.48	4.56	-
<b>Structured Fixed Income</b>	2.01	(1.63)	(0.59)	6.23	3.69	4.27
NYC Custom Structured Index - BERS	1.93	(1.55)	(0.42)	7.20	4.12	4.34
<b>Core FI - Developing Mgrs</b>	2.14	(1.25)	-	-	-	-
CSFB Leveraged Loan Index	1.83	(1.60)	-	-	-	-
<b>TIPS</b>	3.43	1.74	6.50	6.55	4.18	3.58
BBG BARC GBL INF - LK: US TIPS (DLY)	3.25	1.73	6.51	6.53	4.17	3.40
<b>Targeted Investments</b>	2.02	(0.99)	0.42	5.85	3.35	3.84
BERS Custom Benchmark	1.06	(0.96)	(0.05)	4.78	2.88	3.20
<b>High Yield</b>	2.69	4.18	16.03	7.84	7.51	6.88
High Yield Custom Benchmark	2.74	3.61	15.34	7.42	7.19	6.41
<b>Opprtunistic Fixec Income</b>	4.72	11.32	-	-	-	-
Opprtunistic Fixec Income JPMGHY	2.83	5.27	-	-	-	-
<b>Short-term Investments</b>	0.05	0.08	0.15	1.20	1.15	0.78
<b>Total Portfolio</b>	5.89	9.16	27.97	13.12	13.00	10.09
BERS Policy Benchmark	5.37	8.88	27.47	12.57	11.93	9.60

Yield data were obtained from the NYCBERS Performance Overview as of June 30, 2021

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

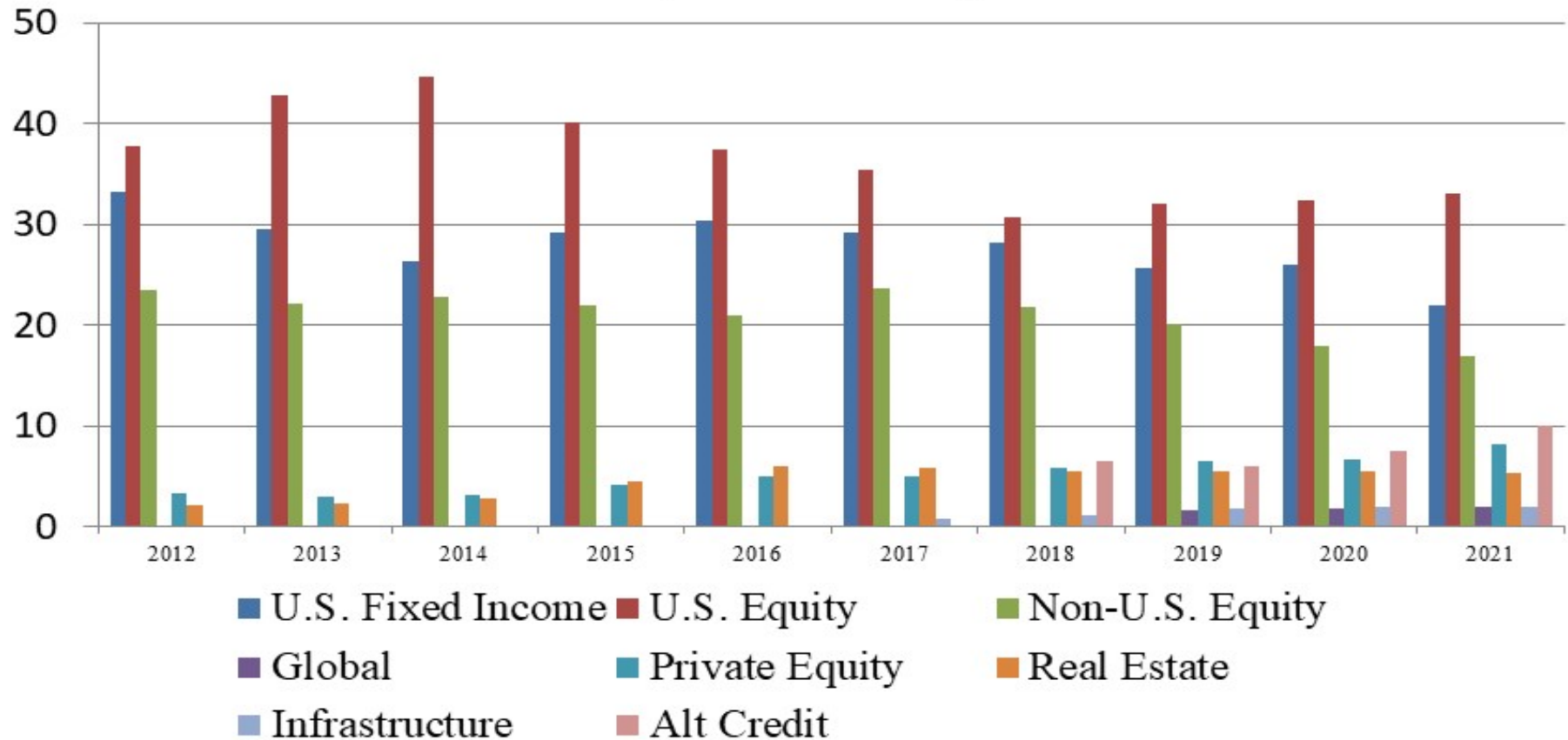
## ASSET ALLOCATION (FIXED) FISCAL YEAR ENDED JUNE 30, 2021



Years	Domestic Fixed Income	Developing Mgrs & TIPS	High Yield & Bank Loans & OFI	US Equity	Emerging Market	Int'l Equity	Private Equity	Private Equity - Real Estate & Infrastructure
6/30/2012	24.81	2.46	6.00	37.79	4.48	19.03	3.28	2.15
6/30/2013	20.01	3.91	5.60	42.90	4.56	17.59	3.04	2.39
6/30/2014	16.69	3.38	6.19	44.72	4.67	18.27	3.25	2.83
6/30/2015	20.67	3.16	5.48	40.15	4.94	17.06	4.07	4.47
6/30/2016	19.50	5.00	5.50	37.00	5.00	17.00	4.97	6.03
6/30/2017	20.37	4.81	6.00	36.49	7.98	12.76	5.01	6.58
6/30/2018	22.87	4.73	7.11	30.74	7.54	14.24	5.91	6.86
6/30/2019	20.99	4.69	6.42	32.12	6.97	14.92	6.55	7.34
6/30/2020	21.78	4.20	7.49	32.42	6.17	13.59	6.70	7.65
6/30/2021	17.17	4.97	10.03	33.15	6.02	13.23	8.19	7.24

# NYC BOARD OF EDUCATION RETIREMENT SYSTEM ASSET ALLOCATION

June 30, 2012 – June 30, 2021



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## LIST OF 50 LARGEST EQUITY HOLDINGS (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

	NAME OF EQUITY SECURITIES	COST	FAIR VALUE
1	APPLE INC COMMON STOCK USD.00001	\$ 44,113,790	\$ 137,975,421
2	MICROSOFT CORP COMMON STOCK USD.00000625	50,020,842	135,223,799
3	AMAZON.COM INC COMMON STOCK USD.01	46,343,120	101,828,736
4	FACEBOOK INC CLASS A COMMON STOCK USD.000006	28,209,508	56,976,108
5	ALPHABET INC CL A COMMON STOCK USD.001	23,978,932	52,132,217
6	LASALLE US REALTY	38,586,511	50,526,220
7	ALPHABET INC CL C COMMON STOCK USD.001	21,738,132	49,707,845
8	OAK HILL CTR ST PARTNERSHIP LIMITED PARTNERSHIP	27,307,692	43,102,931
9	MESIROW FINANCIAL PR EQ V LIMITED PARTNERSHIP	10,229,390	39,493,231
10	TESLA INC COMMON STOCK USD.001	4,444,641	33,815,755
11	BERKSHIRE HATHAWAY INC CL B COMMON STOCK USD.0033	24,664,603	33,725,036
12	VISTA EQUITY PARTNERS FUND V LIMITED PARTNERSHIP	16,325,634	32,147,769
13	JOHNSON & JOHNSON COMMON STOCK USD1.0	24,610,909	30,891,221
14	MASTERCARD INC A COMMON STOCK USD.0001	16,475,961	30,828,565
15	NVIDIA CORP COMMON STOCK USD.001	9,067,559	30,608,626
16	JPMORGAN CHASE & CO COMMON STOCK USD1.0	21,740,671	30,281,460
17	VISA INC CLASS A SHARES COMMON STOCK USD.0001	16,692,803	29,927,791
18	UBS TRUMBULL PROPERTY FD LP LIMITED PARTNERSHIP	11,003,246	29,535,528
19	LION INDUSTRIAL TRUST	20,557,453	29,430,728
20	BROOKFIELD PREMIER RE PARTNERS	27,066,657	29,306,287
21	ASML HOLDING NV COMMON STOCK EUR.09	4,548,966	27,967,471
22	WARBURG PINCUS XII	17,415,880	27,364,388
23	SAMSUNG ELECTRONICS CO LTD COMMON STOCK KRW100.0	10,030,924	26,654,325
24	UNITEDHEALTH GROUP INC COMMON STOCK USD.01	15,531,840	26,159,143
25	IFM GLOBAL INFRASTRUCTURE (US) LP	15,803,804	25,706,816
26	TAIWAN SEMICONDUCTOR MANUFAC COMMON STOCK TWD10.	19,403,051	25,062,820
27	TENCENT HOLDINGS LTD COMMON STOCK HKD.00002	16,739,001	24,394,165
28	MARATHON CTR ST PARTNERSHIP B	20,830,860	24,198,450
29	CARLYLE PARTNERS VI LIMITED PARTNERSHIP	11,337,857	23,945,594
30	WALT DISNEY CO/THE COMMON STOCK USD.01	13,939,873	23,760,764
31	VISTA EQUITY PARTNERS VI, L.P. LIMITED PARTNERSHIP	13,629,687	23,137,661
32	HOME DEPOT INC COMMON STOCK USD.05	12,337,454	22,139,257
33	PAYPAL HOLDINGS INC COMMON STOCK USD.0001	6,337,321	22,073,197
34	KKR AMERICAS FUND XII LP LIMITED PARTNERSHIP	11,638,267	21,891,266
35	ADOBE INC COMMON STOCK USD.0001	8,567,970	21,500,601
36	PROCTER & GAMBLE CO/THE COMMON STOCK	13,186,438	21,305,717
37	USAA EAGLE RE FUND	19,324,567	20,981,204
38	CVC CAPITAL PARTNERS VI LIMITED PARTNERSHIP	10,860,389	20,959,351
39	APAX IX USD L.P. PARTNERSHIP	9,976,168	20,760,665
40	BANK OF AMERICA CORP COMMON STOCK USD.01	15,229,918	20,450,451
41	ZALANDO SE COMMON STOCK	6,676,862	20,141,718
42	METLIFE CORE PROPERTY FUND LIMITED PARTNERSHIP	15,000,000	19,143,720
43	M3 INC COMMON STOCK	2,524,294	18,564,143
44	ADYEN NV COMMON STOCK EUR.01	8,939,353	18,514,764
45	AFL CIO HOUSING INV TRUST	17,756,432	18,335,478
46	MEITUAN CLASS B COMMON STOCK USD.00001	7,455,176	17,254,736
47	SPOTIFY TECHNOLOGY SA COMMON STOCK EUR.000625	10,050,204	16,815,399
48	ALIBABA GROUP HOLDING SP ADR ADR USD.000025	16,722,901	16,784,215
49	COMCAST CORP CLASS A COMMON STOCK USD.01	10,446,190	16,757,152
50	SALESFORCE.COM INC COMMON STOCK USD.001	8,777,061	16,351,922

NOTE: Full listing of holdings can be obtained at  
NYC Board of Education Retirement System  
55 Water Street, 50th Floor, New York, NY 10041

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## LIST OF 50 LARGEST DEBT SECURITIES HOLDING (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

	INTEREST RATE	MATURITY DATE	PAR VALUE	FAIR VALUE
1 FNMA TBA 30 YR 2.5 SINGLE FAMILY MORTGAGE	2.50%	7/14/2051	\$ 66,918,084	\$ 66,901,324
2 GNMA II TBA 30 YR 3 JUMBOS	3.00%	7/21/2051	35,468,972	35,477,291
3 FNMA TBA 30 YR 2 SINGLE FAMILY MORTGAGE	2.00%	7/14/2051	33,771,022	33,822,932
4 US TREASURY N/B 05/29 2.375	2.38%	5/15/2029	23,602,955	23,875,088
5 GNMA II TBA 30 YR 2.5 JUMBOS	2.50%	7/21/2051	17,034,459	17,057,475
6 GNMA II TBA 30 YR 2 JUMBOS	2.00%	7/21/2051	16,289,602	16,331,704
7 US TREASURY N/B 08/48 3	3.00%	8/15/2048	13,048,939	15,103,847
8 US TREASURY N/B 02/47 3	3.00%	2/15/2047	14,306,824	13,958,648
9 US TREASURY N/B 08/28 2.875	2.88%	8/15/2028	12,905,849	13,512,623
10 US TREASURY N/B 05/40 1.125	1.13%	5/15/2040	13,784,939	13,018,262
11 TSY INFL IX N/B 07/23 0.375	0.38%	7/15/2023	11,782,476	12,314,944
12 TSY INFL IX N/B 01/24 0.625	0.63%	1/15/2024	10,944,507	11,509,381
13 TSY INFL IX N/B 07/25 0.375	0.38%	7/15/2025	10,364,950	11,426,245
14 TSY INFL IX N/B 01/31 0.125	0.13%	1/15/2031	11,244,572	11,229,274
15 TSY INFL IX N/B 01/23 0.125	0.13%	1/15/2023	10,487,959	10,936,530
16 US TREASURY N/B 02/27 2.25	2.25%	2/15/2027	10,453,596	10,901,658
17 TSY INFL IX N/B 01/25 0.25	0.25%	1/15/2025	9,358,380	9,964,427
18 US TREASURY N/B 02/50 2	2.00%	2/15/2050	10,388,013	9,907,706
19 TSY INFL IX N/B 01/28 0.5	0.50%	1/15/2028	8,628,650	9,827,250
20 TSY INFL IX N/B 07/24 0.125	0.13%	7/15/2024	9,118,985	9,761,832
21 US TREASURY N/B 08/26 1.5	1.50%	8/15/2026	9,440,566	9,524,633
22 TSY INFL IX N/B 07/30 0.125	0.13%	7/15/2030	9,583,664	9,522,690
23 TSY INFL IX N/B 07/22 0.125	0.13%	7/15/2022	9,213,922	9,406,474
24 TSY INFL IX N/B 10/25 0.125	0.13%	10/15/2025	9,118,949	9,181,230
25 US TREASURY N/B 11/23 2.75	2.75%	11/15/2023	9,152,911	8,987,730
26 TSY INFL IX N/B 04/23 0.625	0.63%	4/15/2023	8,204,464	8,739,773
27 TSY INFL IX N/B 01/30 0.125	0.13%	1/15/2030	8,319,010	8,736,207
28 US TREASURY N/B 02/24 0.125	0.13%	2/15/2024	8,737,250	8,728,425
29 FNMA TBA 15 YR 1.5 SINGLE FAMILY MORTGAGE	1.50%	7/19/2036	8,478,225	8,474,907
30 US TREASURY N/B 02/31 1.125	1.13%	2/15/2031	8,374,686	8,470,056
31 TSY INFL IX N/B 07/28 0.75	0.75%	7/15/2028	7,069,320	8,137,033
32 TSY INFL IX N/B 01/26 0.625	0.63%	1/15/2026	7,485,854	8,125,032
33 TSY INFL IX N/B 01/29 0.875	0.88%	1/15/2029	7,179,812	8,091,256
34 TSY INFL IX N/B 01/25 2.375	2.38%	1/15/2025	7,726,636	7,909,752
35 BANK OF AMERICA CORP SR UNSECURED 07/30 VAR	3.19%	7/23/2030	7,772,663	7,896,568
36 TSY INFL IX N/B 07/27 0.375	0.38%	7/15/2027	6,989,469	7,879,557
37 FNMA POOL MA4079 FN 07/50 FIXED 3	3.00%	7/1/2050	7,889,768	7,826,462
38 TSY INFL IX N/B 01/27 0.375	0.38%	1/15/2027	6,782,946	7,544,916
39 TSY INFL IX N/B 07/26 0.125	0.13%	7/15/2026	6,825,366	7,521,666
40 US TREASURY N/B 01/28 0.75	0.75%	1/31/2028	7,447,638	7,472,073
41 TSY INFL IX N/B 10/24 0.125	0.13%	10/15/2024	7,015,112	7,457,258
42 TSY INFL IX N/B 04/26 0.125	0.13%	4/15/2026	7,442,871	7,420,137
43 FNMA POOL FM6043 FN 06/49 FIXED VAR	3.50%	6/1/2049	7,401,405	7,366,739
44 TSY INFL IX N/B 07/29 0.25	0.25%	7/15/2029	6,534,825	7,227,706
45 TSY INFL IX N/B 04/25 0.125	0.13%	4/15/2025	6,899,315	7,139,417
46 TSY INFL IX N/B 04/24 0.5	0.50%	4/15/2024	6,662,043	7,131,057
47 GNMA II TBA 30 YR 3.5 JUMBOS	3.50%	7/21/2051	7,064,626	7,036,474
48 JPMORGAN CHASE & CO SR UNSECURED 02/32 VAR	1.95%	2/4/2032	7,024,908	6,963,504
49 TSY INFL IX N/B 02/44 1.375	1.38%	2/15/2044	5,528,560	6,950,319
50 FED HM LN PC POOL SD0495 FR 09/50 FIXED 3	3.00%	9/1/2050	6,687,025	6,634,599

NOTE: Full listing of holdings can be obtained at  
NYC Board of Education Retirement System  
55 Water Street, 50th Floor, New York, NY 10041

