
New York City Fire Pension Funds



**Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York
For The Fiscal Years Ended
June 30, 2019 and June 30, 2018**

New York City Fire Pension Funds

One Battery Park Plaza, 9th Floor, New York, N.Y. 10004
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Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York
For Fiscal Years Ended
June 30, 2019 and June 30, 2018

Prepared under the
Direction of:

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New York City Fire Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Introductory Section

Part I

Fiscal Year Ended June 30, 2019

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Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**New York Fire Department
Pension Funds**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2018

Christopher P. Morrill

Executive Director/CEO

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NEW YORK CITY FIRE PENSION FUND
ONE BATTERY PARK PLAZA, 9TH FLOOR
NEW YORK, NY 10004
(929) 436-0099

Patrick M. Dunn
Executive Director

December 11, 2019

TO: The Board of Trustees
New York City Fire Pension Funds

I am pleased to present the Comprehensive Annual Financial Report (“CAFR”) of the New York City Fire Pension Funds ("Fire" or the "Funds") for the Fiscal Year ended June 30, 2019. Our CAFR contains combined financial statements and disclosures for the New York City Fire Pension Fund qualified pension plan (“QPP”) and two additional funds administered by Fire: the New York City Firefighters’ Variable Supplements Fund (“FFVSF”) and the New York City Fire Officers’ Variable Supplements Fund (“FOVSF”). Management is responsible for the preparation, accuracy and completeness of this presentation. We believe that the data in this report is a fair representation of the financial position and results of operations of the Funds, and to the best of our knowledge the information is accurate and includes all required disclosures. Our report is organized into the Introductory, Financial, Investment, Actuarial and Statistical sections. Users of the financial statements are encouraged to review the Management Discussion and Analysis (MD&A) presented in the financial section.

Profile of the Funds

The New York City Fire Pension Fund, formerly known as the New York Fire Department Subchapter Two Pension Fund (formerly Article 1-B), was established pursuant to Local Law No. 53, enacted July 14, 1941. On that date, all participants covered under Article 1-A and subsequent appointees to the Fire Department were granted the option of membership in either Article 1-A or Subchapter Two, in accordance with the legislation. At that time, all members of the Article 1-A Fund became participants in the Fund established under Subchapter Two and, with one exception, all new appointees elected membership in the Subchapter Two Pension Fund.

Effective July 1, 1980, the Article 1-A Fund was terminated and its assets transferred to the Subchapter Two Pension Fund. Prior to July 1, 1980, each member contributed by salary deduction an amount determined to provide approximately 25% of the cost of their benefits, while the City contributed the remaining 75%. The total contributions under this arrangement proved inadequate to finance benefits, and the Pension Fund became actuarially unsound.

Introductory Section

New York City Fire Pension Funds

Effective July 1, 1980, July 1, 1981, and July 1, 1982, new state laws amended the benefit provisions of the Fund by establishing a new Plan known as the Improved Benefits Plan (“IBP”). The IBP provides increased benefits supported by higher member and City contributions. The Original Plan (“OP”) was closed to new entrants on July 1, 1981 and membership in the IBP became mandatory for employees hired on or after that date. Members of the OP have the option, during specified periods each year, to transfer to the IBP.

The new laws were expected to correct previous under-funding of the Pension Fund. The provisions of these laws increased City contributions annually to provide an amount deemed sufficient to cover benefits, excluding annuities and refunds from member contribution accounts. These contributions cover the normal costs of operation each year.

The Firefighters’ Variable Supplements Fund (“FFVSF”) and the Fire Officers’ Variable Supplements Fund (“FOVSF”) (collectively the “VSFs”) operate pursuant to the provisions of Title 13, Chapter 3 of the New York City Administrative Code and provide supplemental benefits to retired Firefighters, Fire Marshals, Marine Titles, Fire Officers and Supervising Fire Marshals, respectively. To receive benefits from the VSFs, eligible participants must retire on or after October 1, 1968, and be receiving a service retirement benefit from the QPP. The VSFs are not considered pension plans; they provide defined supplemental payments other than pension or retirement system benefits.

Effective September 8, 2016, the New York City Fire Pension Fund, formerly known as the New York Fire Department Pension Fund, was granted corpus funding pursuant to Chapter 298 of the Laws of 2016. Under the new law, the Pension Fund ceased to be part of the Fire Department and became a separate agency. The law mandates budgetary approval by the offices of the Mayor and Comptroller, and a majority of the Board of Trustees. This authorizes the Fund to pay for operational expenses from Fund assets. The City later reimburses the Fund for expenses incurred.

Current Initiatives

Management’s primary commitment is to deliver the highest level of services to members and their beneficiaries. Our plan is to administer the Fund in a manner that will ensure accurate and timely payment of benefits to retirees and beneficiaries and provide members with the best available information so that they may plan for a secure retirement. To attain success in these areas, management has committed to improving our operations.

In an effort to improve member services and enhance operations, the Fund recently completed relocation of all activities to One Battery Park Plaza, 9th Floor, New York, NY 10004. The Fund opened for business at our new headquarters effective February 4, 2019 and was joined by the Subchapter II (1B) Medical Board on July 1, 2019. This initiative improved member services and efficiency by consolidating all Fund activities at one location in a bifurcated setting.