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/21 (in \$)	MANAGEMENT FEES (in \$)
Actis Energy 4	Alternative Investment - Infrastructure	8,475,270	181,134
Ardian Infra Fund V	Alternative Investment - Infrastructure	1,869,245	146,088
ASF VII Infrastructure B	Alternative Investment - Infrastructure	8,188,622	152,364
Axiom Infrastructure Canada II Class E	Alternative Investment - Infrastructure	8,300,497	3,171
Axiom Infrastructure US II Class A	Alternative Investment - Infrastructure	4,905,629	26,514
BIF IV Co-Invest Snow	Alternative Investment - Infrastructure	2,210,603	266
Brookfield Infra Fund III Co-Invest	Alternative Investment - Infrastructure	2,357,953	557
Brookfield Infra Fund IV-B	Alternative Investment - Infrastructure	10,933,881	211,104
Brookfield Infrastructure Fund II	Alternative Investment - Infrastructure	10,990,675	259,030
Brookfield Infrastructure Fund III	Alternative Investment - Infrastructure	6,242,764	63,186
EIG Energy Ptrns Glbl Private Debt FD A	Alternative Investment - Infrastructure	3,564,374	46,417
EQT Infra Fund IV	Alternative Investment - Infrastructure	12,266,836	463,636
EQT Infra IV Co-Inv Saber	Alternative Investment - Infrastructure	1,781,010	3,470
EQT Infrastructure III	Alternative Investment - Infrastructure	12,675,745	131,656
Global Energy & Power Infra Fund II	Alternative Investment - Infrastructure	8,743,480	327,412
Global Energy & Power Infra Fund III	Alternative Investment - Infrastructure	6,026,315	6,508
Global Infra Partners IV-A/B	Alternative Investment - Infrastructure	2,354,796	313,843
Global Infrastructure Partners III	Alternative Investment - Infrastructure	10,742,572	154,911
IFM Global Infrastructure	Alternative Investment - Infrastructure	25,706,816	264,200
KKR Global Infrastructure Investors II	Alternative Investment - Infrastructure	13,247,289	217,619
KKR Global Infrastructure Investors III	Alternative Investment - Infrastructure	5,977,602	192,572
Stonepeak Infrastructure Fund IV	Alternative Investment - Infrastructure	-	393,860
KKR NYC Credit C	Alternative Investment - OFI	7,135,283	104,278
Marathon Centre Street Partnership	Alternative Investment - OFI	24,198,450	90,807
Oak Hill Centre Street Partnership	Alternative Investment - OFI	43,872,167	208,999
American Securities Partners VII	Alternative Investment - Private Equity	8,472,387	69,406
Apax IX USD	Alternative Investment - Private Equity	20,760,665	200,732
Apax X USD	Alternative Investment - Private Equity	2,852,367	272,190
Apollo Investment Fund IX	Alternative Investment - Private Equity	16,349,674	523,978
Apollo Investment Fund VIII	Alternative Investment - Private Equity	17,488,767	184,454
Ares Corporate Opportunities Fund V	Alternative Investment - Private Equity	9,218,296	96,598
ASF VI B	Alternative Investment - Private Equity	2,070,994	88,017
ASF VI B NYC Co-Invest	Alternative Investment - Private Equity	1,701,226	10,411
ASF VII B	Alternative Investment - Private Equity	5,053,133	57,498
ASF VII B NYC Co-Invest	Alternative Investment - Private Equity	3,296,836	4,978
ASF VIII B	Alternative Investment - Private Equity	6,522,297	255,334
ASF VIII B Co-Invest	Alternative Investment - Private Equity	1,792,878	8,577
BC European Capital X	Alternative Investment - Private Equity	14,577,723	144,750
BC European Capital X SideCar	Alternative Investment - Private Equity	8,518,927	3,664
Bridgepoint Europe V	Alternative Investment - Private Equity	9,923,992	67,525
Bridgepoint Europe V Co-Invest	Alternative Investment - Private Equity	3,349,206	690
Bridgepoint Europe VI	Alternative Investment - Private Equity	7,599,598	259,407
Bridgepoint Europe VI Co-Invest	Alternative Investment - Private Equity	2,415,557	22,677
Carlyle Partners VI	Alternative Investment - Private Equity	23,945,599	672,566
Carlyle Partners VI SideCar	Alternative Investment - Private Equity	2,547,147	(197)
Centerbridge Capital Partners III	Alternative Investment - Private Equity	2,722,920	194,954
Clearlake Capital Partners VI	Alternative Investment - Private Equity	5,408,099	152,550
Crestview Partners III	Alternative Investment - Private Equity	11,450,243	139,556
Crestview Partners III SideCar	Alternative Investment - Private Equity	5,614,634	8,865
Crestview Partners IV	Alternative Investment - Private Equity	1,878,015	128,731
Crestview Partners IV SideCar	Alternative Investment - Private Equity	694,296	20,402
CVC Capital Partners VI	Alternative Investment - Private Equity	21,479,212	150,528
CVC Capital Partners VII	Alternative Investment - Private Equity	15,722,333	351,380
EQT IX Co-Invest	Alternative Investment - Private Equity	3,429,198	55,586
EQT IX USD	Alternative Investment - Private Equity	6,876,449	231,925
EQT VII (No.2)	Alternative Investment - Private Equity	20,028,426	1,018,643
EQT VIII	Alternative Investment - Private Equity	14,436,213	223,889
EQT VIII Co-Invest	Alternative Investment - Private Equity	3,710,952	17,762
FTV V	Alternative Investment - Private Equity	7,628,428	66,768
FTV VI	Alternative Investment - Private Equity	2,542,260	104,793
Grain Communications Opportunity FD III	Alternative Investment - Private Equity	225,290	36,780
Grain Fund II	Alternative Investment - Private Equity	5,601,295	116,220
Green Equity Investors VII	Alternative Investment - Private Equity	13,685,745	317,247
Heartwood Partners III	Alternative Investment - Private Equity	1,903,056	42,528
ICG Strategic Equity Co-Invest Fund IV	Alternative Investment - Private Equity	1,968,089	29,548



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/21 (in \$)	MANAGEMENT FEES (in \$)
ICG Strategic Equity Fund III	Alternative Investment - Private Equity	12,491,675	346,412
ICG Strategic Equity Fund III SideCar	Alternative Investment - Private Equity	3,230,789	13,502
ICV Partners IV	Alternative Investment - Private Equity	1,424,017	64,892
KKR Americas Fund XII	Alternative Investment - Private Equity	21,891,266	207,417
KKR Asian Fund IV	Alternative Investment - Private Equity	2,102,955	74,586
KKR Europe V	Alternative Investment - Private Equity	5,836,071	145,540
Landmark - NYC Fund I	Alternative Investment - Private Equity	4,187,331	8,691
Landmark Equity Partners XV	Alternative Investment - Private Equity	8,965,244	259,685
Lexington Capital Partners IX	Alternative Investment - Private Equity	5,628,132	223,614
Lexington Capital Partners IX SideCar	Alternative Investment - Private Equity	1,629,124	9,327
Lexington Capital Partners VIII	Alternative Investment - Private Equity	14,455,024	225,495
Lindsay Goldberg V	Alternative Investment - Private Equity	2,122,236	106,821
Mesirow Financial Private Equity Fd III	Alternative Investment - Private Equity	8,717,335	194,727
Mesirow Financial Private Equity Fund IV	Alternative Investment - Private Equity	9,476,346	112,046
Mesirow Financial Private Equity Fund V	Alternative Investment - Private Equity	39,493,231	53,115
Mill City Fund II	Alternative Investment - Private Equity	1,401,707	20,253
New Mainstream Capital II	Alternative Investment - Private Equity	821,279	28,831
New York Fairview Private Equity Fund	Alternative Investment - Private Equity	2,783,418	82,864
NMS Fund III	Alternative Investment - Private Equity	1,890,855	38,342
One Rock Capital Partners III	Alternative Investment - Private Equity	4,864,234	290,858
Palladium V	Alternative Investment - Private Equity	5,681,354	175,254
Patriot Financial Partners II	Alternative Investment - Private Equity	2,265,904	57,704
Patriot Partners III	Alternative Investment - Private Equity	2,637,032	55,702
Platinum Equity Partners III	Alternative Investment - Private Equity	4,222,966	1,032,417
Platinum Equity Partners IV	Alternative Investment - Private Equity	12,636,291	245,718
Platinum Equity Partners IV SideCar	Alternative Investment - Private Equity	1,308,573	648
Platinum Equity Small Cap Fund I	Alternative Investment - Private Equity	4,827,000	11,424
Raine Partners II	Alternative Investment - Private Equity	8,101,900	357,791
Raine Partners III	Alternative Investment - Private Equity	5,938,263	266,251
Reverence Capital II	Alternative Investment - Private Equity	1,700,399	61,098
Reverence Capital II SideCar	Alternative Investment - Private Equity	922,675	826
Siris Partners III	Alternative Investment - Private Equity	2,528,744	56,308
Siris Partners IV	Alternative Investment - Private Equity	5,757,065	110,397
Stellex Capital Partners	Alternative Investment - Private Equity	2,302,317	42,694
Valor Equity Partners III	Alternative Investment - Private Equity	6,218,989	30,401
Valor Equity Partners IV	Alternative Investment - Private Equity	8,136,398	79,180
Valor Equity Partners V	Alternative Investment - Private Equity	2,035,416	144,649
Vista Equity Partners V	Alternative Investment - Private Equity	32,147,769	257,059
Vista Equity Partners VI	Alternative Investment - Private Equity	23,137,664	1,694,349
Vista Equity Partners VII	Alternative Investment - Private Equity	13,687,181	333,023
Vistria Fund III	Alternative Investment - Private Equity	2,143,733	46,855
Warburg Pincus Financial Sector Fund	Alternative Investment - Private Equity	13,485,511	173,132
Warburg Pincus Global Growth	Alternative Investment - Private Equity	10,844,666	286,976
Warburg Pincus XI	Alternative Investment - Private Equity	14,134,180	331,819
Warburg Pincus XII	Alternative Investment - Private Equity	27,783,639	674,973
Webster Capital III	Alternative Investment - Private Equity	2,112,510	184,815
Welsh Carson Anderson & Stowe XII	Alternative Investment - Private Equity	13,374,816	720,013
Welsh Carson Anderson & Stowe XIII	Alternative Investment - Private Equity	2,593,685	263,354
Aermont Capital Real Estate Fund IV	Alternative Investment - Real Estate	2,578,067.02	133,567
Almanac Realty Securities VIII	Alternative Investment - Real Estate	3,135,214.24	130,561
Almanac Realty Securities VIII SideCar	Alternative Investment - Real Estate	2,434,039	10,284
Artemis Co-Investment	Alternative Investment - Real Estate	11,348,375	118,695
Artemis Income & Growth	Alternative Investment - Real Estate	4,067,243	22,683
Blackstone RE Partners Europe IV	Alternative Investment - Real Estate	9,499,451	124,539
Blackstone RE PTNRS IX	Alternative Investment - Real Estate	7,542,660	235,895
Blackstone Real Estate Partners VIII	Alternative Investment - Real Estate	12,117,754	890,406
Brookfield Premier Real Estate Partners	Alternative Investment - Real Estate	29,306,287.13	303,741
Brookfield Strategic RE Partners I	Alternative Investment - Real Estate	4,969,761.86	96,346
Brookfield Strategic RE Partners III	Alternative Investment - Real Estate	7,499,954	127,809
Carlyle Realty Partners VII	Alternative Investment - Real Estate	8,434,808	407,662
Cortland Growth and Income	Alternative Investment - Real Estate	10,645,778.03	51,958
DivcoWest Fund V	Alternative Investment - Real Estate	7,032,467.20	273,589
Divcowest Fund VI-A	Alternative Investment - Real Estate	1,118,439	331,161
DRA Growth and Income Fund IX	Alternative Investment - Real Estate	8,558,969	164,855
EPISO IV	Alternative Investment - Real Estate	10,580,710	219,198

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/21 (in \$)	MANAGEMENT FEES (in \$)
Exeter Core Industrial Club Fund II	Alternative Investment - Real Estate	12,425,513.39	88,164
Exeter Industrial Core Fund III	Alternative Investment - Real Estate	7,125,670.92	22,111
Exeter Industrial Value Fund IV	Alternative Investment - Real Estate	13,241,932	112,148
Exeter Industrial Value Fund V	Alternative Investment - Real Estate	1,912,986	30,948
Franklin Templeton Private RE FoF	Alternative Investment - Real Estate	880,982	84,025
GreenOak Asia USD III	Alternative Investment - Real Estate	3,378,235.57	193,656
H/2 Special Opportunities III	Alternative Investment - Real Estate	4,293,747.19	114,622
H/2 Special Opportunities IV	Alternative Investment - Real Estate	11,370,030.00	126,801
Harrison St Core Prop SideCar	Alternative Investment - Real Estate	3,423,778.82	14,173
Harrison Street Core Prop Fd	Alternative Investment - Real Estate	10,967,744	87,710
Heitman Capital Management LLC	Alternative Investment - Real Estate	12,100,432	64,793
Jamestown Premier Property Fund	Alternative Investment - Real Estate	5,202,644	84,584
KKR RE Security Dislocation Opp ColInvest	Alternative Investment - Real Estate	2,576,069	3,645
KKR Real Estate Credit Opp Prtmrs Agg I	Alternative Investment - Real Estate	10,734,491.72	161,572
KKR Real Estate Partners Americas II	Alternative Investment - Real Estate	7,491,639.81	143,973
KKR Real Estate Partners Europe II USD	Alternative Investment - Real Estate	314,540.00	87,787
LaSalle Property Fund	Alternative Investment - Real Estate	50,526,220.66	408,806
Lion Industrial Trust	Alternative Investment - Real Estate	29,430,728	174,865
Lone Star Real Estate Fund V	Alternative Investment - Real Estate	3,363,342.02	12,781
Mesirow Financial Real Estate Value IV	Alternative Investment - Real Estate	1,666,666.67	6,575
MetLife Core Property Fund	Alternative Investment - Real Estate	19,143,720	120,232
NYC Asset 1 - Vanbarton (fka Emmes)	Alternative Investment - Real Estate	7,035,683.51	348,696
NYC Asset 2 - Related (fka Sandy)	Alternative Investment - Real Estate	7,733,867	114,911
NYC Asset 3 - Hudson	Alternative Investment - Real Estate	6,002,928.04	65,380
Pramerica Real Estate VI	Alternative Investment - Real Estate	5,774,991.67	101,520
PW Real Estate Fund III	Alternative Investment - Real Estate	12,374,059.14	88,127
Rialto Real Estate Fund IV - Debt	Alternative Investment - Real Estate	4,257,645	641,276
UBS Trumbull Property Fund	Alternative Investment - Real Estate	29,535,528	235,763
USAA Eagle Real Estate Feeder 1	Alternative Investment - Real Estate	20,981,204	139,599
Westbrook Fund XI	Alternative Investment - Real Estate	989,989.16	207,622
Westbrook Real Estate Fund X Co-Inv	Alternative Investment - Real Estate	4,993,267.13	130,080
RBC Access MBS	CTF - Fixed Income - Mortgage	10,597,857	18,964
Barings-Bank Loans	CTF - Fixed Income - Other	512,608	125,638
BlackRock-US SC R2000 Growth	CTF-Domestic Equity	28,950	1
BlackRock-US SC R2000 Value	CTF-Domestic Equity	88,964,386	3,195
Acadian-EM	CTF-International Equity	99,303	249,265
Acadian-WorldxUS SCC	CTF-International Equity	148,507	66,860
BlackRock MSCI-EM Core	CTF-International Equity	2,100,103	22,265
Sprucegrove-WorldxUS LMCC	CTF-International Equity	926,776	333,205
Altravue-US SCV - Legato	Domestic Equity	3,266,059	14,540
Ballast-US SCV - Legato	Domestic Equity	1,760,848	1,440
BlackRock-US LMC R1000 Core	Domestic Equity	1,717,420,573	33,175
Bowling-US SCV - Legato	Domestic Equity	-	1,996
Bridge City-US SCG - Legato	Domestic Equity	2,116,809	11,973
Dean-US SCV - Legato	Domestic Equity	3,892,548	21,107
Essex-US SCG - Legato	Domestic Equity	2,803,865	14,703
Legato Transition-US	Domestic Equity	149	1,148
Lisanti-US SCG - Legato	Domestic Equity	3,098,883	16,270
Nicholas Investment-US SCG - Legato	Domestic Equity	1,028,726	808
SSGA-US LMC RTOP200 Core	Domestic Equity	680,662,584	31,691
Wasatch-US SCG	Domestic Equity	111,364,318	1,097,203
Wellington-US MCC	Domestic Equity	272,402,644	1,570,679
SSGA-IT Treasury 1-10Y	Fixed Income - Government	227,084,129	23,194
SSGA-LI Treasury	Fixed Income - Government	137,743,916	99,822
SSGA-LT Treasury 10Y Plus	Fixed Income - Government	59,707,722	1,439
SSGA-ST Treasury 1-3Y	Fixed Income - Government	147,522,055	13,087
AFL-CIO Housing Investment Trust	Fixed Income - Mortgage	18,335,478	58,098
BlackRock-Mortgages	Fixed Income - Mortgage	371,530,505	148,243
Mackay Shields-High Yield	Fixed Income - Other	388,817,259	742,719
Nomura-High Yield	Fixed Income - Other	391,686,154	851,702
Prudential-Credit	Fixed Income - Other	290,617	71,928
Pugh-CorePlus	Fixed Income - Other	128,447,052	231,893
T Rowe Price-Credit	Fixed Income - Other	437,655,549	148,829
Taplin-Credit	Fixed Income - Other	-	76,318
SSGA-TIPS	Fixed Income - TIPS	305,218,828	14,841

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
 QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM**

**SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED)  
 FISCAL YEAR ENDED JUNE 30, 2021**

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/21 (in \$)	MANAGEMENT FEES (in \$)
Acadian-EM	International Equity	363,934,624	853,202
Acadian-WorldxUS SCC	International Equity	110,388,731	233,094
Algert-EAFE SCC	International Equity	35,617,261	110,428
ARGA-WorldxUS LMCV - Xponance	International Equity	13,019,630	41,536
Ativo-EAFE ACG - Xponance	International Equity	30,806	1,349
Aubrey-EM ACG - Xponance	International Equity	13,061,646	66,378
Baillie Gifford-WorldxUS LMCC	International Equity	370,615,404	909,141
Change Global-EM ACV - Xponance	International Equity	6,770	15,774
Denali-EAFE ACV - Xponance	International Equity	24,497	764
Dundas-EAFE ACG - Xponance	International Equity	9,296,868	52,606
Fiera-Global	International Equity	83,945,849	413,291
Foresight-EAFE LMCV - Xponance	International Equity	10,687,921	44,162
JP Morgan AM-EM ACG	International Equity	158,687,006	356,562
Martin-EAFE ACG - Xponance	International Equity	9,710,414	42,503
Metis-EAFE ACV - Xponance	International Equity	9,480	399
Morgan Stanley-Global	International Equity	96,605,450	442,560
North of South-EM ACV - Xponance	International Equity	10,055,540	8,532
Osmosis-EAFE ACV - Xponance	International Equity	9,912,703	45,343
Redwood-EAFE ACG - Xponance	International Equity	8,341,367	37,018
Sprucegrove-WorldxUS LMCC	International Equity	369,842,955	375,768
Xponance Transition-WorldxUS	International Equity	1,082	25,074

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (in \$)	COMMISSION PER SHARE (in \$)
ABEL NOSER	16,390	820	0.0500
ABN AMRO CLEARING BANK N.V.	30,485	590	0.0194
ACTINVER CASA DE BOLSA SA DE CV	31,407	142	0.0045
ALLEN & COMPANY LLC	9,260	278	0.0300
APEX CLEARING CORPORATION	804	24	0.0300
ARQAAM CAPITAL LIMITED	48,193	106	0.0022
ARQAAM SECURITIES LLC	107,967	210	0.0019
AUTREPAT-DIV RE	2,146	48	0.0224
BANCO ITAU SA	196,610	2,370	0.0121
BANCO PACTUAL S.A.	8,100	36	0.0044
BANCO SANTANDER (BRASIL) S.A.	41,300	132	0.0032
BANCO SANTANDER CENTRAL HISPANO	55,378	301	0.0054
BANCO SANTANDER MEXICANO, S.A.	85,694	187	0.0022
BANCROFT CAPITAL LLC	1,500	30	0.0200
BANK OF AMERICA CORPORATION	41,215	146	0.0035
BANQUE PICTET ET CIE SA	22,079	184	0.0083
BARCLAYS CAPITAL	3,785	43	0.0112
BARCLAYS CAPITAL INC./LE	51,289	381	0.0074
BARCLAYS CAPITAL LE	69,161	1,561	0.0226
BARRINGTON RESEARCH ASSOCIATES	590	21	0.0348
BCS PRIME BROKERAGE LTD	1,192	14	0.0121
BERENBERG CAPITAL MARKETS LLC	948	28	0.0300
BERNSTEIN AUTONOMOUS LLP	88,578	1,598	0.0180
BHF-BANK AKTIENGESELLSCHAFT	381	11	0.0300
BMO CAPITAL MARKETS	83,162	2,783	0.0335
BNP PARIBAS PRIME BROKERAGE, INC.	13,910	111	0.0080
BNP PARIBAS SECURITIES (ASIA) LTD.	1,541,800	982	0.0006
BNP PARIBAS SECURITIES SERVICES	72,935	1,311	0.0180
BNP PARIBAS SECURITIES SERVICES SA	48,536	1,133	0.0233
BOFA SECURITIES, INC	858,172	2,409	0.0028
BOFA SECURITIES, INC.	2,606,940	20,807	0.0080
BRADESCO S.A. CTVM	2,358,714	5,515	0.0023
BTIG, LLC	108,829	3,178	0.0292
CABRERA CAPITAL MARKETS	42,477	181	0.0043
CANACCORD GENUITY INC.	25,482	822	0.0323
CANTOR CLEARING SERVICES	59	1	0.0200
CANTOR FITZGERALD & CO.	451,538	3,499	0.0077
CARNEGIE A S	1,550	107	0.0693
CASTLEOAK SECURITIES LP	130	3	0.0200
CGS-CIMB SECURITIES (HONG KONG) LTD	149,360	202	0.0014
CHINA INTERNATIONAL CAPITAL CO	430,452	660	0.0015
CIBC WORLD MARKETS INC	143	1	0.0075
CIBC WORLD MKTS INC	459	11	0.0236
CIMB SECURITIES LTD., KOREA BRANCH	1,061	136	0.1282
CIMB-GK SECURITIES PTE.LTD.	320,900	801	0.0025
CITIBANK CANADA	1,025	10	0.0100

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (in \$)	COMMISSION PER SHARE (in \$)
CITIGROUP GLBL MARKET KOERA SECS L	277,829	2,091	0.0075
CITIGROUP GLOBAL MARKETS BRASIL CCT	685,038	2,538	0.0037
CITIGROUP GLOBAL MARKETS EUROPE AG	318,948	2,087	0.0065
CITIGROUP GLOBAL MARKETS INC	2,220,629	3,766	0.0017
CITIGROUP GLOBAL MARKETS INC.	13,381,740	7,566	0.0006
CITIGROUP GLOBAL MARKETS INDIA	698,286	3,905	0.0056
CITIGROUP GLOBAL MARKETS LIMITED	4,630,264	11,349	0.0025
CITIGROUP GLOBAL MARKETS TAIWAN	7,265,693	4,153	0.0006
CL SECURITIES TAIWAN COMPANY LIMITE	785,000	6,313	0.0080
CLSA AMERICAS	1,124	6	0.0050
CLSA AUSTRALIA PTY LTD	107,183	62	0.0006
CLSA SECURITIES KOREA LTD.	115,675	719	0.0062
CLSA SECURITIES MALAYSIA SDN BHD	158,000	24	0.0002
CLSA SINGAPORE PTE LTD.	3,592,915	5,747	0.0016
CONCORDIA SA CVMCC	51,900	220	0.0042
CORNERSTONE MACRO LLC	11,084	313	0.0283
COWEN AND COMPANY, LLC	139,263	2,767	0.0199
COWEN EXECUTION SERVICES LLC	285,945	7,179	0.0251
CRAIG-HALLUM	17,671	774	0.0438
CREDIT LYONNAIS SECURITIES INDIA	914,197	6,779	0.0074
CREDIT LYONNAIS SECURITIES(ASIA)	26,968,970	12,582	0.0005
CREDIT SUISSE FIRST BOSTON	22,000	473	0.0215
CREDIT SUISSE FIRST BOSTON (EUROPE)	243	57	0.2334
CREDIT SUISSE SECURITIES (EUROPE) L	8,331	3,123	0.3749
CREDIT SUISSE SECURITIES (USA) LLC	1,116,382	6,905	0.0062
CREDIT SUISSE SECURITIES CANADA INC	27,463	219	0.0080
CS FIRST BOSTON (HONG KONG) LIMITED	1,004,426	4,581	0.0046
CUTTONE & CO. INC.	1,300	13	0.0100
DAIWA CAPITAL MARKETS AMERICA INC.	60,700	2,336	0.0385
DAIWA SECURITIES (HK) LTD.	134,500	152	0.0011
DAIWA SECURITIES COMPANY LTD	7,986	306	0.0383
DANSKE BANK A.S.	91,382	614	0.0067
DAVIDSON D.A. & COMPANY INC.	4,458	126	0.0282
DOUGHERTY & COMPANY LLC	4,766	191	0.0400
DSP MERRILL LYNCH LTD	190,645	577	0.0030
EDELWEISS SECURITIES PVT. LTD	111,371	1,712	0.0154
ERSTE BANK BEFEKTETESI RT.	991	63	0.0637
EVERCORE ISI	32,564	568	0.0174
EXANE S.A.	9,181	1,081	0.1178
FIDELITY CAPITAL MARKETS	1,987	41	0.0206
FIDELITY CLEARING CANADA ULC	1,633	31	0.0191
FLOW CORRETORA DE MERCADORIAS LTDA.	376,349	1,014	0.0027
GK GOH OMETRACO PT	6,961,600	681	0.0001
GOLDMAN SACHS (ASIA) L.L.C.	2,586,626	2,199	0.0009
GOLDMAN SACHS (ASIA) LLC	422,000	4,085	0.0097

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (in \$)	COMMISSION PER SHARE (in \$)
GOLDMAN SACHS (INDIA)	597,908	3,062	0.0051
GOLDMAN SACHS & CO INTL.	6,100	22	0.0037
GOLDMAN SACHS & CO LLC	18,825,155	27,103	0.0014
GOLDMAN SACHS DO BRASIL CORRETORA	218,781	1,633	0.0075
GOLDMAN SACHS INTERNATIONAL	962,978	10,289	0.0107
GUGGENHEIM CAPITAL MARKETS LLC	691	21	0.0300
GUZMAN & CO	20,241	40	0.0020
HAITONG INTERNATIONAL SECURITIES CO	6,500	61	0.0094
HANWHA SECURITIES SEOUL	2,902	78	0.0268
HEIGHT SECURITIES, LLC	1,477	30	0.0200
HILLTOP SECURITIES INC	163,890	5,554	0.0339
HONGKONG AND SHANGHAI BANKING CORPO	831,398	3,765	0.0045
HSBC BANK PLC	2,988,988	5,446	0.0018
HSBC BANK USA	2,691	19	0.0070
HSBC BROKERAGE (USA) INC.	534	3	0.0050
HSBC SECURITIES (USA) INC.	36,453,088	12,270	0.0003
HSBC SECURITIES INDIA HOLDINGS	1,650,170	3,507	0.0021
ICICI BROKERAGE SERVICES	1,363,577	5,717	0.0042
IM TRUST S.A. CORREDORES DE BOLSA	333,966	702	0.0021
INSTINET	55,307	868	0.0157
INSTINET AUSTRALIA CLEARING SRVC PT	260,181	408	0.0016
INSTINET EUROPE LIMITED	951	41	0.0435
INSTINET LLC	1,170,505	2,628	0.0022
INSTINET PACIFIC LIMITED	13,247,781	6,654	0.0005
INSTINET SINGAPORE SERVICES PT	285,273	97	0.0003
INSTINET U.K. LTD	4,448,327	14,635	0.0033
INVESTEC BANK PLC	480	7	0.0147
INVESTMENT TECHNOLOGY GROUP INC.	89,383	2,204	0.0247
IS YATIRIM MENKUL DEGERLER AS	8,172	87	0.0106
ITG AUSTRALIA LTD.	163,703	506	0.0031
ITG INC	4,639	26	0.0057
ITG SECURITIES (HK) LTD	452,000	457	0.0010
J P MORGAN INDIA PRIVATE LTD	730,260	2,750	0.0038
J P MORGAN SECURITIES INC	839,660	1,377	0.0016
J.P. MORGAN SECURITIES LIMITED	96,056	3,289	0.0342
J.P. MORGAN SECURITIES LLC	265,986	6,151	0.0231
J.P. MORGAN SECURITIES PLC	4,182,493	8,801	0.0021
J.P.MORGAN SECURITIES(FAR EAST)LTD	31,621	586	0.0185
JANNEY MONTGOMERY SCOTT INC.	9,796	214	0.0219
JEFFERIES HONG KONG LIMITED	380,000	2,491	0.0066
JEFFERIES INDIA PRIVATE LIMITED	20,981	385	0.0183
JEFFERIES INTERNATIONAL LTD	3,155,843	2,977	0.0009
JEFFERIES LLC	830,987	5,847	0.0070
JMP SECURITIES	32,967	659	0.0200
JOH. BERENBERG, GOSSLER & CO. KG	542,598	7,172	0.0132
JONESTRADING INSTITUTIONAL SERVICES	133,356	2,174	0.0163

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (in \$)	COMMISSION PER SHARE (in \$)
JP MORGAN SECURITIES AUSTRALIA LTD	197,647	396	0.0020
JP MORGAN SECURITIES SINGAPORE	1,406,700	664	0.0005
JPMORGAN SECURITIES(ASIA PACIFIC)LT	7,520,977	2,458	0.0003
KEEFE BRUYETTE & WOODS INC	5,126	132	0.0257
KEPLER CHEUVREUX	2,503	132	0.0528
KEYBANC CAPITAL MARKETS INC	69,239	2,303	0.0333
KOREA INVESTMENT AND SECURITIES CO.	1,796	125	0.0696
LEERINK PARTNERS LLC	29,226	697	0.0238
LIQUIDNET ASIA LIMITED	33,600	180	0.0054
LIQUIDNET EUROPE LIMITED	640	49	0.0770
LIQUIDNET INC	129,477	2,213	0.0171
LOOP CAPITAL MARKETS	1,307,210	13,343	0.0102
LUMINEX TRADING AND ANALYTICS	14,066	70	0.0050
LUMINEX TRADING AND ANALYTICS LLC	7,029	57	0.0082
MACQUARIE BANK LIMITED	1,521,789	3,585	0.0024
MACQUARIE CAPITAL (EUROPE) LTD	486	0	0.0005
MACQUARIE CAPITAL SECURITIES S	1,692,237	3,654	0.0022
MACQUARIE SECURITIES (INDIA) PVT LT	3,194	51	0.0159
MACQUARIE SECURITIES (USA) INC	1,516	65	0.0430
MACQUARIE SECURITIES KOREA LIMITED	710	67	0.0942
MACQUARIE SECURITIES LIMITED	251,000	594	0.0024
MAXIM GROUP	3,358	101	0.0300
MERRIL LYNCH CORREDORES DE BOL	27,170	1,359	0.0500
MERRILL LYNCH CANADA INC	951	29	0.0300
MERRILL LYNCH EQUITIES (AUSTRALIA)	840,280	221	0.0003
MERRILL LYNCH INTERNATIONAL	10,025,352	19,186	0.0019
MERRILL LYNCH PROFESSIONAL CLEARING	24,534	496	0.0202
MIRABAUD SECURITIES LLP	1,376	79	0.0574
MIRAE ASSET SEC USA	2,095	63	0.0300
MIRAE ASSET SECURITIES CO., LTD.	444	59	0.1321
MISCHLER FINANCIAL GROUP, INC-EQUIT	32,609	588	0.0180
MIZUHO SECURITIES USA INC	1,602	330	0.2063
MIZUHO SECURITIES USA INC.	2,866	86	0.0301
MKM PARTNERS LLC	898	28	0.0313
MORGAN STANLEY AND CO INTERNATIONAL	127,358	2,905	0.0228
MORGAN STANLEY AND CO. INTERNATIONA	2,668,233	16,098	0.0060
MORGAN STANLEY CO INCORPORATED	23,668,095	22,227	0.0009
MORGAN STANLEY INDIA COMPANY PVT LT	538,646	2,976	0.0055
MORGAN STANLEY TAIWAN LIMITED	2,881,323	4,036	0.0014
NATIONAL FINANCIAL SERVICES CORPORA	3,268	88	0.0269
NEEDHAM AND COMPANY LLC	39,673	1,244	0.0314
NESBITT BURNS	3,550	107	0.0300
NOMURA FINANCIAL ADVISORY & SEC IND	366,014	2,452	0.0067
NOMURA FINANCIAL INVESTMENT KOREA C	1,339	317	0.2368
NOMURA SECURITIES CO LTD	11,000	38	0.0035
NORTH SOUTH CAPITAL LLC	60	2	0.0400

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED) FISCAL YEAR ENDED JUNE 30, 2021

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (in \$)	COMMISSION PER SHARE (in \$)
NORTHLAND SECURITIES INC.	6,372	203	0.0319
O NEIL, WILLIAM AND CO. INC/BCC CLR	582	17	0.0300
OPPENHEIMER & CO. INC.	7,797	317	0.0407
PAREL	156,516	531	0.0034
PAVILION GLOBAL MARKETS LTD	4,899	125	0.0254
PENSERRA SECURITIES	1,375,685	26,530	0.0193
PENSERRA SECURITIES LLC	518	1	0.0019
PERSHING LIMITED	28,055	443	0.0158
PERSHING LLC	2,974,031	24,030	0.0081
PERSHING SECURITIES CANADA LIMITED	5,131	129	0.0251
PERSHING SECURITIES LIMITED	363,963	5,053	0.0139
PIPER JAFFRAY & CO.	34,749	1,319	0.0380
PIPER, JAFFRAY AND HOPWOOD	241,894	485	0.0020
R.B.C. DOMINION SECURITIES CORPORAT	5,925	178	0.0300
RAYMOND JAMES AND ASSOCIATES INC	147,856	5,794	0.0392
RAYMOND JAMES LTD	3,523	106	0.0300
RBC CAPITAL MARKETS LLC	2,666	27	0.0100
RBC CAPITAL MARKETS, LLC	183,153	2,790	0.0152
REDBURN (EUROPE) LIMITED	69,781	2,240	0.0321
RENAISSANCE CAPITAL LTD	1,122	27	0.0237
ROBERT W. BAIRD CO.INCORPORATED	177,645	5,362	0.0302
ROTH CAPITAL PARTNERS LLC	2,100	105	0.0500
ROYAL BANK OF CANADA EUROPE LTD	22,257	3,073	0.1381
SAMSUNG SECURITIES CO LTD	2,264	149	0.0657
SANFORD C BERNSTEIN CO LLC	62,212	764	0.0123
SANFORD C. BERNSTEIN AND CO. LLC	332,100	1,457	0.0044
SBI SECURITIES (HONG KONG) LIMITED	32,000	1,199	0.0375
SBICAP SECURITIES LIMITED	3,732	279	0.0748
SCOTIA CAPITAL (USA) INC	26,460	198	0.0075
SG SECURITIES (HK) LIMITED	112,199	206	0.0018
SG SECURITIES HK	135,651	262	0.0019
SHENYIN WANGUO SECURITIES (HK) LTD	419,500	1,747	0.0042
SIDCO/VIRTU AMERICAS	1,737	69	0.0400
SIDOTI & COMPANY LLC	2,501	74	0.0294
SINOPAC SECURITIES CORPORATION	47,000	152	0.0032
SMBC NIKKO CAPITAL MARKETS LIMITED	1,700	58	0.0343
SMBC SECURITIES INC	67,600	548	0.0081
SOCIETE GENERALE	412,448	1,041	0.0025
SSB CUSTODIAN	125	3	0.0200
STATE STREET GLOBAL MARKETS, LLC	5,226	157	0.0300
STEPHENS INC	30,576	938	0.0307
STIFEL NICOLAUS & CO INC	73,955	1,945	0.0263
STONEX FINANCIAL INC.	376	15	0.0400
STRATEGAS SECURITIES LLC	375	9	0.0250
SUNTRUST CAPITAL MARKETS, INC.	9,991	360	0.0361
TELSEY ADVISORY GROUP	30,634	1,420	0.0464



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
 QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM**

**SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED)  
 FISCAL YEAR ENDED JUNE 30, 2021**

<b>INDIVIDUAL OR BROKERAGE FIRM</b>	<b># OF SHARES</b>	<b>COMMISSION PAID (in \$)</b>	<b>COMMISSION PER SHARE (in \$)</b>
THE BANK OF NEW YORK MELLON	118,726	324	0.0027
UBS AG	5,990,482	24,149	0.0040
UBS AG LONDON BRANCH	171,872	1,870	0.0109
UBS SECURITIES ASIA LTD	11,068,903	5,711	0.0005
UBS SECURITIES CANADA INC	433,418	110	0.0003
UBS SECURITIES INDIA PRIVATE LTD	307,953	307	0.0010
UBS SECURITIES LLC	283,819	2,897	0.0102
UBS SECURITIES PTE.LTD	752,567	546	0.0007
UBS SECURITIES PTE.LTD., SEOUL	8,022	693	0.0863
UBS SWITZERLAND AG	18,462	140	0.0076
UOB KAY HIAN PTE LIMITED	80,000	88	0.0011
VIRTU AMERICAS	4,503	45	0.0100
VIRTU AMERICAS LLC	156,144	3,845	0.0246
VIRTU ITG EUROPE LIMITED	530,407	1,130	0.0021
VTB BANK EUROPE PLC	9,123	144	0.0158
WALL STREET ACCESS	8,636	64	0.0074
WELLS FARGO SECURITIES LLC	9,623	72	0.0074
WELLS FARGO SECURITIES, LLC	38,546	1,332	0.0346
WILLIAM BLAIR & COMPANY L.L.C	99,054	4,090	0.0413
WILLIAMS CAPITAL GROUP LP (THE)	9,982	70	0.0070
WOLFE TRAHAN SECURITIES	1,461	29	0.0200
WOOD GUNDY INC.	2,518	19	0.0075
XP INVESTIMENTOS CCTVM SA	29,700	675	0.0227
<b>TOTAL</b>		<b>565,057.38</b>	

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
 QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM**

**INVESTMENT SUMMARY (FIXED AND VARIABLE)**

**FISCAL YEAR ENDED JUNE 30, 2021**

(In thousands)

<u>Type of Investments</u>	<u>Fair Value</u>	<u>Percentages</u>
Short Term Investments	\$ 350,053	3.32 %
Debt Securities	2,585,380	24.52
Equity Securities	5,238,122	49.68
Alternative Investments	1,423,257	13.50
<b>Collective Trust Funds</b>		
Fixed Income	512	0.00
Domestic Equity	90,709	0.86
International Equity	1,964	0.02
Mortgage Debt Security	23,482	0.22
<b>Total Collective Trust Funds</b>	<b>116,667</b>	<b>1.11</b>
<b>Collateral From Securities Lending:</b>	<b>829,281</b>	<b>7.87</b>
<b>Total Investments</b>	<b>\$ 10,542,760</b>	<b>100.00 %</b>

**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

A FIDUCIARY FUND  
OF THE CITY OF NEW YORK

**ANNUAL COMPREHENSIVE FINANCIAL REPORT OF  
THE QUALIFIED PENSION PLAN  
AND THE  
TAX DEFERRED ANNUITY PROGRAM**

**ACTUARIAL SECTION  
PART IV**

**FOR THE YEARS ENDED  
JUNE 30, 2021 AND JUNE 30, 2020**

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## OFFICE OF THE ACTUARY

255 GREENWICH STREET • 9<sup>TH</sup> FLOOR  
NEW YORK, NY 10007  
(212) 442-5775 • FAX: (212) 442-5777

**SHERRY S. CHAN**  
CHIEF ACTUARY

December 1, 2021

Board of Trustees  
New York City Board of Education Retirement System  
55 Water Street, 50<sup>th</sup> floor  
New York, NY 10041

Re: Actuarial Information for the Annual Comprehensive Financial Report (ACFR) for the  
Fiscal Year Ended June 30, 2021

Dear Members of the Board of Trustees:

The financial objective of the New York City Board of Education Retirement System - Qualified Pension Plan (BERS-QPP or the Plan) is to fund members' retirement benefits during their active service by establishing 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. the June 30, 2019 (Lag) actuarial valuation is used to determine the Fiscal Year 2021 Employer Contributions (Actuarial Contributions)).