Our management team, in conjunction with technology consultants, concluded Phase I of modernizing our system of records management by converting the Fund’s voluminous paper files to electronic format. The Fund then proceeded to Phase II of our efforts by bringing the technology in-house and digitizing current documents as they are created. These electronic files are secure, accessible only to designated staff, and have assisted in generating efficiencies in our daily activities.

In an effort to improve education and communication with members of the Fund, we now conduct rank specific retirement seminars two times monthly at the Fund’s new headquarters.

In addition, the Fund is embarking on the beginning stages of developing an independent website to provide information and assistance to the membership.

Self Service Portal

Our pension information system's ("e-UPS") self-service portal has become an integral part of our customer service delivery. E-UPS is available through the Fire Department's intranet and may be accessed from computers at all firehouses. Each year, the number of members accessing the portal has increased. Also, members may download Annual Pension Statements, manuals and forms, view updated account details and obtain current estimates of retirement benefits.

New Member Applications

During Fiscal Year 2019, the pension managers and key personnel of the Fund successfully completed the processing of approximately 550 new membership applications. The Fund conducted two classes for probationary firefighters hired by the Fire Department during that period. These firefighters have since become members of the Fund under the new Tier 3 Enhanced legislation.

Retirement Processing

The Retirement Counseling Unit consulted with thousands of prospective retirees and processed retirement applications for over 480 members during Fiscal Year 2019. These applicants are now receiving 90% of their expected retirement benefit, pending finalization of calculations.

The Fund processed over 1,000 disability applications for consideration by the Subchapter II (1B) Medical Board and the Board of Trustees. This included World Trade Center disability as well as re-classification applications.

Financial Information**Economic Conditions in Fiscal Year 2019 and Outlook for Fiscal Year 2020**

Revenue derived from investment activities is a significant driver for the growth of our pension fund. The state of the economy and conditions in financial markets are therefore always of great interest. The U.S. economy, now in the eleventh year of expansion, continues to grow at a moderate rate, resulting in solid investment returns during the fiscal year. The Bureau of Economic Analysis ("BEA") reported that the U.S. economy, as measured by the change in real Gross Domestic Product ("GDP"), increased at an annual rate of 2.3% during Fiscal Year 2019. The labor market remains strong, showing solid job gains and declining unemployment levels. A current Bureau of Labor Statistics report revealed that the unemployment rate fell from 3.9% in July 2018 to 3.7% in July 2019. According to Federal Reserve Bank ("FRB") press releases during September 2019, the Open Market Committee ("OMC") will continue to monitor and adjust monetary policy in keeping with current economic activity and conditions in the labor market. This stance is consistent with the Committee's statutory mandate to foster maximum employment and price stability and keep inflation levels near the stated 2% level. Additionally, in September 2019, the OMC decided to lower the target range for the federal funds rate, to keep pace with the current state of economic activity. The target range for the federal funds short-term interest rate now stands between 1.75% and 2.00%.

The City's economy, as measured by change in Real Gross City Product (GCP), grew by 3.0% during Fiscal Year 2019, slightly less than the 3.1% rate achieved in Fiscal Year 2018. As reported by the Comptroller's Office, the City's economic growth was supported by gains in payroll employment and increases in average hourly earnings. New York City's private-sector created 79,700 new jobs during the period. Additionally, in Fiscal Year 2019, the City unemployment rate fell to 4.2%, the lowest on record.

After assessing the effects of current global conditions and domestic fiscal policies, the Comptroller's Office concluded that both the U.S economy and the City's economy will continue to grow, at a more moderate pace in Fiscal Year 2020. They identified major economic factors that could impact future growth, citing strong consumer spending, due to low unemployment rates and increasing wages as well as weak business investments. Among the risk factors, they noted the impact of escalating tariffs between the US and China and the increased probability of a global economic slowdown for Fiscal Year 2020. Overall, the Comptroller's Office expects the national economy to grow modestly in fiscal 2020, providing a favorable environment for similar growth in the City's economy.

Investments

The Comptroller of the City of New York is the designated custodian of the Funds' investment portfolio, subject to the direction, control and approval of the Boards of Trustees. The investment policy adopted by the Funds' Boards of Trustees is one that promotes growth through increasing returns. The strategy used to implement this policy is the allocation of assets, diversified into a wide range of instruments, to minimize overall risk, maintain liquidity and generate competitive returns.

The Funds' portfolio is comprised largely of holdings in domestic, international and private equities as well as fixed income securities. For Fiscal Year 2019, Fire's QPP investment portfolio of approximately \$14.5 billion under management, posted gains of 7.1 %, while the corresponding Policy Index posted gains of 7.7%. The FFVSF's investment portfolio of approximately \$503.0 million gained 6.2 %, while the corresponding Policy Index gained 6.3%. The FOVSF's investment portfolio of approximately \$350.1 million gained 6.2% and the Policy Index gained 6.3%. A detailed discussion of our investment policy, activities and results is presented in the Investment Section of our report.

Funding

Adequate funding is essential to ensure the financial soundness of a pension plan. Therefore, when funding levels are adequate, the total amount of accumulated assets will be comparable to the total amount of benefit obligations of the Funds. The City's funding policy is to contribute statutorily-required contributions, which, combined with member contributions and investment returns, meet current and future obligations. A well-funded plan gives Fund participants the confidence that their pension benefits are secure.