The funding policy of the City of New York (the City) is to contribute statutorily-required contributions (Statutory Contributions) and these contributions are generally funded by the City within the appropriate fiscal year.

For Fiscal Year 2021, the Actuarial Contributions to BERS, are equal to those recommended by the Actuary of the New York City Retirement Systems and Pension Funds (the Actuary) and represent the Statutory Contributions.

Pursuant to the Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB67) and Statement No. 68 (GASB68), on September 24, 2021, the Office of the Actuary published the "Fiscal Year 2021 GASB 67/68 Report for the City of New York and the New York City Retirement Systems" (the Fiscal Year 2021 GASB67/68 Report). Appendix C of the Fiscal Year 2021 GASB67/68 Report contains information developed in accordance with GASB67 for BERS.

## **Actuarial Assumptions and Methods**

The assumptions and methods used for the June 30, 2019 valuation were presented in the memorandum titled “Proposed Changes to Actuarial Assumptions and Methods (Revised 2021 A&M)” dated July 16, 2021 and were adopted by the Board of Trustees at the September 23, 2021 Board meeting. These actuarial assumptions and methods meet the parameters set forth by the Actuarial Standards of Practice (ASOPs).

## **Benefits, Financial Information, and Census Data**

The June 30, 2019 (Lag) and June 30, 2018 (Lag) actuarial valuations are based upon the census data as of those dates submitted by the Plan’s administrative staff and the employer’s payroll facilities. A summary of the census data used in the June 30, 2019 (Lag) actuarial valuation is included in this ACFR. A summary of the census data used in the June 30, 2018 (Lag) actuarial valuation of the Plan is available in the Fiscal Year 2020 Comprehensive Annual Financial Report.

Consistent with the Actuarial Standards of Practice, the Office of the Actuary has reviewed the census data and financial information for consistency and reasonability but has not audited it. The accuracy of the results and calculations presented are dependent on the accuracy of this census data and financial information. To the extent any such data or information provided is materially inaccurate or incomplete, the results contained herein will require revision.

A summary of the benefits available under the terms of the Plan is shown in the Financial Section of this ACFR. The benefits under the Plan are unchanged from the prior valuation.

## **Funded Status**

The funded status of the Plan is usually expressed by the relationship of assets to liabilities.

With respect to the funded status of the Plan, included in the Actuarial Section of the ACFR is a schedule of funded status based on the Entry Age Normal cost method (Table 11).

Also included in the Actuarial Section of the ACFR is a Solvency Test (i.e. Comparative Summary of Accrued Liabilities Funded by Actuarial Value of Assets) (Table 12), as prescribed by the Government Finance Officers Association (GFOA). This Solvency Test represents an alternative approach to describing progress toward funding objectives.

## **Presentation Style and Sources of Information**

The actuarial information herein is believed to be presented in a manner consistent with the requirements of the GFOA and, where applicable, with GASB67.

The following items in the Actuarial Section of the ACFR were prepared by the OA:

- Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2019 (Lag) Actuarial Valuation.
- Summary of Active Member Valuation Data.
- Summary of Plan Membership Data.
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls.
- Actuarial and Statutory Contribution History.
- Funded Status Based on Entry Age Normal Cost Method.
- Comparative Summary of Accrued Liabilities Funded by Actuarial Value of Assets - Solvency Test.
- Contributions.

The following items in the Financial Section of the ACFR were also prepared by the OA:

- Membership Data.
- Net Pension Liability.
- Actuarial Assumptions and Methods.
- Schedule of Changes in Employers' Net Pension Liability and Related Ratios.
- Schedule of Employer Contributions.

GASB Statement No. 98 establishes the term Annual Comprehensive Financial Report and its acronym ACFR. The new term replaces Comprehensive Annual Financial Report and its acronym in generally accepted accounting principles for state and local governments.

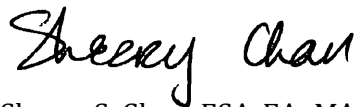
Board of Trustees  
New York City Board of Education Retirement System  
December 1, 2021  
Page 4

If you have any questions about the information in this Actuarial Section or the actuarial information presented elsewhere in this ACFR, please do not hesitate to contact Mr. Michael J. Samet, Mr. Edward Hue, or me.

### **Acknowledgement of Qualification**

I, Sherry S. Chan, am the Chief Actuary for, and independent of, the New York City Retirement Systems and Pension Funds. I am a Fellow of the Society of Actuaries, an Enrolled Actuary under the Employee Retirement Income and Security Act of 1974, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. To the best of my knowledge, the results contained herein have been prepared in accordance with generally accepted actuarial principles and procedures and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Respectfully submitted,



Sherry S. Chan, FSA, EA, MAAA, FCA  
Chief Actuary

SSC/eh

Att.

cc: Ms. Melissa Chacko – New York City Office of the Actuary  
Mr. Craig Chu – New York City Office of the Actuary  
Mr. Edward Hue – New York City Office of the Actuary  
Mr. Michael Hunter – New York City Office of the Actuary  
Mr. Sanford Rich – New York City Board of Education Retirement System  
Mr. Michael Samet – New York City Office of the Actuary  
Keith Snow, Esq. – New York City Office of the Actuary  
Ms. Chithra Subramaniam – New York City Board of Education Retirement System  
Mr. Gregory Zelikovsky - New York City Office of the Actuary



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (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.

Also, in accordance with the Administrative Code of the City of New York (ACCNY), 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.

The Actuary issued a memorandum titled, "Proposed Changes to Actuarial Assumptions and Methods (Revised 2021 A&M)" dated July 16, 2021. The actuarial assumptions and methods described in that memorandum were adopted by the Board of Trustees at the September 23, 2021 Board meeting and are referred to as the "Revised 2021 A&M." These actuarial assumptions and methods are effective beginning with Fiscal Year 2021.

2. The Actuarial Interest Rate (AIR) assumption is 7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the Variable Annuity Program).
3. Active service tables are used to estimate various withdrawals from active service. Probabilities are shown in Table 1 for members withdrawing from active service for service retirement, Table 2 for members terminating from active service, and Tables 3 and 4 for members withdrawing from active service due to disability or death, respectively. Mortality improvement scale MP-2020, published by the Society of Actuaries, is applied to probabilities of ordinary death for actives and pre-commencement mortality for terminated vesteds.
4. The service retiree mortality, disabled retiree mortality, and beneficiary mortality base tables are projected from 2012 using mortality improvement scale MP-2020. The base tables are also multiplied by adjustment factors to convert from lives-weighted to amounts-weighted tables to reflect socioeconomic effects on mortality. Base table probabilities for service and disability pensioners are shown in Tables 5a and 5b respectively, and for beneficiaries in Table 5c.
5. A salary scale is used to estimate salaries at termination, retirement, or death. Percentage increases are shown in Table 6. The salary scale includes a General Wage Increase (GWI) assumption of 3.0% per annum.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

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 assumption is 1.5% per annum for Auto COLA and 2.5% per annum for escalation.
7. The valuation assumes a closed group of members.
8. The Actuary reset the Actuarial Value of Assets (AVA) to the market value as of June 30, 2019.

Beginning with the June 30, 2020 (Lag) actuarial valuation, the Actuarial Asset Valuation Method (AAVM) recognizes investment returns greater or less than expected over a period of five years. In accordance with this AAVM, the Unexpected Investment Returns (UIR) are phased into the AVA over a five-year period at 20% per year.

The AVA is further constrained to be within a corridor of 80% to 120% of the Market Value of Assets.

Beginning with the June 30, 2018 (Lag) actuarial valuation, the Actuarial Value of Assets is determined by re-characterizing the interest credited on TDA Fixed Fund account balances as investment income instead of as a cash disbursement.

9. The Entry Age Normal (EAN) cost method of funding is used by the Plan's Actuary to calculate Employer Contributions.

Under this method, the Present Value (PV) of Future Benefits (PVFB) 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 the assumed exit age(s). The employer portion of this PVFB allocated to a valuation year is the Normal Cost. The portion of this PVFB not provided for at a valuation date by the PV of Future Normal Costs or future member contributions is the Accrued Liability (AL).

The excess, if any, of the AL over the AVA is the Unfunded Accrued Liability (UAL).

Under this method, actuarial gains and losses, as they occur, reduce and increase the UAL, respectively, and are explicitly identified and amortized. Increases or decreases in obligations due to benefit changes, actuarial assumption changes, and actuarial method changes are also explicitly identified and amortized.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

The explicit UALs that are developed under EAN each year are financed over fixed periods.

Under EAN, the Normal Cost as a percentage of pay remains constant by individual and changes gradually over time for the entire plan as the characteristics of the group changes (e.g. more Tier 6 active members decrease the average Normal Cost as a percentage of pay). A cost is added to each year's Normal Cost for providing a guaranteed 8.25% return on the TDA Fixed Fund for non-UFT members.

10. The Employer Contribution for a fiscal year is increased by the interest-adjusted amount of administrative expenses paid from BERS during the second prior fiscal year.
11. Obligations attributable to the World Trade Center (WTC) Disability Benefits Law and to the WTC Death Benefits Law are determined through estimation techniques for post-retirement reclassifications.
12. One-Year Lag Methodology (OYLM) uses a June 30, XX-2 valuation date to determine Fiscal Year XX employer contributions.

This methodology requires adjustments to certain components used to determine the Fiscal Year XX employer contributions as follows:

- a. Normal Cost

The normal cost as of June 30, XX-2 is rolled forward with the assumed AIR of 7.0% to derive the normal cost as of December 31, XX-1.

- b. UAL Payments

For determining the UAL payments for Fiscal Year XX, and to be consistent with the OYLM, the UAL as of June 30, XX-2 is adjusted by the discounted value of the employer normal cost and UAL payments paid during Fiscal Year XX-1 and the discounted value of Administrative Expenses reimbursed during Fiscal Years XX-1 and XX.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

<b>Table 1</b>					
PROBABILITIES OF SERVICE RETIREMENT					
Age	Reduced Service Retirement	Unreduced Service Retirement Probabilities For Members Who Did Not Elect an Improved Retirement Program		Unreduced Service Retirement Probabilities For Members Who Elected an Improved Retirement Program	
		Year 1	Ultimate	Year 1	Ultimate
55	2.50%	15.00%	0.00%	35.00%	0.00%
56	2.50%	15.00%	6.50%	35.00%	12.00%
57	2.50%	15.00%	6.50%	35.00%	12.00%
58	2.50%	15.00%	6.50%	35.00%	12.00%
59	3.75%	15.00%	6.50%	35.00%	12.00%
60	5.00%	15.00%	6.50%	35.00%	12.00%
61	6.25%	15.00%	10.00%	35.00%	12.00%
62	7.50% <sup>1</sup>	20.00%/15.00% <sup>2</sup>	10.00%	50.00%	20.00%
63	0.00%	15.00%/20.00% <sup>3</sup>	10.00%	35.00%	15.00%
64	0.00%	15.00%	10.00%	35.00%	15.00%
65	0.00%	20.00%	15.00%	50.00%	20.00%
66	0.00%	15.00%	10.00%	35.00%	15.00%
67	0.00%	15.00%	10.00%	35.00%	15.00%
68	0.00%	15.00%	10.00%	35.00%	15.00%
69	0.00%	15.00%	10.00%	35.00%	15.00%
70	0.00%	20.00%	20.00%	35.00%	15.00%
71	0.00%	20.00%	20.00%	35.00%	15.00%
72	0.00%	20.00%	20.00%	35.00%	15.00%
73	0.00%	20.00%	20.00%	35.00%	15.00%
74	0.00%	20.00%	20.00%	35.00%	15.00%
75	0.00%	20.00%	20.00%	35.00%	15.00%
76	0.00%	20.00%	20.00%	35.00%	15.00%
77	0.00%	20.00%	20.00%	35.00%	15.00%
78	0.00%	20.00%	20.00%	35.00%	15.00%
79	0.00%	20.00%	20.00%	35.00%	15.00%
80+	NA	100.00%	100.00%	100.00%	100.00%

<sup>1</sup> 7.50% only applies to Tier 6 members; 0.00% otherwise.

<sup>2</sup> 20.00% for Tier 1, 2, & 4 members and 15.00% for Tier 6 members.

<sup>3</sup> 15.00% for Tier 1, 2, & 4 members and 20.00% for Tier 6 members.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)**

<b>Table 2</b>		
<b>PROBABILITIES OF TERMINATION</b>		
<b>Years of Service</b>	<b>Males</b>	<b>Females</b>
0	8.40%	5.60%
1	7.70%	5.30%
2	7.20%	5.00%
3	6.70%	4.70%
4	6.20%	4.50%
5	5.70%	4.20%
6	5.20%	3.90%
7	4.70%	3.60%
8	4.30%	3.30%
9	3.90%	3.00%
10	3.50%	2.80%
11	3.20%	2.60%
12	2.90%	2.50%
13	2.60%	2.40%
14	2.30%	2.20%
15	2.10%	2.10%
16	1.90%	1.90%
17	1.80%	1.80%
18	1.70%	1.70%
19	1.50%	1.50%
20+	1.40%	1.40%

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

<b>Table 3</b>				
PROBABILITIES OF DISABILITY RETIREMENT				
	Ordinary Disability		Accidental Disability	
Age	Males	Females	Males	Females
15	0.20%	0.20%	0.030%	0.025%
16	0.20%	0.20%	0.030%	0.025%
17	0.20%	0.20%	0.030%	0.025%
18	0.20%	0.20%	0.030%	0.025%
19	0.20%	0.20%	0.030%	0.025%
20	0.20%	0.20%	0.030%	0.025%
21	0.20%	0.20%	0.030%	0.025%
22	0.20%	0.20%	0.030%	0.025%
23	0.20%	0.20%	0.030%	0.025%
24	0.20%	0.20%	0.030%	0.025%
25	0.20%	0.20%	0.030%	0.025%
26	0.20%	0.20%	0.030%	0.025%
27	0.20%	0.20%	0.030%	0.025%
28	0.20%	0.20%	0.030%	0.025%
29	0.20%	0.20%	0.030%	0.025%
30	0.20%	0.20%	0.030%	0.025%
31	0.22%	0.20%	0.030%	0.025%
32	0.24%	0.20%	0.030%	0.025%
33	0.26%	0.20%	0.030%	0.025%
34	0.28%	0.20%	0.030%	0.025%
35	0.30%	0.20%	0.030%	0.025%
36	0.32%	0.21%	0.030%	0.025%
37	0.34%	0.22%	0.030%	0.025%
38	0.36%	0.23%	0.030%	0.025%
39	0.38%	0.24%	0.030%	0.025%
40	0.40%	0.25%	0.030%	0.025%
41	0.42%	0.26%	0.030%	0.025%
42	0.44%	0.27%	0.030%	0.025%
43	0.46%	0.28%	0.030%	0.025%
44	0.48%	0.29%	0.030%	0.025%
45	0.50%	0.30%	0.030%	0.025%
46	0.52%	0.34%	0.030%	0.025%
47	0.54%	0.38%	0.030%	0.025%
48	0.56%	0.42%	0.030%	0.025%
49	0.58%	0.46%	0.030%	0.025%
50	0.60%	0.50%	0.030%	0.025%
51	0.62%	0.54%	0.030%	0.025%
52	0.64%	0.58%	0.030%	0.025%
53	0.66%	0.62%	0.030%	0.025%
54	0.68%	0.66%	0.030%	0.025%
55	0.70%	0.70%	0.030%	0.025%
56	0.70%	0.70%	0.030%	0.025%
57	0.70%	0.70%	0.030%	0.025%
58	0.70%	0.70%	0.030%	0.025%
59	0.70%	0.70%	0.030%	0.025%
60	0.70%	0.70%	0.030%	0.025%
61	0.70%	0.70%	0.030%	0.025%
62	0.70%	0.70%	0.030%	0.025%
63	0.70%	0.70%	0.030%	0.025%
64	0.70%	0.70%	0.030%	0.025%
65	0.70%	0.70%	0.030%	0.025%
66	0.70%	0.70%	0.030%	0.025%
67	0.70%	0.70%	0.030%	0.025%
68	0.70%	0.70%	0.030%	0.025%
69	0.70%	0.70%	0.030%	0.025%
70	0.70%	0.70%	0.030%	0.025%
71	0.70%	0.70%	0.030%	0.025%
72	0.70%	0.70%	0.030%	0.025%
73	0.70%	0.70%	0.030%	0.025%
74	0.70%	0.70%	0.030%	0.025%
75	0.70%	0.70%	0.030%	0.025%
76	0.70%	0.70%	0.030%	0.025%
77	0.70%	0.70%	0.030%	0.025%
78	0.70%	0.70%	0.030%	0.025%
79	0.70%	0.70%	0.030%	0.025%
80+	NA	NA	NA	NA

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)**

<b>Table 4</b>			
<b>PROBABILITIES OF ACTIVE MEMBER MORTALITY</b>			
<b>Age</b>	<b>Ordinary Death</b>		<b>Accidental Death</b>
	<b>Males</b>	<b>Females</b>	
15	0.027%	0.020%	0.000%
16	0.027%	0.020%	0.000%
17	0.027%	0.020%	0.000%
18	0.027%	0.020%	0.000%
19	0.027%	0.020%	0.000%
20	0.027%	0.020%	0.000%
21	0.027%	0.020%	0.000%
22	0.027%	0.020%	0.000%
23	0.027%	0.020%	0.000%
24	0.027%	0.020%	0.000%
25	0.027%	0.020%	0.000%
26	0.029%	0.021%	0.000%
27	0.032%	0.023%	0.000%
28	0.035%	0.024%	0.000%
29	0.037%	0.025%	0.000%
30	0.040%	0.027%	0.000%
31	0.043%	0.028%	0.000%
32	0.045%	0.029%	0.000%
33	0.048%	0.031%	0.000%
34	0.051%	0.032%	0.000%
35	0.053%	0.033%	0.000%
36	0.056%	0.035%	0.000%
37	0.059%	0.036%	0.000%
38	0.061%	0.037%	0.000%
39	0.064%	0.039%	0.000%
40	0.067%	0.040%	0.000%
41	0.073%	0.045%	0.000%
42	0.080%	0.051%	0.000%
43	0.087%	0.056%	0.000%
44	0.093%	0.061%	0.000%
45	0.100%	0.067%	0.000%
46	0.107%	0.073%	0.000%
47	0.113%	0.080%	0.000%
48	0.120%	0.087%	0.000%
49	0.127%	0.093%	0.000%
50	0.133%	0.100%	0.000%
51	0.147%	0.107%	0.000%
52	0.160%	0.113%	0.000%
53	0.173%	0.120%	0.000%
54	0.187%	0.127%	0.000%
55	0.200%	0.133%	0.000%
56	0.213%	0.140%	0.000%
57	0.227%	0.147%	0.000%
58	0.240%	0.153%	0.000%
59	0.253%	0.160%	0.000%
60	0.267%	0.167%	0.000%
61	0.280%	0.173%	0.000%
62	0.293%	0.180%	0.000%
63	0.307%	0.187%	0.000%
64	0.320%	0.193%	0.000%
65	0.333%	0.200%	0.000%
66	0.360%	0.213%	0.000%
67	0.387%	0.227%	0.000%
68	0.413%	0.240%	0.000%
69	0.440%	0.253%	0.000%
70	0.500%	0.300%	0.000%
71	0.580%	0.350%	0.000%
72	0.660%	0.400%	0.000%
73	0.740%	0.450%	0.000%
74	0.820%	0.500%	0.000%
75	0.900%	0.550%	0.000%
76	1.020%	0.640%	0.000%
77	1.140%	0.730%	0.000%
78	1.260%	0.820%	0.000%
79	1.380%	1.000%	0.000%
80+	NA	NA	NA

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

<b>Table 5a</b>					
PROBABILITIES OF MORTALITY FOR SERVICE RETIREES					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0105%	0.0090%	68	1.6659%	0.9362%
16	0.0142%	0.0110%	69	1.7932%	1.0193%
17	0.0191%	0.0120%	70	1.9258%	1.1035%
18	0.0222%	0.0130%	71	2.0702%	1.2437%
19	0.0240%	0.0140%	72	2.2162%	1.3853%
20	0.0251%	0.0142%	73	2.3643%	1.5280%
21	0.0268%	0.0150%	74	2.5141%	1.6727%
22	0.0284%	0.0158%	75	2.6665%	1.8182%
23	0.0301%	0.0168%	76	3.0461%	2.0628%
24	0.0315%	0.0179%	77	3.4300%	2.3088%
25	0.0327%	0.0191%	78	3.8175%	2.5551%
26	0.0342%	0.0204%	79	4.2104%	2.8024%
27	0.0354%	0.0217%	80	4.6069%	3.0489%
28	0.0371%	0.0231%	81	5.1554%	3.4450%
29	0.0394%	0.0247%	82	5.7232%	3.8502%
30	0.0427%	0.0265%	83	6.3098%	4.2655%
31	0.0495%	0.0316%	84	6.9124%	4.6895%
32	0.0562%	0.0360%	85	7.5337%	5.1258%
33	0.0625%	0.0398%	86	8.3597%	5.8556%
34	0.0682%	0.0427%	87	9.1919%	6.5878%
35	0.0743%	0.0455%	88	10.0369%	7.3277%
36	0.0780%	0.0474%	89	10.8896%	8.0720%
37	0.0818%	0.0497%	90	11.7567%	8.8218%
38	0.0861%	0.0521%	91	13.4856%	10.1869%
39	0.0917%	0.0551%	92	15.2819%	11.5772%
40	0.0997%	0.0588%	93	17.1377%	13.0290%
41	0.1422%	0.0633%	94	19.0983%	14.4884%
42	0.1848%	0.0702%	95	21.2134%	16.0080%
43	0.2279%	0.0792%	96	23.2990%	17.8232%
44	0.2725%	0.0907%	97	25.4356%	19.4807%
45	0.3194%	0.1052%	98	27.7079%	20.8097%
46	0.3686%	0.1228%	99	29.9402%	21.7553%
47	0.4207%	0.1427%	100	32.1584%	22.1859%
48	0.4752%	0.1652%	101	33.7521%	23.0680%
49	0.5320%	0.1896%	102	35.1259%	24.0803%
50	0.5908%	0.2151%	103	36.3671%	25.2770%
51	0.6563%	0.2401%	104	37.3834%	26.6309%
52	0.7203%	0.2647%	105	38.1051%	28.0912%
53	0.7821%	0.2889%	106	38.4698%	29.6244%
54	0.8405%	0.3120%	107	38.6325%	31.1943%
55	0.8938%	0.3338%	108	38.8076%	32.7579%
56	0.9368%	0.3689%	109	38.9794%	34.2712%
57	0.9718%	0.4030%	110	50.0000%	50.0000%
58	0.9982%	0.4360%	111	50.0000%	50.0000%
59	1.0164%	0.4677%	112	50.0000%	50.0000%
60	1.0277%	0.4987%	113	50.0000%	50.0000%
61	1.0989%	0.5398%	114	50.0000%	50.0000%
62	1.1606%	0.5722%	115	50.0000%	50.0000%
63	1.2158%	0.6041%	116	50.0000%	50.0000%
64	1.2656%	0.6395%	117	50.0000%	50.0000%
65	1.3111%	0.6785%	118	50.0000%	50.0000%
66	1.4252%	0.7529%	119	50.0000%	50.0000%
67	1.5432%	0.8397%	120	100.0000%	100.0000%



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

<b>Table 5b</b>					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.3309%	0.3302%	68	2.8866%	2.3870%
16	0.4477%	0.4467%	69	2.9926%	2.4723%
17	0.6034%	0.6020%	70	3.1133%	2.5721%
18	0.7007%	0.6521%	71	3.2494%	2.6887%
19	0.7591%	0.7023%	72	3.4007%	2.8231%
20	0.7745%	0.7242%	73	3.5688%	2.9757%
21	0.8177%	0.7766%	74	3.7535%	3.1493%
22	0.8636%	0.8321%	75	3.9565%	3.3428%
23	0.9115%	0.8806%	76	4.1960%	3.5573%
24	0.9623%	0.9414%	77	4.4576%	3.7722%
25	1.0128%	0.9950%	78	4.7400%	4.0056%
26	1.0629%	1.0450%	79	5.0460%	4.2512%
27	1.1121%	1.1039%	80	5.3741%	4.5399%
28	1.1590%	1.1437%	81	5.7241%	4.8505%
29	1.2025%	1.1849%	82	6.0991%	5.1822%
30	1.2403%	1.2276%	83	6.5012%	5.5379%
31	1.2721%	1.2719%	84	6.9293%	5.9081%
32	1.2964%	1.2906%	85	7.5490%	6.6447%
33	1.3125%	1.3095%	86	8.3752%	7.3415%
34	1.3230%	1.3220%	87	9.2076%	8.0805%
35	1.3497%	1.3314%	88	10.0528%	8.8285%
36	1.3769%	1.3388%	89	10.9057%	10.1243%
37	1.4047%	1.3459%	90	11.7730%	11.4944%
38	1.4330%	1.3555%	91	13.5023%	12.9995%
39	1.4619%	1.3700%	92	15.2987%	14.4425%
40	1.4914%	1.3831%	93	17.1548%	15.8488%
41	1.5215%	1.3968%	94	19.1157%	17.6512%
42	1.5522%	1.4199%	95	21.2311%	19.4304%
43	1.5835%	1.4535%	96	23.3168%	20.7560%
44	1.6154%	1.4910%	97	25.4537%	21.5692%
45	1.6480%	1.5473%	98	27.7263%	22.0007%
46	1.6812%	1.6100%	99	29.9589%	23.0087%
47	1.7151%	1.6774%	100	32.1584%	23.1230%
48	1.7497%	1.7359%	101	33.7521%	23.6022%
49	1.7850%	1.7789%	102	35.1259%	24.0803%
50	1.8210%	1.8069%	103	36.3671%	25.2770%
51	1.8577%	1.8265%	104	37.3834%	26.6309%
52	1.8952%	1.8400%	105	38.1051%	28.0912%
53	1.9838%	1.8414%	106	38.4698%	29.6244%
54	2.0700%	1.8419%	107	38.6325%	31.1943%
55	2.1499%	1.8425%	108	38.8076%	32.7579%
56	2.2301%	1.8428%	109	38.9794%	34.2712%
57	2.2996%	1.8478%	110	50.0000%	50.0000%
58	2.3571%	1.8725%	111	50.0000%	50.0000%
59	2.4033%	1.9054%	112	50.0000%	50.0000%
60	2.4415%	1.9416%	113	50.0000%	50.0000%
61	2.4758%	1.9833%	114	50.0000%	50.0000%
62	2.5090%	2.0209%	115	50.0000%	50.0000%
63	2.5475%	2.0671%	116	50.0000%	50.0000%
64	2.5926%	2.1353%	117	50.0000%	50.0000%
65	2.6476%	2.2013%	118	50.0000%	50.0000%
66	2.7148%	2.2603%	119	50.0000%	50.0000%
67	2.7940%	2.3165%	120	100.0000%	100.0000%

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 5c					
PROBABILITIES OF BENEFICIARY MORTALITY					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0105%	0.0092%	68	1.8256%	1.3605%
16	0.0142%	0.0112%	69	1.9386%	1.4332%
17	0.0191%	0.0122%	70	2.0542%	1.5007%
18	0.0222%	0.0133%	71	2.2359%	1.6745%
19	0.0240%	0.0143%	72	2.4230%	1.8463%
20	0.0251%	0.0145%	73	2.6165%	2.0157%
21	0.0268%	0.0153%	74	2.8157%	2.1838%
22	0.0284%	0.0161%	75	3.0220%	2.3492%
23	0.0301%	0.0171%	76	3.4928%	2.6652%
24	0.0315%	0.0183%	77	3.9787%	2.9831%
25	0.0327%	0.0195%	78	4.4792%	3.3011%
26	0.0342%	0.0208%	79	4.9963%	3.6207%
27	0.0354%	0.0221%	80	5.5282%	3.9391%
28	0.0371%	0.0236%	81	6.1051%	4.4386%
29	0.0394%	0.0252%	82	6.6894%	4.9473%
30	0.0427%	0.0270%	83	7.2805%	5.4665%
31	0.0495%	0.0330%	84	7.8749%	5.9942%
32	0.0562%	0.0384%	85	8.4753%	6.5354%
33	0.0625%	0.0431%	86	9.6136%	7.4659%
34	0.0682%	0.0471%	87	10.8005%	8.3995%
35	0.0743%	0.0511%	88	12.0443%	9.3428%
36	0.0780%	0.0542%	89	13.3397%	10.2918%
37	0.0818%	0.0579%	90	14.6958%	11.2477%
38	0.0861%	0.0618%	91	16.4185%	12.8868%
39	0.0917%	0.0666%	92	18.1416%	14.4887%
40	0.0997%	0.0719%	93	19.8574%	16.0801%
41	0.1394%	0.0775%	94	21.6187%	17.5854%
42	0.1774%	0.0859%	95	23.5884%	19.0626%
43	0.2143%	0.0968%	96	25.4266%	20.2474%
44	0.2507%	0.1111%	97	27.2119%	21.2937%
45	0.2875%	0.1287%	98	29.0202%	22.0663%
46	0.3207%	0.1501%	99	30.6654%	22.5443%
47	0.3534%	0.1748%	100	32.1584%	22.6473%
48	0.3849%	0.2022%	101	33.7521%	23.5294%
49	0.4150%	0.2319%	102	35.1259%	24.5619%
50	0.4431%	0.2633%	103	36.3671%	25.7825%
51	0.5156%	0.2999%	104	37.3834%	27.1635%
52	0.5928%	0.3376%	105	38.1051%	28.6530%
53	0.6740%	0.3762%	106	38.4698%	30.2169%
54	0.7583%	0.4151%	107	38.6325%	31.8182%
55	0.8440%	0.4540%	108	38.8076%	33.4131%
56	0.9048%	0.5132%	109	38.9794%	34.9566%
57	0.9604%	0.5735%	110	50.0000%	50.0000%
58	1.0101%	0.6353%	111	50.0000%	50.0000%
59	1.0536%	0.6981%	112	50.0000%	50.0000%
60	1.0919%	0.7631%	113	50.0000%	50.0000%
61	1.1835%	0.8329%	114	50.0000%	50.0000%
62	1.2676%	0.8908%	115	50.0000%	50.0000%
63	1.3473%	0.9493%	116	50.0000%	50.0000%
64	1.4238%	1.0146%	117	50.0000%	50.0000%
65	1.4985%	1.0876%	118	50.0000%	50.0000%
66	1.6059%	1.1681%	119	50.0000%	50.0000%
67	1.7146%	1.2609%	120	100.0000%	100.0000%

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS  
IN EFFECT FOR THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATION (Cont'd)**

Table 6 ANNUAL RATES OF MERIT AND SALARY INCREASE		
Years of Service	Merit Increase	Salary Increase <sup>1</sup>
0	6.00%	9.00%
1	5.00%	8.00%
2	4.00%	7.00%
3	3.00%	6.00%
4	2.50%	5.50%
5	2.00%	5.00%
6	1.90%	4.90%
7	1.80%	4.80%
8	1.70%	4.70%
9	1.60%	4.60%
10	1.50%	4.50%
11	1.50%	4.50%
12	1.50%	4.50%
13	1.50%	4.50%
14	1.50%	4.50%
15	1.50%	4.50%
16	1.45%	4.45%
17	1.40%	4.40%
18	1.35%	4.35%
19	1.30%	4.30%
20	1.25%	4.25%
21	1.20%	4.20%
22	1.15%	4.15%
23	1.10%	4.10%
24	1.05%	4.05%
25+	1.00%	4.00%

<sup>1</sup> Salary Increase is the General Wage Increase of 3% plus the Merit Increase.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF ACTIVE MEMBER VALUATION DATA

<b>Table 7</b>				
ACTIVE MEMBER VALUATION DATA				
<b>June 30 (Lag) Actuarial Valuation</b>	<b>Number</b>	<b>Annual Salary</b>	<b>Average Annual Salary</b>	<b>Percentage Increase/ (Decrease) In Avg. Salary</b>
2010	23,324	912,290,136	39,114	0.1%
2011	23,131	920,369,154	39,789	1.7%
2012	27,840	1,018,895,365	36,598	(8.0%)
2013	25,848	1,051,571,168	40,683	11.2%
2014	25,182	1,045,187,738	41,505	2.0%
2015	24,903	1,093,962,316	43,929	5.8%
2016	25,864	1,149,019,892	44,425	1.1%
2017	25,794	1,201,925,550	46,597	4.9%
2018	25,864	1,280,302,470	49,501	6.2%
2019	25,825	1,353,266,355	52,401	5.9%

Salaries reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SUMMARY OF PLAN MEMBERSHIP DATA

As of the June 30, 2019 (Lag) and June 30, 2018 (Lag) actuarial valuations, the Plan's Membership consisted of:

<b>Table 8</b>		
SUMMARY OF PLAN MEMBERSHIP		
<b>Group</b>	<b>June 30, 2019 (Lag)</b>	<b>June 30, 2018 (Lag)</b>
Active members	25,825	25,864
Actives Off Payroll <sup>1</sup>	11,422	10,525
Terminated vested members not yet receiving benefits	2,019	1,934
Retirees and beneficiaries currently receiving benefits	<u>18,502</u>	<u>18,041</u>
Total	57,768	56,364

<sup>1</sup> Represents members who are no longer on payroll but not otherwise classified.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS**

<b>Table 9</b>								
SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS								
<b>June 30 (Lag) Actuarial Valuation</b>	<b>Added to Rolls</b>		<b>Removed from Rolls</b>		<b>End of Year Rolls</b>		<b>% Increase in Annual Allowances</b>	<b>Average Annual Allowances</b>
	<b>Number</b>	<b>Annual Allowances<sup>1</sup></b>	<b>Number</b>	<b>Annual Allowances</b>	<b>Number</b>	<b>Annual Allowances<sup>2</sup></b>		
2010	850	10,705,737	522	4,700,094	13,969	165,871,253	3.8%	11,874
2011	901	14,977,636	471	4,325,573	14,399	176,523,316	6.4%	12,259
2012	1,053	16,201,746	578	6,211,198	14,874	186,513,864	5.7%	12,540
2013	1,110	16,977,455	529	4,957,022	15,455	198,534,297	6.4%	12,846
2014	1,094	13,701,890	554	5,306,812	15,995	206,929,375	4.2%	12,937
2015	1,002	16,482,509	559	4,979,621	16,438	218,432,263	5.6%	13,288
2016	1,075	14,412,852	576	5,776,541	16,937	227,068,574	4.0%	13,407
2017	1,061	17,321,922	573	6,234,174	17,425	238,156,322	4.9%	13,668
2018	1,179	20,878,837	563	5,613,557	18,041	253,421,602	6.4%	14,047
2019	1,216	22,617,426	755	8,877,195	18,502	267,161,833	5.4%	14,440

<sup>1</sup> Amounts shown include changes due to benefit finalization, changes in benefit type (e.g. Service to Accidental Disability), COLA increases, and other changes.

<sup>2</sup> Amounts shown are those used in the actuarial valuation as of the Year End Date and are not adjusted for anticipated changes due to finalization of benefit calculations or contract settlements.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## ACTUARIAL AND STATUTORY CONTRIBUTION HISTORY

<b>Table 10</b>			
ACTUARIAL AND STATUTORY CONTRIBUTION HISTORY			
<b>Fiscal Year Ended June 30</b>	<b>Actuarial Contribution Certified</b>	<b>Statutory Contribution Contributed<sup>1</sup></b>	<b>Employer Rate of Contribution<sup>2</sup></b>
2012	213,650,880	213,650,880	24.3%
2013	196,245,777	196,245,777	22.1%
2014	214,589,565	214,589,565	21.7%
2015	258,099,327	258,099,327	25.4%
2016	265,532,032	265,532,032	26.3%
2017	288,233,217	288,233,217	27.4%
2018	318,643,334	318,643,334	28.9%
2019	269,636,601	269,636,601	22.8%
2020	257,503,447	257,503,447	20.5%
2021	182,983,084	182,983,084	13.7%

<sup>1</sup> Represents total employer contributions accrued for fiscal year.