Fire's Fiduciary Net Position as a Percentage of Total Pension Liability, formerly "funded ratio," is calculated in accordance with Governmental Accounting Standards Board Statements Numbers 67 and 68. This ratio stands at 65.4% for Fiscal Year 2019, an increase from 64.4% in the previous period (Net Pension Liability - Note 6 of Notes to Financial Statements). Funding is further addressed in the actuarial section of our report.

Accounting and Reporting

This report was prepared to conform to principles of governmental accounting and reporting as 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 requirements of GASB Statement No. 67, "Financial Reporting for Pension Plans," have been adhered to in determining the information in the financial statements.

The accrual basis of accounting is used to record all transactions executed by the Pension Funds. Under this method, revenues are recognized when earned and expenses are recognized when the Funds incur an unconditional obligation to pay. The accrual basis of accounting provides a realistic picture of the financial activity and performance of the Pension Funds for each period.

Internal Control

The management of New York City Fire Pension Funds is responsible for establishing and maintaining an internal control structure, designed to ensure that the assets of the Funds are adequately safeguarded. Additionally, the control structure should ensure that all transactions are properly recorded to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The objective of internal control is to provide reasonable rather than absolute assurance that the financial statements are free of material misstatements. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived, and also that the evaluation of costs and benefits requires estimates and judgments to be made by management.

Procedures that reinforce established controls are periodically reviewed and evaluated by management as well as the New York City Comptroller's Office through its assessment of the Funds' Financial Integrity Compliance statement. In addition, independent certified public accountants audit the financial statements each year.

Professional Services

The Comptroller of the City of New York is the custodian of the Funds' assets and provides investment services through independent advisors and consultants. These advisors and consultants are disclosed in the Financial section of the CAFR in the schedule of Investment Expenses on pages 97 through 111 and the schedules of Administrative Expenses and Payments to Consultants on pages 112 and 113. We also include a listing of brokerage firms and the amounts paid to each firm in the Investment section of the CAFR in the schedule of Broker's Commissions and Fees on pages 129 through 137. Additionally, the Chief Actuary of the City's pension systems provides actuarial services, while the Corporation Counsel provides legal services to the Funds. The City of New York defrays the expenses associated with these services.

Independent Audit

The New York City Fire Pension Funds are required to undergo an annual audit by independent certified public accountants in accordance with generally accepted auditing standards. The accounting firm of Marks Paneth LLP was selected to perform the annual audits for the Fiscal Years ended June 30, 2016 through June 30, 2019. The Independent Auditor's Report for the Fiscal Years ended June 30, 2019 and 2018 on the general-purpose financial statements and schedules of historical information required by the Governmental Accounting Standard Board ("GASB") is presented in the Financial section of this report. The Financial section also contains Management Discussion and Analysis (MD&A) with comparative data for Fiscal Years 2019, 2018 and 2017. The contents of this letter should be considered along with additional information contained in the MD&A.

Other Information

Awards

The Government Finance Officers' Association of the United States and Canada ("GFOA") awarded a Certificate of Achievement for Excellence in Financial Reporting to the New York City Fire Pension Funds for its Comprehensive Annual Financial Report for the Fiscal Year ended June 30, 2018. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to conform to the Certificate of Achievement program's requirements, and we are submitting it to the GFOA to determine its eligibility for Fiscal Year 2019.

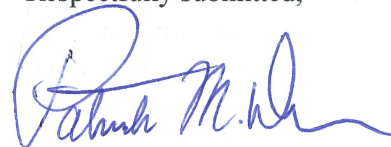
Acknowledgements

The compilation of this annual report represents the combined efforts of the Pension Administration management and staff, whom I commend for their outstanding work. Our report presents complete and reliable information to provide a basis for making management decisions, to comply with legal provisions, and to determine responsible stewardship of the assets of the Funds.

I wish to thank the Offices of the Mayor, Comptroller and Actuary for their expertise and for providing the wide range of valuable actuarial and statistical data that is an integral part of this report. I am also very grateful to the Board of Trustees for the guidance and support they have provided during this period.