<sup>2</sup> 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.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## FUNDED STATUS BASED ON ENTRY AGE NORMAL COST METHOD

<b>Table 11</b> FUNDED STATUS BASED ON ENTRY AGE NORMAL COST METHOD (\$ Thousands)						
June 30 (Lag) Valuation Date	(1) Actuarial Value of Assets (AVA)	(2) Accrued Liability (AL)	(3) Unfunded AL (UAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAL as a % of Covered Payroll (3) / (5)
2010	2,056,452	3,558,251	1,501,799	57.8%	912,290	164.6%
2011	2,323,629	3,681,694	1,358,065	63.1%	920,369	147.6%
2012	2,371,613	3,763,130	1,391,517	63.0%	1,018,895	136.6%
2013	2,277,791	4,015,080	1,737,289	56.7%	1,051,571	165.2%
2014	2,632,922	4,335,746	1,702,824	60.7%	1,045,188	162.9%
2015	2,772,466	4,585,781	1,813,315	60.5%	1,093,962	165.8%
2016	2,858,737	4,767,760	1,909,023	60.0%	1,149,020	166.1%
2017	3,289,191	4,743,881	1,454,690	69.3%	1,201,926	121.0%
2018	3,908,833	5,103,583	1,194,750	76.6%	1,280,302	93.3%
2019	4,991,832	5,306,986	315,154	94.1%	1,353,266	23.3%



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS**

Table 12							
COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS							
SOLVENCY TEST							
(\$ Thousands)							
June 30 (Lag) Valuation Date	Accrued Liabilities for			(D) Actuarial Value of Assets	Percentage of Accrued Liabilities Funded by Actuarial Value of Assets		
	(A)	(B)	(C)		(A)	(B)	(C)
	Accumulated Member Contributions	Current Retirees and Beneficiaries	Active Members' Employer-Financed Portion				
2010	388,082	1,627,094	1,306,868	2,056,452	100%	100%	3%
2011	409,625	1,714,099	1,319,938	2,323,629	100	100	15
2012	434,215	1,804,626	1,283,582	2,371,613	100	100	10
2013	469,312	1,918,824	1,372,542	2,277,791	100	94	0
2014	504,619	2,080,400	1,475,008	2,632,922	100	100	3
2015	527,781	2,200,281	1,569,097	2,772,466	100	100	3
2016	557,473	2,273,411	1,638,262	2,858,737	100	100	2
2017	593,952	2,364,059	1,433,790	3,289,191	100	100	23
2018	619,602	2,541,989	1,591,961	3,908,833	100	100	47
2019	647,081	2,680,150	1,979,755	4,991,832	100	100	84

See following "SOLVENCY TEST - NOTES."

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS (Cont'd)

### 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 Accrued Liabilities for:

- a. Accumulated Member Contributions;
- b. Current Retirees and Beneficiaries; and
- c. Active Members' Employer-Financed Portion.

Prior to the June 30, 2019 (Lag) valuation, the Accrued Liabilities were calculated under the Projected Unit Credit actuarial cost method. Beginning with the June 30, 2019 (Lag) actuarial valuation, the Accrued Liabilities are calculated based on the Entry Age Normal (EAN) actuarial cost method.

The values in the table are dependent upon census data, benefit levels (which have changed over the past years), and the actuarial assumptions and methods employed at each valuation date.

To fully evaluate trends in financial soundness, changes in assumptions need to be evaluated. The Actuarial Interest Rate assumption has been 7.0% per annum, net of investment expenses, throughout the period shown. However, other actuarial assumptions have been revised. The two most recent changes in assumptions and methods occurred in the June 30, 2019 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2021 and in the June 30, 2017 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2019.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## CONTRIBUTIONS

The benefits of the System are financed by member and employer contributions and from investment earnings of the System.

### A. MEMBER CONTRIBUTIONS

#### Tier 1 and Tier 2

A member who joined prior to July 27, 1976 contributes by salary deductions on the basis of a normal rate of contribution which is assigned by the System at the time he or she elects his or her plan. The normal contribution rate, which is dependent upon the member's age and plan, as well as the tables in effect for such purpose at the time he or she became a member, is determined to provide approximately one-third of the benefit on account of the first 25 years of service.

For Tier 1 and Tier 2 plans which permit retirement for service at age 55, the normal contribution rate is calculated to provide an annuity equal to 1.0% of final salary for each year of service at the earliest age for service retirement. For such plans, the normal contribution rate for members who enter at age 55 or over is the rate applicable to a member entering at age 54.

Member contributions are accumulated with interest on individually maintained ledger accounts. Upon retirement, the amount to his or her credit (i.e. accumulated deductions) is used to purchase an annuity on the basis of the tables adopted by the Board of Trustees. Upon death in service, the accumulated deductions are paid to the beneficiary.

Beginning July 1, 1960, on a year-to-year basis, the normal contribution rates of Tier 1 and Tier 2 members who joined before July 27, 1976 were reduced by an increased-take-home-pay rate of 2.5%, and of 5.0% beginning July 1, 1961. Between July 1, 1968 and December 31, 1975, an increased-take-home-pay rate of 4.0% was effective for all members. On January 1, 1976, an increased-take-home-pay rate of 2.0% became effective for all members. The following table shows the effective periods and increased-take-home-pay rate.

<b>PERIOD</b>	<b>INCREASED-TAKE-HOME-PAY RATE</b>
07/01/60 – 06/30/61	2.5%
07/01/61 – 06/30/68	5.0%
07/01/68 – 12/31/75	4.0%
01/01/76 and after	2.0%

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## CONTRIBUTIONS (Cont'd)

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 equal to the increased-take-home-pay rate times salary so that in general, the total benefit is equal to the benefit which would have been paid if the members' rates of contribution had not been reduced. However, the reserve for increased-take-home-pay is not payable upon death of a member who joins after June 30, 1973.

### Tier 4

A Tier 4 member of Article 15 (Coordinated Retirement Plan) who joined BERS on or before March 31, 2012 is mandated to contribute 3% of salary during all years of coverage. Effective October 1, 2000, most Tier 4 members are not required to make contributions after the 10<sup>th</sup> anniversary of their membership date or completion of ten years of credited service, whichever is earlier. Tier 4 members of the Chapter 504 55/27 plan contribute Basic Member Contributions for 27 years of service. For those who elected or were mandated into an Optional Retirement Plan or Special Officers Plan, Additional Member Contributions are required.

### Tier 6

A member who joins BERS on or after April 1, 2012 (Tier 6) is required to contribute between 3.0% and 6.0% of salary, depending on salary level, for all years of service. Tier 6 members in the Automotive or Special Officers Programs also contribute AMC.

## **B. EMPLOYER CONTRIBUTIONS**

The Entry Age Normal cost method of funding is utilized by the Plan's Actuary to calculate the contributions required of the employers.

Employer contributions are accrued by the Plan and are funded by the employers on a current basis.

**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

A FIDUCIARY FUND  
OF THE CITY OF NEW YORK

**ANNUAL COMPREHENSIVE FINANCIAL REPORT OF  
THE QUALIFIED PENSION PLAN  
AND THE  
TAX DEFERRED ANNUITY PROGRAM**

**STATISTICAL SECTION  
PART V**

**FOR THE YEARS ENDED  
JUNE 30, 2021 AND JUNE 30, 2020**

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# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

## STATISTICAL SECTION

### INTRODUCTION:

The Statistical section presents three sets of data. The first group of data is comprised of six (6) schedules and accompanying graphs that provide a comparative horizontal base of the financials over a ten-year spread for the QPP and ten-year spread for the TDA. The second group of data offers an analysis of the BERS benefit payments based on demographic information. The third and final group gives a comparative analysis of the contributors based on their salary and their provenance.

The schedules and graphs of the first group are:

- (A) Revenue by source for the QPP
- (B) Expenses by type for the QPP
- (C) Refunds by type for the QPP
- (D) Schedule of changes in QPP net position
- (E) Schedule of changes in TDA net position
- (F) Benefit expenses by type for the QPP

The second group of data is comprised of the following: QPP

- (A) Age and service retirement
- (B) Ordinary disability retirement
- (C) Accidental disability retirement
- (D) Accidental death retirement
- (E) Other beneficiaries
- (F) All pensioners and beneficiaries

The third group of data is comprised of the following: QPP

- (A) Summary of activities by Age and Service
- (B) Average annual benefit payments
- (C) Participating Employers

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**REVENUE BY SOURCE  
(In thousands)**

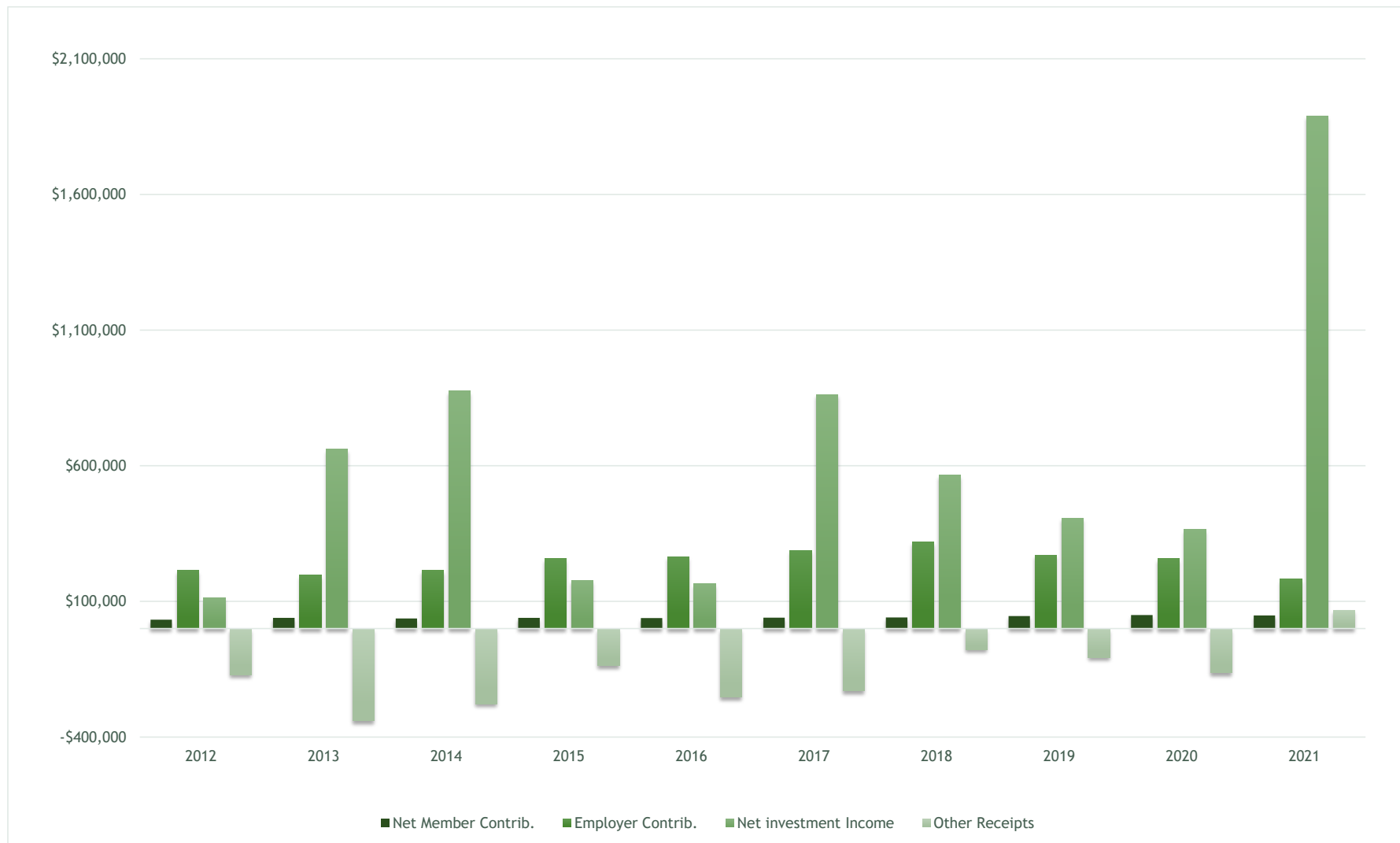
<b>Fiscal Year Ended June 30</b>	<b>Net Member Contributions</b>	<b>Employer Contributions</b>	<b>Net Investment Income</b>	<b>Net Receipts</b>	<b>Total</b>	<b>Employer Contributions as % of Payroll</b>
2012	\$32,866	\$213,651	\$113,738	(\$170,091)	\$190,164	23.4
2013	\$39,056	\$196,246	\$660,827	(\$340,057)	\$556,072	21.3
2014	\$37,193	\$214,590	\$875,453	(\$277,531)	\$849,705	21.1
2015	\$39,564	\$258,099	\$177,166	(\$137,125)	\$337,704	24.5
2016	\$38,581	\$265,532	\$164,144	(\$252,288)	\$215,969	25.4
2017	\$39,821	\$288,233	\$862,510	(\$229,508)	\$961,056	26.3
2018	\$40,846	\$318,643	\$565,577	(\$76,948)	\$848,118	27.7
2019	\$46,304	\$269,637	\$406,879	(\$106,071)	\$616,749	22.4
2020	\$49,766	\$257,503	\$365,767	(\$163,724)	\$509,312	20.1
2021	\$48,125	\$182,983	\$1,889,751	\$68,002	\$2,188,861	13.5

The table offers a horizontal comparison base for the revenue sources of the Plan for the past 10 years.



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## REVENUE BY SOURCE (in thousands)



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

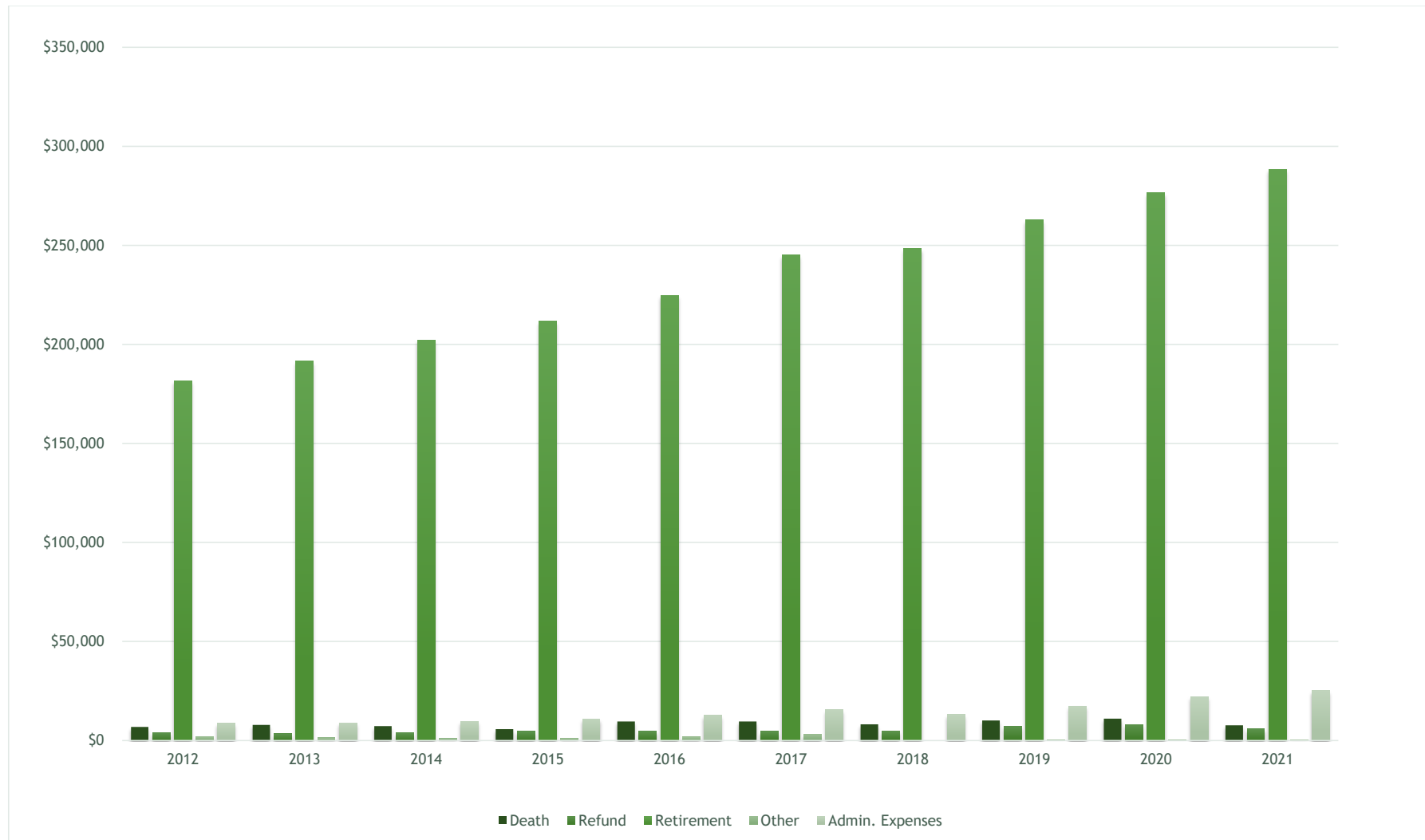
**EXPENSES BY TYPE  
(In thousands)**

Fiscal Year Ended June 30	Benefit Payments				Administrative Expenses	Total
	Death	Refunds	Retirement	Other		
2012	\$6,827	\$4,009	\$181,735	\$1,936	\$8,687	\$203,194
2013	\$7,858	\$3,360	\$191,463	\$1,412	\$8,927	\$213,020
2014	\$7,274	\$3,827	\$202,233	\$981	\$9,776	\$224,091
2015	\$5,765	\$4,614	\$211,693	\$1,172	\$10,956	\$234,200
2016	\$9,580	\$4,750	\$224,639	\$1,758	\$12,818	\$253,545
2017	\$9,570	\$4,687	\$245,066	\$3,109	\$15,486	\$277,918
2018	\$8,208	\$4,808	\$248,429	\$129	\$13,212	\$274,786
2019	\$10,161	\$7,231	\$262,804	\$267	\$17,357	\$297,820
2020	\$11,016	\$8,174	\$276,614	\$243	\$22,207	\$318,254
2021	\$7,638	\$5,871	\$288,419	\$408	\$25,175	\$327,511

The table offers a horizontal comparison base for the expense groups of the Plan for the past 10 years.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**EXPENSES BY TYPE  
(In thousands)**



## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

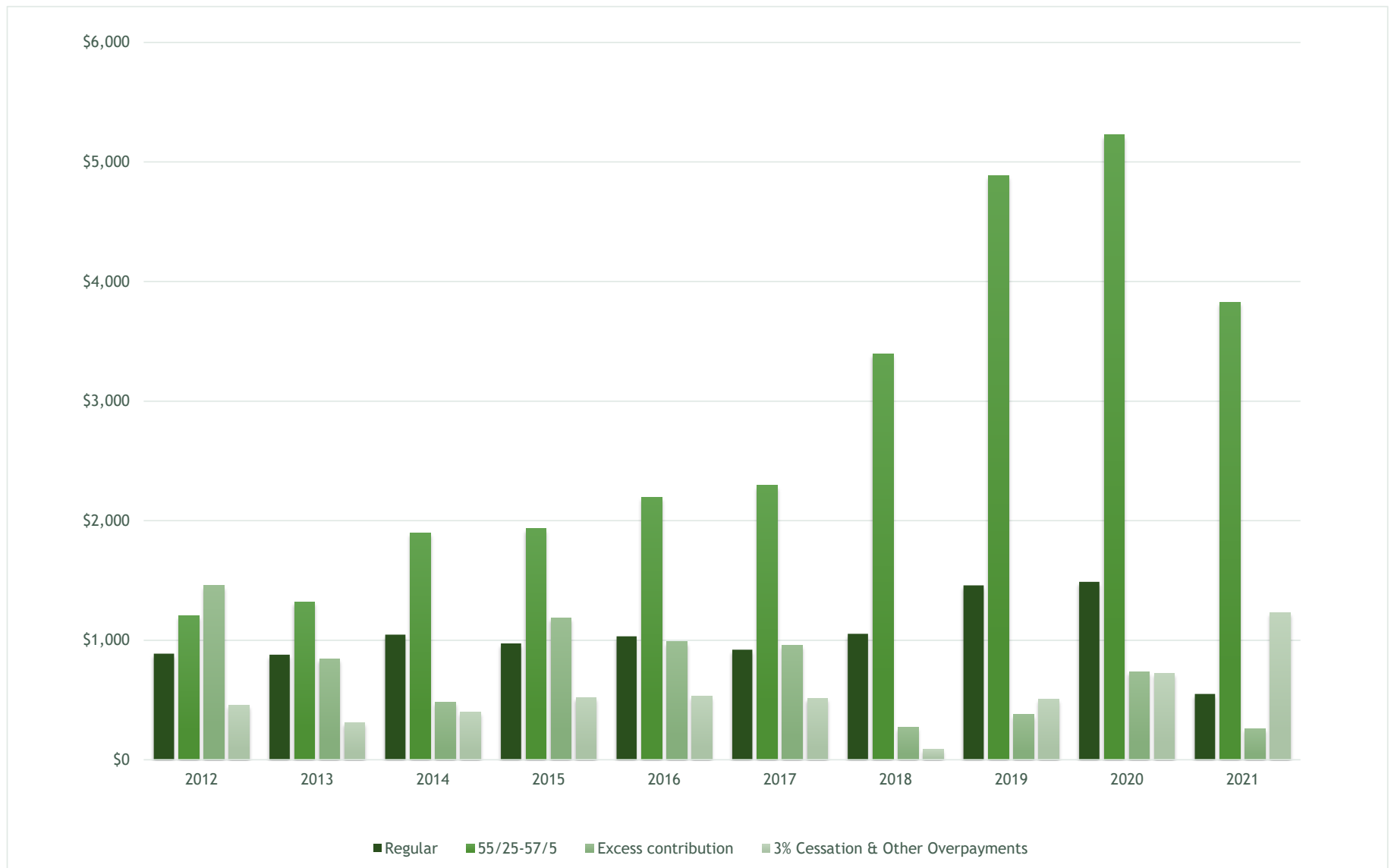
### REFUNDS BY TYPE (In thousands)

Fiscal Year Ended June 30	Refunds				
	Regular Resignation	Add. Pension 55/25-57/5	Excess Contribution	3% Cessation & Other Overpayments	Total
2012	\$888	\$1,206	\$1,456	\$459	\$4,009
2013	\$880	\$1,322	\$846	\$312	\$3,360
2014	\$1,047	\$1,899	\$484	\$397	\$3,827
2015	\$973	\$1,933	\$1,186	\$522	\$4,614
2016	\$1,033	\$2,198	\$986	\$533	\$4,750
2017	\$920	\$2,295	\$957	\$515	\$4,687
2018	\$1,053	\$3,397	\$271	\$87	\$4,808
2019	\$1,459	\$4,887	\$378	\$507	\$7,231
2020	\$1,489	\$5,227	\$735	\$723	\$8,174
2021	\$551	\$3,826	\$261	\$1,233	\$5,871

The table offers a horizontal comparison base for the refund segment of the expense groups of the Plan for the past 10 years. The refund segment is broken down by type.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## REFUNDS BY TYPE (In thousands)



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

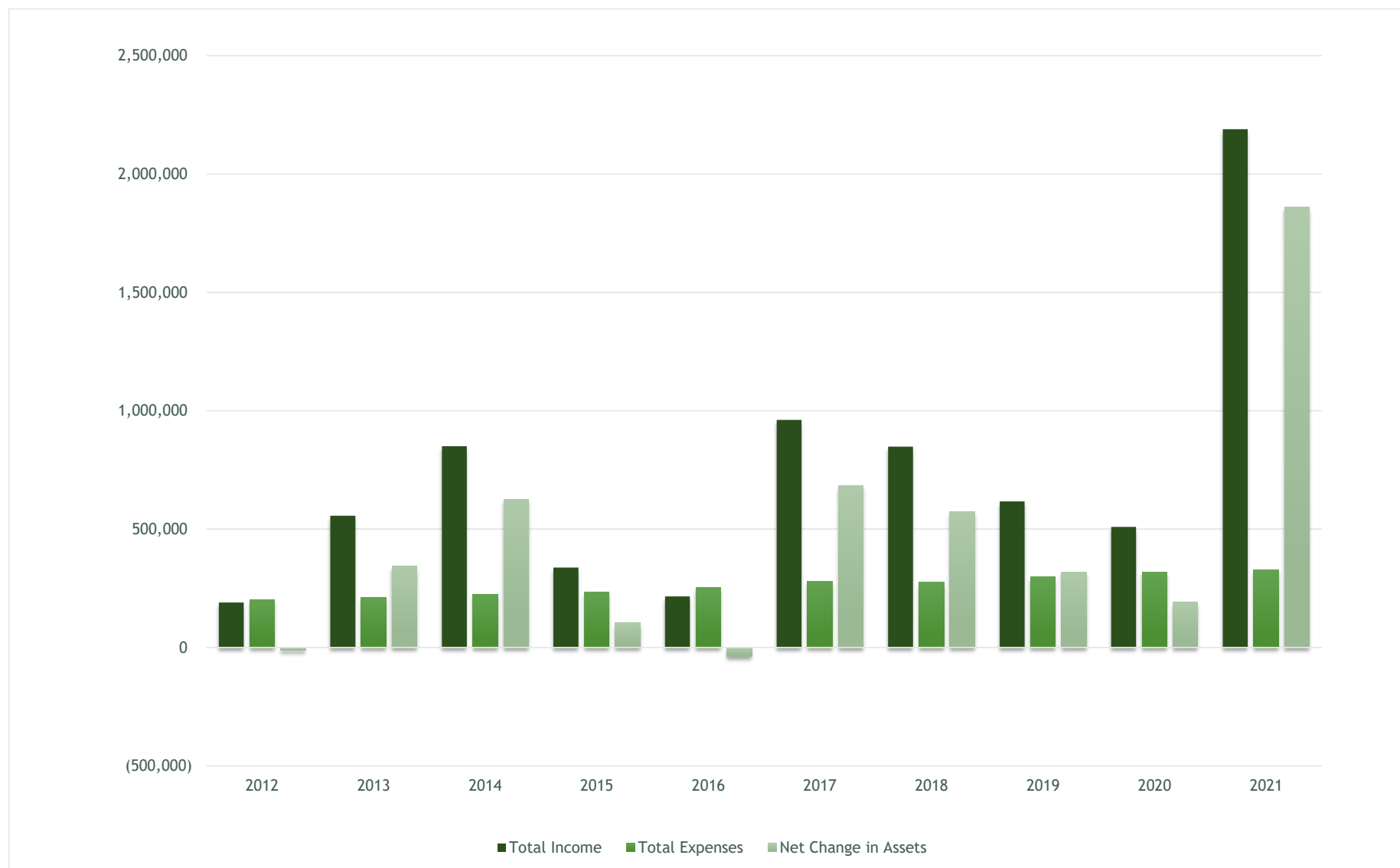
**SCHEDULE OF CHANGES IN NET POSITION  
(In thousands)**

Year Ended	Member Contributions	Employer Contributions	Net Investment Income	Other Receipts	Total Income	Benefit Payments				Administrative Expenses	Total Expenses	Change in Net Position
						Death	Refund	Retirement	Other			
2012	\$32,866	\$213,651	\$113,738	(\$170,091)	\$190,164	\$6,827	\$4,009	\$181,735	\$1,936	\$8,687	\$203,194	(\$13,030)
2013	\$39,056	\$196,246	\$660,827	(\$340,057)	\$556,072	\$7,858	\$3,360	\$191,463	\$1,412	\$8,927	\$213,020	\$343,052
2014	\$37,193	\$214,590	\$875,453	(\$277,531)	\$849,705	\$7,274	\$3,827	\$202,233	\$981	\$9,776	\$224,091	\$625,614
2015	\$39,564	\$258,099	\$177,166	(\$137,125)	\$337,704	\$5,765	\$4,614	\$211,693	\$1,172	\$10,956	\$234,200	\$103,504
2016	\$38,581	\$265,532	\$164,144	(\$252,288)	\$215,969	\$9,580	\$4,750	\$224,639	\$1,758	\$12,818	\$253,545	(\$37,576)
2017	\$39,821	\$288,233	\$862,510	(\$229,508)	\$961,056	\$9,570	\$4,687	\$245,066	\$3,109	\$15,486	\$277,918	\$683,138
2018	\$40,846	\$318,643	\$565,577	(\$76,948)	\$848,118	\$8,208	\$4,808	\$248,429	\$129	\$13,212	\$274,786	\$573,332
2019	\$46,304	\$269,637	\$406,879	(\$106,071)	\$616,749	\$10,161	\$7,231	\$262,804	\$267	\$17,357	\$297,820	\$318,929
2020	\$49,766	\$257,503	\$365,767	(\$163,724)	\$509,312	\$11,016	\$8,174	\$276,614	\$243	\$22,207	\$318,254	\$191,058
2021	\$48,125	\$182,983	\$1,889,751	\$68,002	\$2,188,861	\$7,638	\$5,871	\$288,419	\$408	\$25,175	\$327,511	\$1,861,350

The table offers a 10 year horizontal comparison base for the operations of the BERS.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

## SCHEDULE OF CHANGES IN NET POSITION (In thousands)



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
TAX DEFERRED ANNUITY PROGRAM**

**SCHEDULE OF CHANGES IN NET POSITION  
(In thousands)**

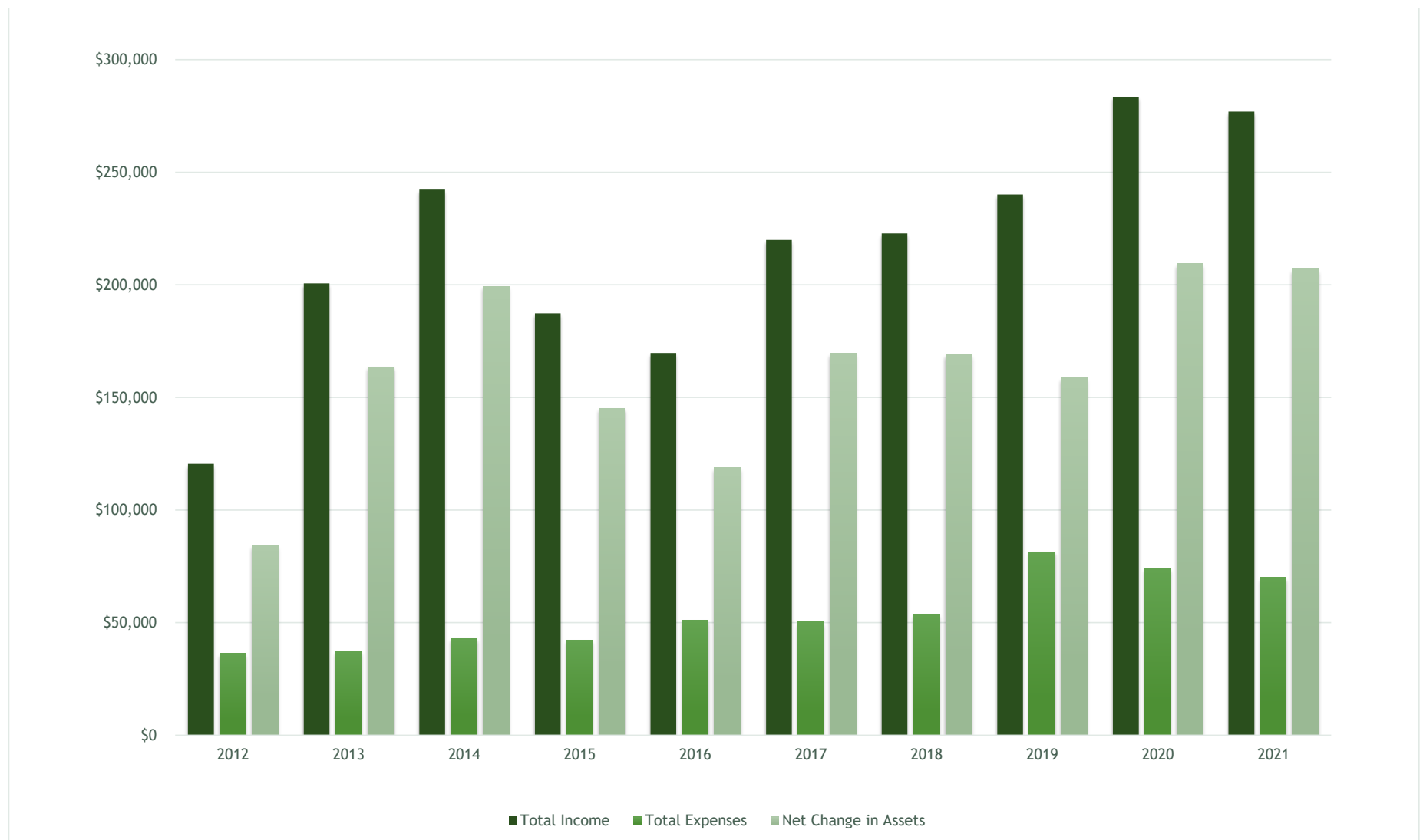
Year Ended	Participant Contributions	Net Investment Income	Other Receipts	Transfer of Investment Income	Total Income	Benefit Payments				Administrative Expenses	Total Expenses	Change in Net Position
						Death	Refund	Retirement	Other			
2012	\$59,024	\$6,468	\$26,593	\$28,396	<b>\$120,481</b>	\$8,272	\$25,146	\$325	\$68	\$2,445	<b>\$36,256</b>	\$84,225
2013	\$61,550	\$62,134	(\$86,810)	\$163,756	<b>\$200,630</b>	\$6,523	\$27,802	\$301	\$31	\$2,455	<b>\$37,112</b>	\$163,518
2014	\$63,767	\$82,223	(\$110,273)	\$206,615	<b>\$242,332</b>	\$9,242	\$30,755	\$354	\$59	\$2,531	<b>\$42,941</b>	\$199,391
2015	\$74,890	\$22,950	\$4,448	\$85,104	<b>\$187,392</b>	\$4,133	\$34,707	\$370	\$12	\$3,033	<b>\$42,255</b>	\$145,137
2016	\$77,459	\$1,049	(\$3,541)	\$94,789	<b>\$169,756</b>	\$13,292	\$36,467	\$351	\$79	\$850	<b>\$51,039</b>	\$118,717
2017	\$85,765	\$75,739	(\$48,113)	\$106,554	<b>\$219,945</b>	\$9,415	\$40,371	\$323	\$99	\$125	<b>\$50,333</b>	\$169,612
2018	\$89,972	\$59,168	(\$54,240)	\$127,972	<b>\$222,872</b>	\$10,851	\$42,427	\$338	\$52	\$84	<b>\$53,752</b>	\$169,120
2019	\$102,203	\$40,087	(\$43,842)	\$141,695	<b>\$240,143</b>	\$25,490	\$55,492	\$336	\$96	\$119	<b>\$81,533</b>	\$158,610
2020	\$109,944	\$14,912	\$2,945	\$155,749	<b>\$283,550</b>	\$20,695	\$52,877	\$352	\$127	\$167	<b>\$74,218</b>	\$209,332
2021	\$111,580	\$233,357	(\$239,773)	\$171,806	<b>\$276,970</b>	\$26,874	\$42,404	\$359	\$106	\$259	<b>\$70,002</b>	\$206,968

The table offers a 10 year horizontal comparison base for the operations of the BERS TDA Program.