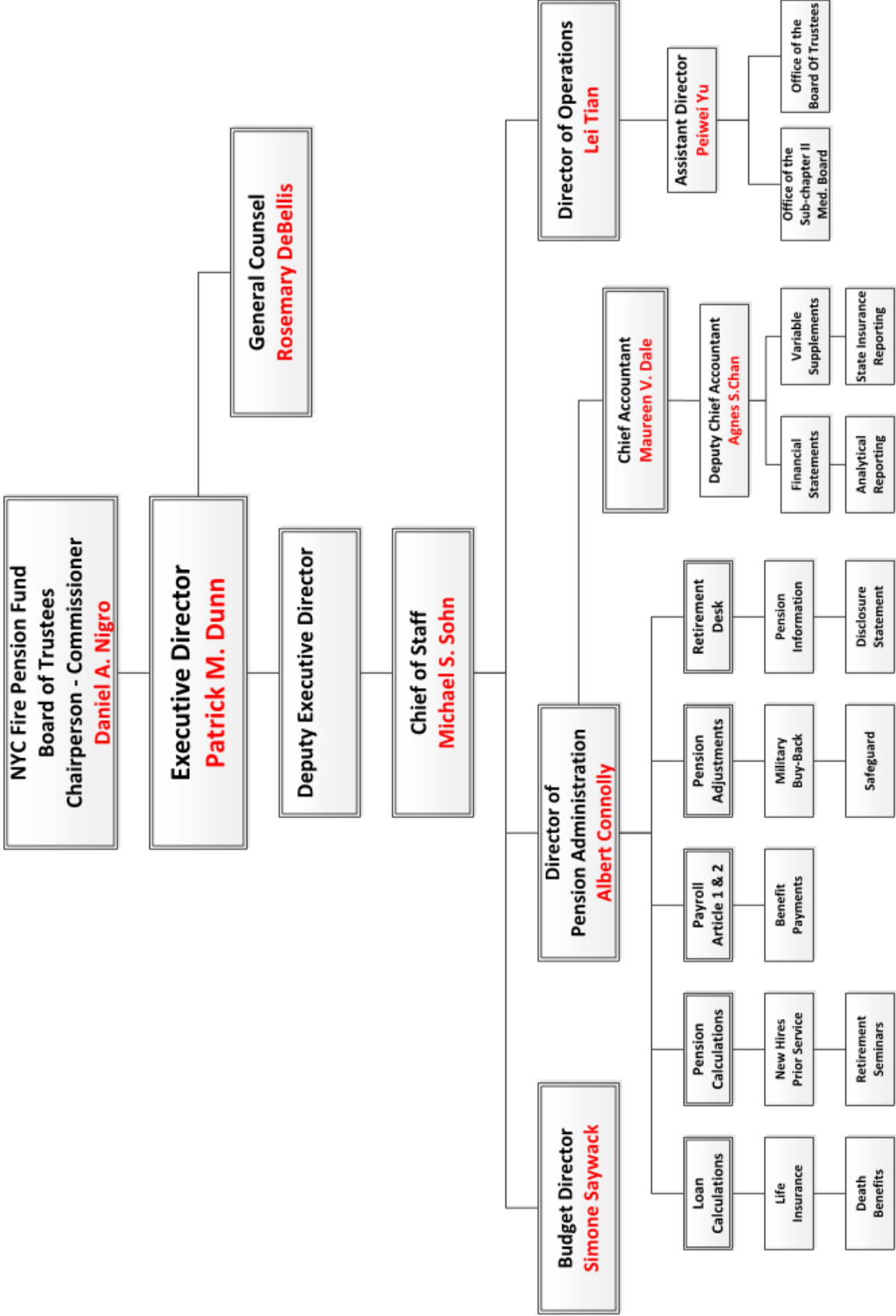
Finally, I wish to express my sincere gratitude to the managers and staff of the Fund, for their commitment to deliver the highest level of service to our members and for assuring the successful daily operations of the New York City Fire Pension Fund. Without their hard work and dedication, the Fund would not be able to deliver the level of service the members deserve.

Respectfully submitted,



Patrick M. Dunn
Executive Director

ADMINISTRATIVE ORGANIZATION



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MEMBERS OF THE BOARD OF TRUSTEES

As of June 30, 2019

Bill de Blasio	Mayor, City of New York
Daniel A. Nigro	Fire Commissioner and Chairperson
Scott M. Stringer	Comptroller, City of New York
Jacques Jiha	Commissioner, Department of Finance
Paul Mannix	Chiefs' Representative of the Uniformed Fire Officers' Association of Greater New York
Liam Guilfoyle	Captains' Representative of the Uniformed Fire Officers' Association of Greater New York
Jack Kielty	Lieutenants' Representative of the Uniformed Fire Officers' Association of Greater New York
Gerard Fitzgerald	President of the Uniformed Firefighters' Association of Greater New York
Leroy C. McGinnis	Vice President of the Uniformed Firefighters' Association of Greater New York
Edward Brown	Treasurer of the Uniform Firefighters' Association of Greater New York
John Kelly	Vice Chairman of the Uniformed Firefighters' Association of Greater New York
Peter De Vita	Representative of the Uniformed Pilots' and Marine Engineers' Association of Greater New York

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New York City Fire Pension Funds

Summary of Funds Benefits



Tier I - Tier II & Tier III

Fiscal Year Ended June 30, 2019

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Summary Funds and Options Benefits

TIERS I & II

The Fire Department Pension Fund, Subchapter II, (the “Fund”) is a corporation, separate from the Fire Department of The City of New York, your employer. All uniformed employees of the Department become members of the Fund upon appointment.

MEMBERSHIP

TIERS

Firefighters who became members of the Fund before July 1, 1973 are Tier 1 members. Firefighters who became members of the Fund on or after July 1, 1973 are Tier II members.

ORIGINAL PLAN – PRE-JULY 1, 1981 MEMBERS

Prior to July 1, 1981, all members of the Fund were enrolled in the “Original Plan”. After the Fund was financially restructured in 1981, the “Original Plan” was closed to new entrants, and the “Improved Benefits Plan,” which covers all firefighters hired on or after July 1, 1981, was adopted. It provides some increases in benefits, along with somewhat higher member and City contributions.

Although closed to new entrants, the “Original Plan” covered pre-7/1/81 members who had not elected to transfer to the “Improved Benefits Plan.” Legislation enacted in 1986 permitted such transfers in June, July, and August of every year.

IMPROVED BENEFITS PLAN (IBP) – POST-JUNE 30, 1981 MEMBERS

All firefighters who become members of the Fire Department Pension Fund on or after July 1, 1981 are covered only by the “Improved Benefits Plan.” Unless specifically stated otherwise, all information in this Summary Plan Description refers to members of the IBP only.

SUMMARY

<u>Date of Membership</u>	<u>Tier</u>	<u>Applicable Plan</u>
Pre-7/1/73	1	Original of Improved Benefits Plan
7/1/73-6/30/81	2	Original of Improved Benefits Plan
Post-6/30/81	2	Improved Benefits Plan

If your membership date or equated date is between June 17, 1971 and June 30, 1973, you are subject to the limitations on final salary imposed by the Kingston Law.

KINGSTON LAW LIMITATIONS

For all members of the Fund appointed between June 17, 1971 and June 30, 1973, the pensionable compensation for the final year of service is limited to 120% of the pensionable compensation for the year immediately preceding the final year. For example, a member's final year of service is July 6, 2009 through July 5, 2010. If between July 6, 2008 and July 5, 2009 the member earned \$90,000.00 in pensionable salary, holiday pay, night-shift differential, and overtime, the final year pensionable compensation cannot exceed \$108,000 (\$90,000 X 120%).

CONTRIBUTIONS**REQUIRED EMPLOYEE CONTRIBUTIONS**

Tier I and Tier II members contribute a percentage of all earnings through payroll deductions to a 20-year plan. Contribution rate is based on age at appointment. Member contributions earn interest, currently 8 ¼% per year. Contributions are required for the first twenty (20) years of allowable fire service. After 20 years, contributions will continue unless the member submits a written request to the Pension Bureau to discontinue the contributions.

Contributions and any interest earned are referred to as "accumulated deductions". The amount of accumulated deductions required to be in the member's account at any given time is referred to as the "minimum required contribution." The total minimum required contribution is determined on the member's 20th anniversary. Contributions made above the minimum required are referred to as "excess" contributions.

TAXATION

Contributions made before December 1989 were federally taxed. Regular contributions made since December 1989 are federally tax-deferred as per section 414(h) of the Internal Revenue Code, but are subject to state and local income taxation. Thus, upon retirement or termination, withdrawal of these contributions and interest earnings will be subject to federal taxation only. Members who are under the age 50 may be subject to an additional 10% Federal tax penalty and should consult a tax advisor before withdrawing excess contributions at retirement. Minimum required contributions may not be withdrawn except upon separation from service before retirement (i.e. resignation or termination).

VOLUNTARY EMPLOYEE CONTRIBUTIONS 50% INDICATOR

Members may make additional contributions equal to 50% of their required employee contributions on a voluntary basis. Since these contributions are not covered by section 414(h) of the Internal Revenue Code, they are subject to immediate federal, state and city income taxation. These additional contributions will also increase a member's excess contributions, which will provide an additional annuity, or may be withdrawn as a lump sum, at retirement.

ITHP WAIVER

The City of New York makes employer contributions to the Fund. The City of New York also pays a portion of employee contributions. These contributions are called "Increased-Take-Home-Pay" (ITHP) and currently equal 5% of gross salary. For example, assume an employee contribution rate of 7.3% of pay. With ITHP, the member contributes 2.3% (the "minimum required contribution") and the City contributes 5%.

Members may waive the ITHP and contribute at the full employee rate. These additional contributions are covered by section 414(h) of the Internal Revenue Code, and are therefore federally tax-deferred. Although this lowers take-home pay during employment, it results in either a greater annuity at retirement or a lump-sum return of any excess. For example, assume a contribution rate of 7.3% of pay, and the employee waives the ITHP. While the employee contributes 7.3% of pay, the City of New York continues to make ITHP contributions equal to 5%. Excess tax-deferred 414(h) contributions are taxable in the year withdrawn.

NOTE: From March 27, 1976 through September 30, 2000, the ITHP rate was 2.5%.

HOW TO REDUCE PAYROLL DEDUCTIONS (138-b REGULATIONS)

To increase take-home pay, required employee contributions may be reduced up to the amount of Social Security (FICA) contributions. If required contributions are less than FICA contributions, the member will not be making any pension contributions, thereby creating a deficit in his/her retirement account. For example, assume a member has a pension contribution rate of 7.5%. The required contribution rate is 2.5%, and the ITHP is 5%. Under the 138-B election, the member will not be making any pension contributions since his/her required contribution rate of 2.5% is less than the current Social Security rate of 6.2%. If the percentages change and the required contribution rate becomes greater than the FICA rate, the member would contribute the difference into the retirement account.

If the 138-B option is elected, Social Security benefits will not be affected. However, the value of the retirement allowance will be reduced because it is based in part on required employee contributions and the interest earned thereon. After maximum Social Security contributions have been reached during any calendar year, pension contributions will resume.

EXCESS CONTRIBUTIONS

At retirement, Service and Accidental Disability retirees can choose to take any excess contributions as either a lump-sum payment or as an additional annuity. Members retiring for Ordinary Disability are required to take a lump-sum payment of any excess. Members considering requesting a refund of excess contributions are reminded that withdrawal of 414(h) contributions and interest is subject to federal tax in the year withdrawn. In addition, members who are under age 50 at retirement may also be subject to an additional 10% Federal tax penalty and should consult a tax advisor prior to withdrawal. Retiring members may request a direct rollover of any taxable excess into a qualified plan such as the NYC Deferred Compensation/401K plans, or an IRA in order to defer payment of federal tax.