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
TAX DEFERRED ANNUITY PROGRAM**

**SCHEDULE OF CHANGES IN NET POSITION  
(In thousands)**



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**BENEFIT EXPENSES BY TYPE  
(In thousands)**

FISCAL YEAR ENDED JUNE 30	AGE AND SERVICE RETIREMENT BENEFITS	DISABILITY RETIREMENT BENEFITS		LUMP SUM PAYMENTS		TOTAL
		DUTY	NON-DUTY	DEATH IN SERVICE	SURVIVORS	
2012	\$174,099	\$2,464	\$5,173	\$5,035	\$1,791	\$188,562
2013	\$183,250	\$2,649	\$5,564	\$5,890	\$1,968	\$199,321
2014	\$193,400	\$2,849	\$5,984	\$4,768	\$2,506	\$209,507
2015	\$202,193	\$3,065	\$6,435	\$3,642	\$2,124	\$217,459
2016	\$214,422	\$3,296	\$6,921	\$7,094	\$2,486	\$234,219
2017	\$234,057	\$3,551	\$7,458	\$6,571	\$2,999	\$254,636
2018	\$236,588	\$3,820	\$8,021	\$5,165	\$3,043	\$256,637
2019	\$250,070	\$4,108	\$8,626	\$9,720	\$441	\$272,965
2020	\$262,918	\$4,418	\$9,278	\$10,927	\$89	\$287,630
2021	\$273,689	\$4,752	\$9,978	\$4,909	\$2,729	\$296,057

The table offers a horizontal comparison base for the benefit segment of the expense groups of the Plan across the past 10 years. The benefit segment is broken down by type.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**RETIRED MEMBERS BY TYPE OF BENEFIT**

**AGE AND SERVICE RETIREMENT**

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	0	\$0	1	\$2,522
50 - 54	6	58,395	2	17,546
55 - 59	83	37,039	205	11,335
60 - 64	307	33,795	1,140	12,654
65 - 69	663	33,202	2,635	12,965
70 - 74	671	28,839	2,958	11,379
75 - 79	545	28,747	2,430	10,740
80 - 84	393	28,537	1,652	9,018
85 - 89	240	25,840	1,111	8,974
90 & OVER	168	24,436	946	8,299
<b>TOTALS</b>	<b>3,076</b>	<b>\$30,023</b>	<b>13,080</b>	<b>\$10,966</b>

**ORDINARY DISABILITY (NON-DUTY) RETIREMENT**

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	8	\$15,768	10	\$16,870
50 - 54	12	15,892	35	13,712
55 - 59	37	18,275	117	11,961
60 - 64	62	18,682	190	10,966
65 - 69	52	16,838	194	11,283
70 - 74	37	16,409	178	10,208
75 - 79	25	15,957	105	9,721
80 - 84	11	14,750	37	9,478
85 - 89	3	23,014	11	7,626
90 & OVER	7	15,648	5	7,532
<b>TOTALS</b>	<b>254</b>	<b>\$17,219</b>	<b>882</b>	<b>\$10,919</b>

NOTE: This schedule is based on 2019 data (LAG)

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**RETIRED MEMBERS BY TYPE OF BENEFIT  
(CONT'D)**

**ACCIDENTAL DISABILITY (DUTY) RETIREMENT**

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	1	\$11,956	5	\$12,960
50 - 54	1	10,250	4	9,235
55 - 59	9	21,587	18	10,473
60 - 64	7	22,944	36	10,275
65 - 69	13	14,126	40	11,313
70 - 74	8	18,718	25	8,737
75 - 79	4	16,905	19	7,818
80 - 84	6	30,571	11	7,960
85 - 89	0	0	7	6,340
90 & OVER	5	27,901	4	9,453
<b>TOTALS</b>	<b>54</b>	<b>\$20,390</b>	<b>169</b>	<b>\$9,760</b>

**ACCIDENTAL DEATH (DUTY) RETIREMENT**

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	0	\$0	0	\$0
50 - 54	0	0	0	0
55 - 59	0	0	0	0
60 - 64	1	5,299	0	0
65 - 69	0	0	0	0
70 - 74	0	0	0	0
75 - 79	0	0	0	0
80 - 84	1	397	0	0
85 - 89	0	0	0	0
90 & OVER	0	0	0	0
<b>TOTALS</b>	<b>2</b>	<b>\$2,848</b>	<b>0</b>	<b>\$0</b>

NOTE: This schedule is based on 2019 data (LAG)

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**RETIRED MEMBERS BY TYPE OF BENEFIT  
(CONT'D)**

**OTHER BENEFICIARIES**

AGE OF RETIRANTS	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	32	\$9,715	40	\$10,437
50 - 54	9	4,235	36	5,396
55 - 59	17	7,543	43	6,893
60 - 64	33	10,613	41	11,698
65 - 69	24	16,672	66	14,040
70 - 74	56	17,993	72	14,540
75 - 79	49	13,399	81	20,445
80 - 84	37	12,938	97	20,356
85 - 89	30	15,565	99	18,282
90 & OVER	23	12,712	100	16,888
<b>TOTALS</b>	<b>310</b>	<b>\$13,322</b>	<b>675</b>	<b>\$15,542</b>

**ALL PENSIONERS AND BENEFICIARIES**

AGE OF RETIRANTS	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	41	\$10,951	56	\$11,670
50 - 54	28	21,051	77	9,691
55 - 59	146	27,897	383	10,987
60 - 64	410	29,389	1,407	12,337
65 - 69	752	31,213	2,935	12,856
70 - 74	772	27,352	3,233	11,365
75 - 79	623	26,950	2,635	10,977
80 - 84	448	26,874	1,797	9,633
85 - 89	273	24,680	1,228	9,698
90 & OVER	203	22,890	1,055	9,114
<b>TOTALS</b>	<b>3,696</b>	<b>\$27,587</b>	<b>14,806</b>	<b>\$11,158</b>

NOTE: This schedule is based on 2019 data (LAG)

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SUMMARY OF ACTIVES - BY AGE AND SERVICE: MALE**

Data Used In The June 30, 2019 (LAG) Actuarial Valuation  
For Determining Fiscal Year 2021 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
NUMBER:										
UNDER 20	3	0	0	0	0	0	0	0	0	3
20 TO 24	53	0	0	0	0	0	0	0	0	53
25 TO 29	261	5	0	0	0	0	0	0	0	266
30 TO 34	434	126	13	0	0	0	0	0	0	573
35 TO 39	399	219	80	12	0	0	0	0	0	710
40 TO 44	369	209	160	72	9	0	0	0	0	819
45 TO 49	310	223	230	133	40	8	0	0	0	944
50 TO 54	280	212	212	146	100	46	8	0	0	1,004
55 TO 59	285	210	174	142	135	88	52	5	0	1,091
60 TO 64	149	162	123	128	100	96	68	14	4	844
65 TO 69	52	69	67	49	31	23	17	6	4	318
70 & UP	31	31	37	26	20	10	7	3	7	172
<b>TOTAL</b>	<b>2,626</b>	<b>1,466</b>	<b>1,096</b>	<b>708</b>	<b>435</b>	<b>271</b>	<b>152</b>	<b>28</b>	<b>15</b>	<b>6,797</b>

SALARIES (IN THOUSANDS):

UNDER 20	115	0	0	0	0	0	0	0	0	115
20 TO 24	1,939	0	0	0	0	0	0	0	0	1,939
25 TO 29	12,469	249	0	0	0	0	0	0	0	12,718
30 TO 34	25,261	7,223	972	0	0	0	0	0	0	33,456
35 TO 39	25,720	13,313	6,522	881	0	0	0	0	0	46,436
40 TO 44	24,082	14,392	14,285	5,604	852	0	0	0	0	59,215
45 TO 49	19,716	14,314	21,264	12,613	3,537	751	0	0	0	72,195
50 TO 54	17,859	12,037	19,786	13,916	9,650	3,861	813	0	0	77,922
55 TO 59	16,903	11,212	14,727	11,773	13,276	8,345	5,269	382	0	81,887
60 TO 64	8,362	8,693	9,919	10,512	8,552	9,346	6,854	1,677	300	64,215
65 TO 69	3,133	3,476	5,244	3,883	2,600	1,889	1,827	771	478	23,301
70 & UP	1,243	999	2,249	1,469	1,948	876	770	338	780	10,672
<b>TOTAL *</b>	<b>156,802</b>	<b>85,908</b>	<b>94,968</b>	<b>60,651</b>	<b>40,415</b>	<b>25,068</b>	<b>15,533</b>	<b>3,168</b>	<b>1,558</b>	<b>484,071</b>

AVERAGE SALARIES: \*\*

UNDER 20	38,333	0	0	0	0	0	0	0	0	38,333
20 TO 24	36,585	0	0	0	0	0	0	0	0	36,585
25 TO 29	47,774	49,800	0	0	0	0	0	0	0	47,812
30 TO 34	58,205	57,325	74,769	0	0	0	0	0	0	58,387
35 TO 39	64,461	60,790	81,525	73,417	0	0	0	0	0	65,403
40 TO 44	65,263	68,861	89,281	77,833	94,667	0	0	0	0	72,302
45 TO 49	63,600	64,188	92,452	94,835	88,425	93,875	0	0	0	76,478
50 TO 54	63,782	56,778	93,330	95,315	96,500	83,935	101,625	0	0	77,612
55 TO 59	59,309	53,390	84,638	82,908	98,341	94,830	101,327	76,400	0	75,057
60 TO 64	56,121	53,660	80,642	82,125	85,520	97,354	100,794	119,786	75,000	76,084
65 TO 69	60,250	50,377	78,269	79,245	83,871	82,130	107,471	128,500	119,500	73,274
70 & UP	40,097	32,226	60,784	56,500	97,400	87,600	110,000	112,667	111,429	62,047
<b>TOTAL</b>	<b>59,711</b>	<b>58,600</b>	<b>86,650</b>	<b>85,665</b>	<b>92,908</b>	<b>92,502</b>	<b>102,191</b>	<b>113,143</b>	<b>103,867</b>	<b>71,218</b>

Note: Age is nearest birthday. Service is nearest year.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SUMMARY OF ACTIVES- BY AGE AND SERVICE : FEMALE**

Data Used In The June 30, 2019 (LAG) Actuarial Valuation  
For Determining Fiscal Year 2021 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
NUMBER:										
UNDER 20	1	0	0	0	0	0	0	0	0	1
20 TO 24	65	0	0	0	0	0	0	0	0	65
25 TO 29	564	14	0	0	0	0	0	0	0	578
30 TO 34	879	202	7	2	0	0	0	0	0	1,090
35 TO 39	902	387	160	21	1	0	0	0	0	1,471
40 TO 44	996	437	346	132	12	0	0	0	0	1,923
45 TO 49	1,033	630	391	231	65	12	1	0	0	2,363
50 TO 54	1,081	872	539	363	140	59	22	1	0	3,077
55 TO 59	879	889	817	604	230	106	41	22	0	3,588
60 TO 64	482	644	712	636	279	131	59	33	4	2,980
65 TO 69	152	275	318	282	161	63	17	14	8	1,290
70 & UP	54	109	146	137	94	33	17	7	5	602
<b>TOTAL</b>	<b>7,088</b>	<b>4,459</b>	<b>3,436</b>	<b>2,408</b>	<b>982</b>	<b>404</b>	<b>157</b>	<b>77</b>	<b>17</b>	<b>19,028</b>

SALARIES (IN THOUSANDS):

UNDER 20	54	0	0	0	0	0	0	0	0	54
20 TO 24	2,566	0	0	0	0	0	0	0	0	2,566
25 TO 29	31,362	704	0	0	0	0	0	0	0	32,066
30 TO 34	51,618	14,148	426	216	0	0	0	0	0	66,408
35 TO 39	46,204	26,594	12,063	1,515	98	0	0	0	0	86,474
40 TO 44	42,772	25,534	26,172	10,018	972	0	0	0	0	105,468
45 TO 49	37,733	29,832	23,296	16,265	5,488	969	101	0	0	113,684
50 TO 54	34,873	34,307	25,869	18,012	9,065	4,511	1,880	117	0	128,634
55 TO 59	27,443	30,899	32,615	26,998	12,898	6,816	2,799	1,657	0	142,125
60 TO 64	15,149	22,540	27,694	27,730	13,793	7,543	4,549	2,596	299	121,893
65 TO 69	4,941	8,704	10,728	11,808	6,865	3,131	1,139	1,087	565	48,968
70 & UP	1,242	3,386	4,319	5,068	3,744	1,510	871	410	305	20,855
<b>TOTAL *</b>	<b>295,957</b>	<b>196,648</b>	<b>163,182</b>	<b>117,630</b>	<b>52,923</b>	<b>24,480</b>	<b>11,339</b>	<b>5,867</b>	<b>1,169</b>	<b>869,195</b>

AVERAGE SALARIES: \*\*

UNDER 20	54,000	0	0	0	0	0	0	0	0	54,000
20 TO 24	39,477	0	0	0	0	0	0	0	0	39,477
25 TO 29	55,606	50,286	0	0	0	0	0	0	0	55,478
30 TO 34	58,724	70,040	60,857	108,000	0	0	0	0	0	60,925
35 TO 39	51,224	68,718	75,394	72,143	98,000	0	0	0	0	58,786
40 TO 44	42,944	58,430	75,642	75,894	81,000	0	0	0	0	54,846
45 TO 49	36,528	47,352	59,581	70,411	84,431	80,750	101,000	0	0	48,110
50 TO 54	32,260	39,343	47,994	49,620	64,750	76,458	85,455	117,000	0	41,805
55 TO 59	31,221	34,757	39,920	44,699	56,078	64,302	68,268	75,318	0	39,611
60 TO 64	31,429	35,000	38,896	43,601	49,437	57,580	77,102	78,667	74,750	40,904
65 TO 69	32,507	31,651	33,736	41,872	42,640	49,698	67,000	77,643	70,625	37,960
70 & UP	23,000	31,064	29,582	36,993	39,830	45,758	51,235	58,571	61,000	34,643
<b>TOTAL</b>	<b>41,755</b>	<b>44,101</b>	<b>47,492</b>	<b>48,850</b>	<b>53,893</b>	<b>60,594</b>	<b>72,223</b>	<b>76,195</b>	<b>68,765</b>	<b>45,680</b>

Note: Age is nearest birthday. Service is nearest year.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**SUMMARY OF ACTIVES - BY AGE AND SERVICE: MALE AND FEMALE**

Data Used In The June 30, 2019 (LAG) Actuarial Valuation  
For Determining Fiscal Year 2021 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
NUMBER:										
UNDER 20	4	0	0	0	0	0	0	0	0	4
20 TO 24	118	0	0	0	0	0	0	0	0	118
25 TO 29	825	19	0	0	0	0	0	0	0	844
30 TO 34	1,313	328	20	2	0	0	0	0	0	1,663
35 TO 39	1,301	606	240	33	1	0	0	0	0	2,181
40 TO 44	1,365	646	506	204	21	0	0	0	0	2,742
45 TO 49	1,343	853	621	364	105	20	1	0	0	3,307
50 TO 54	1,361	1,084	751	509	240	105	30	1	0	4,081
55 TO 59	1,164	1,099	991	746	365	194	93	27	0	4,679
60 TO 64	631	806	835	764	379	227	127	47	8	3,824
65 TO 69	204	344	385	331	192	86	34	20	12	1,608
70 & UP	85	140	183	163	114	43	24	10	12	774
<b>TOTAL</b>	<b>9,714</b>	<b>5,925</b>	<b>4,532</b>	<b>3,116</b>	<b>1,417</b>	<b>675</b>	<b>309</b>	<b>105</b>	<b>32</b>	<b>25,825</b>

SALARIES (IN THOUSANDS):

UNDER 20	169	0	0	0	0	0	0	0	0	169
20 TO 24	4,505	0	0	0	0	0	0	0	0	4,505
25 TO 29	43,831	953	0	0	0	0	0	0	0	44,784
30 TO 34	76,879	21,371	1,398	216	0	0	0	0	0	99,864
35 TO 39	71,924	39,907	18,585	2,396	98	0	0	0	0	132,910
40 TO 44	66,854	39,926	40,457	15,622	1,824	0	0	0	0	164,683
45 TO 49	57,449	44,146	44,560	28,878	9,025	1,720	101	0	0	185,879
50 TO 54	52,732	46,344	45,655	31,928	18,715	8,372	2,693	117	0	206,556
55 TO 59	44,346	42,111	47,342	38,771	26,174	15,161	8,068	2,039	0	224,012
60 TO 64	23,511	31,233	37,613	38,242	22,345	16,889	11,403	4,273	599	186,108
65 TO 69	8,074	12,180	15,972	15,691	9,465	5,020	2,966	1,858	1,043	72,269
70 & UP	2,485	4,385	6,568	6,537	5,692	2,386	1,641	748	1,085	31,527
<b>TOTAL *</b>	<b>452,759</b>	<b>282,556</b>	<b>258,150</b>	<b>178,281</b>	<b>93,338</b>	<b>49,548</b>	<b>26,872</b>	<b>9,035</b>	<b>2,727</b>	<b>1,353,266</b>

AVERAGE SALARIES: \*\*

UNDER 20	42,250	0	0	0	0	0	0	0	0	42,250
20 TO 24	38,178	0	0	0	0	0	0	0	0	38,178
25 TO 29	53,128	50,158	0	0	0	0	0	0	0	53,062
30 TO 34	58,552	65,155	69,900	108,000	0	0	0	0	0	60,051
35 TO 39	55,284	65,853	77,438	72,606	98,000	0	0	0	0	60,940
40 TO 44	48,977	61,805	79,955	76,578	86,857	0	0	0	0	60,059
45 TO 49	42,777	51,754	71,755	79,335	85,952	86,000	101,000	0	0	56,208
50 TO 54	38,745	42,753	60,792	62,727	77,979	79,733	89,767	117,000	0	50,614
55 TO 59	38,098	38,318	47,772	51,972	71,710	78,149	86,753	75,519	0	47,876
60 TO 64	37,260	38,751	45,046	50,055	58,958	74,401	89,787	90,915	74,875	48,668
65 TO 69	39,578	35,407	41,486	47,405	49,297	58,372	87,235	92,900	86,917	44,943
70 & UP	29,235	31,321	35,891	40,104	49,930	55,488	68,375	74,800	90,417	40,733
<b>TOTAL</b>	<b>46,609</b>	<b>47,689</b>	<b>56,962</b>	<b>57,215</b>	<b>65,870</b>	<b>73,404</b>	<b>86,964</b>	<b>86,048</b>	<b>85,219</b>	<b>52,401</b>

Note: Age is nearest birthday. Service is nearest year.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**ANNUAL AVERAGE BENEFIT PAYMENT AMOUNTS**

FISCAL YEAR ENDED JUNE 30	SERVICE RETIREMENT BENEFITS			ORDINARY (NON-DUTY) DISABILITY BENEFITS			ACCIDENTAL (DUTY) DISABILITY BENEFITS			SURVIVOR BENEFITS		
	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE
2010 (Lag)	12,435	\$11,844	\$987	671	\$10,655	\$888	133	\$12,700	\$1,058	730	\$13,356	\$1,113
2011 (Lag)	12,841	\$12,244	\$1,020	698	\$10,975	\$915	138	\$12,559	\$1,047	722	\$13,724	\$1,144
2012 (Lag)	13,218	\$12,520	\$1,043	731	\$11,393	\$949	148	\$12,490	\$1,041	777	\$13,969	\$1,164
2013 (Lag)	13,662	\$12,811	\$1,068	795	\$11,620	\$968	153	\$12,809	\$1,067	845	\$14,579	\$1,215
2014(Lag)	14,150	\$12,932	\$1,078	853	\$11,680	\$973	156	\$12,268	\$1,022	836	\$14,435	\$1,203
2015(Lag)	14,572	\$13,303	\$1,109	890	\$12,208	\$1,017	159	\$12,341	\$1,028	817	\$14,391	\$1,199
2016(Lag)	15,034	\$13,420	\$1,118	937	\$11,957	\$996	168	\$13,377	\$1,115	798	\$14,869	\$1,239
2017(Lag)	15,454	\$13,722	\$1,144	999	\$11,960	\$997	182	\$12,585	\$1,049	790	\$15,010	\$1,251
2018(Lag)	15,979	\$14,138	\$1,178	1085	\$12,250	\$1,021	209	\$12,642	\$1,054	768	\$15,076	\$1,256
2019(Lag)	16,156	\$14,594	\$1,216	1136	\$12,328	\$1,027	223	\$12,334	\$1,028	987	\$14,819	\$1,235

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM  
QUALIFIED PENSION PLAN**

**PARTICIPATING EMPLOYERS  
AS OF JUNE 30, 2019 (LAG)**

Employer	As of June 30, 2019 (Lag)		As of June 30, 2010 (Lag)	
	Number of Employees	Annual Payroll	Number of Employees	Annual Payroll
<b>NYC Department of Education<sup>1</sup></b>	25,106	\$ 1,275,823,048	22,763	\$ 860,607,760
<b>NYC Schools Construction Authority</b>	705	76,852,992	544	50,972,214
<b>Charter Schools</b>				
<b>Beginning with Children<sup>2</sup></b>	0	-	5	157,507
<b>KIPP Academy</b>	0	-	0	-
<b>Renaissance</b>	14	590,315	12	552,655
<b>TOTAL</b>	<b>25,825</b>	<b>\$ 1,353,266,355</b>	<b>23,324</b>	<b>\$ 912,290,136</b>

<sup>1</sup> A limited (de minimis) number of these employees have been reported as employed by employers other than those listed in the table. For actuarial valuation purposes these employees are included with the NYC Department of Education pending confirmation of status.