CREDITED SERVICE

Credited service is classified as uniformed service or non-uniformed service.

ALLOWABLE FIRE SERVICE

Twenty (20) years of allowable fire service are required for Service Retirement. Such service includes:

All member service rendered as a uniformed member of The New York City Fire Department in the competitive class of the civil service.

Credit for service rendered in the uniformed force of The New York City Police Department immediately preceding service in the uniformed force of the New York City Fire Department, provided application for such credited service is made within prescribed time limits and such credited service is transferred to the Fund.

New York City Employees' Retirement System (NYCERS) uniformed force service rendered immediately before appointment as a uniformed member of The New York City Fire Department, provided application for such credited service is made within prescribed time limits and such credited service is transferred to the Fund. Uniformed service from NYCERS includes uniformed service in the Department of Correction, Sanitation as well as service as an Emergency Medical Technician (EMT) or Fire Alarm Dispatcher.

It also includes all allowable Peace Officer service (as defined in Section 2.10 of the Criminal Procedure Law), service as Sheriff, Marshal, or D.A. Investigator, and any position specified in Appendix A of the agreement dated October 27, 2005 among The City of New York, the Uniformed Firefighters' Association and the Uniformed Fire Officers' Association.

Credit for any service rendered while a member of The New York State Policemen's and Firemen's Retirement System or the New York State & Local Retirement System, provided application for such credited service is made within prescribed time limits and such credited service is transferred to the Fund.

Credit for up to five (5) years of military service provided you were a member of a City retirement system at the time you entered military service and you immediately returned to City service upon discharge from the military.

Uniformed Services Employment & Reemployment Rights Act (USERRA) credit for members called off a Military Preferred List.

BUYBACK CREDIT

Chapter 548 of the Laws of 2000 allows members to purchase pension credit for up to three (3) years of certain wartime military service rendered prior to the commencement of the public employment. A member must have at least five (5) years of credited service to be eligible to receive credit under this law.

Chapter 646 of the Laws of 1999 – Tier Reinstatement: This law amends §645 of the RSSL and permits a member, who was previously a member of any New York public retirement system, to be deemed to have become a member of the current retirement system as of the original date of such previous ceased membership. If membership in the prior retirement system is based on certain designated law enforcement service, such service will be credited as “allowable” up-front service, towards the required 20-year period. For this purpose, such service shall include:

- a) Uniformed service in the police department, fire department or sanitation department of The City of New York or the State of New York or any agency or political subdivision thereof;
- b) Service as a peace officer as specified in §2.10 of the Criminal Procedure law (CPL); or
- c) Service in the title of sheriff, deputy sheriff, marshal district attorney investigator, or other State law enforcement positions. This benefit is available only where the member restores his or her refunded contribution balance with interest. In some cases, this may provide for a reinstatement of Tier status.

* Chapter 552 of the Laws of 2000 – Prior Service Credit: This law allows members who were eligible for membership in any of the New York State or New York City retirement systems, but did not become members of such system, to buy pension credit for the time that was eligible for membership. If membership in the prior retirement system is based on certain designated law enforcement service, such service will be credited as “allowable” up-front service. For this purpose, such service shall include:

- a) Uniformed service in the police department, fire department or sanitation department of the City of New York or the State of New York or any agency or political subdivision thereof;
- b) Service as a peace officer as specified in §2.10 of the Criminal Procedure Law (CPL); or
- c) Service in the title of sheriff, deputy sheriff, marshal, district attorney investigator, or other State law enforcement positions. Except for the service indicated above, all other service will be “Other Credited Service,” which counts as additional service credit after the completion of twenty (20) years in the fire pension system.

OTHER CREDITED SERVICE

Other Credited Service is any New York City service (except Teachers’ Retirement System service) which is not considered allowable credited service. It counts as additional service credit after completing the required twenty (20) years and includes service rendered while a member in a non-uniformed position with the New York City Employees’ Retirement System and membership in the Board of Education Retirement System.

However, there is no credit for prior non-uniformed service for members who are granted an accidental disability pension. Uniformed service credit that does not immediately precede uniformed service in the New York City Fire Department is Other Credited Service. Time not transferred can be purchased as a buyback under Chapter 646 or Chapter 552. All such Other Credited Service must be applied for within the time limits prescribed by law and transferred to the Fire Department Pension Fund.

RETIREMENT PROCESS

SERVICE RETIREMENT

Members may retire for service (non-disability) after completing 20 years of uniformed service. To initiate Service Retirement, Form BP-165 must be submitted through the chain of command. The Retirement Counseling Unit must receive the form at least (30) days before the date on which the member wishes to retire and at least ten (10) days before the date on which usage of accrued and terminal leave begins.

WITHDRAWAL OF SERVICE RETIREMENT APPLICATION

If a member has begun to utilize terminal leave and decides to withdraw the application for retirement, the FDNY Medical Board must evaluate the member for a duty determination before he/she can return to full duty.

DISABILITY RETIREMENT

A member may apply either for ordinary disability (non-service connected) retirement or accidental disability (service connected) retirement, or both. Applications for service or non-service incurred disability retirement shall be submitted to the Fire Commissioner on Form BP-409 (2 copies). The following steps are necessary before disability retirement is considered.

STEP I: SUBMISSION OF APPLICATION***Member's Application for Disability Retirement:***

A member may initiate the disability retirement process by submitting Form BP-409, whether or not there has been an examination by a Bureau of Health Services (BHS) physician or by the BHS Medical Board. However, the BHS Medical Board is required to make a determination of the member's fitness for duty status prior to or during the disability pension application process. When any officer submits an application for disability retirement, vacation leaves, accrued and terminal leaves must begin immediately.

Depending upon the results of an initial examination by a medical officer at the Fire Department's Bureau of Health Services, the member will be referred to the BHS Medical Board, which is comprised of three or more FDNY medical officers. The BHS Medical Board makes fitness for duty determinations. The BHS Medical Board examines the member and may make one of the following determinations:

- a) Temporarily unfit for full duty. In this case, the member is placed on light duty or medical leave with an exception of being returned to full duty.
- b) Permanently unfit for full duty. This category is also known as REC/LSS (Recommended Limited Service Squad or Long Term Light Duty). Pursuant to Mayoral Directive 78-14, the member may remain on Light Duty for up to one year.
- c) Undetermined. This requires examination by the full BHS Medical Board at the monthly meeting of all medical officers.
- d) Full Duty.

Fire Commissioner's Application for Disability Retirement:

Pursuant to Mayoral Executive Order No. 78-14, the Fire Commissioner must apply for the disability retirement of any member found permanently unfit for full firefighting duty by the BHS Medical Board. Within thirty days of the BHS Medical Board's determination that a member is permanently unfit for full firefighting duty (REC/LSS), the transcript or minutes from the BHS Medical Board are forwarded to the Pension Bureau Retirement Desk. The Pension Bureau Retirement Desk is then required to file a Fire Commissioner's Application for Disability Retirement with the 1-B Medical Board.

STEP II: REVIEW OF APPLICATION BY THE 1-B MEDICAL BOARD

The 1-B Medical Board is composed of three physicians and is independent of both the Fire Department and the Pension Board of Trustees. The 1-B Medical Board meets weekly and is the sole authority in determining whether a member is disabled for retirement/pension purposes. In reviewing an application, the 1-B Medical Board addresses the following questions:

- a) Is the member disabled for retirement purposes?
- b) If the member is disabled for retirement purposes, is the disability due to a line-of-duty accident? (a.k.a. the *Causation* question). Please note that while the 1-B Medical Board's disability determination is binding upon the Pension Board of Trustees, it may only make recommendations with respect to the causation component.

The applicant has the right to submit any and all evidence in support of a disability retirement and the 1-B Medical Board must evaluate all of the evidence and report its conclusions and recommendations to the Pension Board of Trustees.

The 1-B Medical Board's recommendation on the cause of a disability for retirement purposes is based on a review of the relevant medical records contained in the member's medical chart (from the Bureau of Health Services) and any additional documents submitted by the member, including relevant CD-72s.

Often, during its initial review of a case, the 1-B Medical Board may request that one of its impartial medical consultants evaluate the member.

The medical consultant will be a specialist that deals with the member's specific medical condition. After its initial review, the 1-B Medical Board reaches one of the following conclusions:

- a) Disabled due to line-of-duty accident (Accidental Disability)
- b) Disabled due to non-line-of-duty condition (Ordinary Disability)
- c) Not Disabled for retirement purposes (Denied)
- d) Decision deferred until the 1-B Medical Board has evaluated the consultant's report or other additional evidence.

The 1-B Medical Board's certification of each is forwarded to the Board of Trustees for a final determination of the disability application.

STEP III: REVIEW BY THE BOARD OF TRUSTEES

The Board of Trustees consists of City and Union representatives, each with an equal number of votes. During its monthly meetings, the Board reviews the reports of the 1-B Medical Board, the relevant medical records and the relevant CD-72s. Although the Board of Trustees cannot change the 1-B Medical Board’s decision on whether a member is permanently disabled from full duty, it can overrule the 1-B Medical Board’s recommendation on causation. When the Board of Trustees cannot reach the vote necessary to pass a motion (7/12 or 14 votes) on the cause of the disability, the member will be retired for ordinary disability. This is based on a court case known as the “Schoeck Decision.”

WITHDRAWAL OF DISABILITY RETIREMENT APPLICATION

If the Fire Commissioner applied for a member’s disability retirement, only the Fire Commissioner can stop the process. If a member has applied for disability retirement, the member may stop the process by withdrawing the application. If the 1-B Medical Board’s doctors have found the member disabled for retirement purposes, the member may not return to full duty. However, members found to be disabled by the 1-B Medical Board will be afforded the opportunity to request a reasonable accommodation as outlined in PAID 1/2000.

A request to withdraw a disability retirement application by the member shall be made on a letter-head report to the Fire Commissioner and processed through the chain of command. The report shall include:

NAME, RANK, UNIT, SOCIAL SECURITY NUMBER, REASON MEMBER SUBMITTED RETIREMENT APPLICATION, REASON FOR REQUESTING WITHDRAWAL, DATE(S) OF PREVIOUS RETIREMENT APPLICATIONS AND WITHDRAWAL REQUEST

Upon receipt of the request, the Bureau of Human Resources shall direct the member to the Bureau of Health Services for examination. The Fire Commissioner may elect to either withdraw or keep in effect the Fire Commissioner’s application for retirement.

An application to withdraw shall be denied for either of the following reasons:

The member is found unfit for any duty by the Fire Department BHS Medical Board or the member has had disability certified by the Board of Trustees prior to receipt of his/her withdrawal application.

If the application to withdraw is approved, member will be notified to report to the Bureau of Human Resources for clarification of duty status and suitable assignment.

RETIREMENT PROCEDURES FOR ALL RETIREES

During the retirement process, retirees will be advised regarding health insurance, pension options, post-retirement employment restrictions, withholding tax, and related issues. At this time, the member's projected retirement date will be determined, and an estimate of the final pension allowable, as well as the amount of the partial allowance, will be determined. NOTE: Health insurance is not provided for members with less than ten (10) years of service, retiring on an ordinary disability.

Members are generally entitled to take all vacation leave, accrued and terminal leave (normally one (1) day per four (4) completed months of service) after their last day on duty, and remain on the active payroll during this time. Terminal leave is not granted for vested separations. Under limited circumstances, service retirees and vested separations may submit a request for withdrawal of their retirement application before going off the payroll. To do so, the Retirement Counseling Unit must be notified at least ten (10) business days before the date on which the member is requesting a return to active status. (Note: Service retirees who have begun to utilize terminal leave must be evaluated by the FDNY Medical Board prior to return to full duty).

Upon retirement, a member must return all Department property and obtain a Property Release Form (BP-71) from the Bureau of Personnel. The retiree must forward a copy of the Property Release Form to the Pension Bureau before any pension checks are issued. In addition, a copy of the Property Release Form must also be forwarded to Uniformed Payroll for release of the final active paycheck.

TIERS I and II: SERVICE RETIREMENT ALLOWANCE

Members will be eligible to receive a retirement allowance after completing 20 years of allowable fire service.

The Service retirement allowance is calculated as follows:

50% of final salary
plus
 $1/60^{\text{th}}$ x total earnings after your 20th anniversary
plus
 $1/80^{\text{th}}$ x average annual earnings of the last 5 years x the years and days of other credited service,
if applicable
plus
a pension based on the actuarial value of the ITHP contributions made after completion of 20
years of allowable fire service, together with the interest earned on those contributions
plus
an annuity based on any accumulations in excess of minimum required contributions remaining
in the member's account at retirement, including interest earned on those contributions
less
the annuity value of any shortage in the member's account (shortages result from a contribution
rate deficiency, prior loans, unpaid loans, and/or nonpayment of contributions).

TIERS I and II: DISABILITY RETIREMENT ALLOWANCE

ORDINARY DISABILITY RETIREMENT

A member is eligible to receive an ordinary disability retirement allowance, regardless of age or years of credited service, provided the 1-B Medical Board and the Board of Trustees have found the member physically or mentally unable to perform his/her regular job duties.

An Ordinary Disability retirement allowance is calculated as follows:

years and days of all service, (uniformed and other credited service)
divided by 40 and multiplied by final salary
less
the annuity value of any shortages in the member's account (shortages result from prior loans,
unpaid loans, and/or nonpayment of contributions)
plus
a lump-sum return of any accumulated deductions in excess of the minimum required
contributions remaining in the account at retirement, including interest earned on these
contributions.

ACCIDENTAL DISABILITY RETIREMENT

There is no minimum service requirement for accidental disability retirement. The 1-B Medical Board must find a member physically (includes the presumptive Lung Law and the Heart/Cancer/Infectious Diseases/WTC Bills) or mentally unable to perform his/her regular job duties because of an accidental injury received in the line-of-duty. Such disability must not be the result of a member's own negligence.

An Accidental Disability retirement allowance is calculated as follows:

a pension equal to 75% of final salary
plus
1/60th x total earnings after the member's 20th anniversary
plus
an additional pension based on the actuarial value of the ITHP reserve account as of the effective
date or retirement
plus
an annuity based on the actuarial value of accumulated deductions as of the effective date of
retirement
less
a deduction for the annuity value of any loan outstanding at time of retirement.

Notes:

For members retiring on or after January 1, 2009, accidental disability pensions are federally taxed on the 1/60th portion, ITHP over 20 years, and the annuity based on contributions attributed to 414H and interest. The balance of an accidental disability pension is Federally tax-free. However, the entire accidental disability is exempt from New York State and New York City Income Tax.

There is no credit for prior non-uniformed City service for IBP members granted an accidental disability pension.

TIERS I and II: OPTIONS**MAXIMUM RETIREMENT ALLOWANCE (NO OPTION)**

At retirement, a member may elect to receive the maximum retirement allowance. The maximum retirement allowance is the largest benefit that can be received. Payments are made throughout the retiree's lifetime and cease upon death. There are no survivor benefits under the maximum retirement allowance.

OPTIONS

An option is an election that provides a continued pension benefit or lump-sum payment to a beneficiary. When electing an option, the member accepts a reduced retirement allowance during his/her lifetime. The reduction is based on the option selected, age, and sometimes the age of the beneficiary. After certification by the Office of the Actuary, the pension is finalized. Once the member receives his/her full pension check, the option selected cannot be changed. There are four options available to Tier I members.

OPTION 1

Option 1 is available only to Tier 1 members appointed prior to July 1, 1973.

This option sets up an initial pension reserve. If the retiree dies before receiving payments equal to this total pension reserve (the reserve set aside to pay benefits over a retiree's lifetime), the difference between the total pension reserve and all payments received will be awarded to the beneficiary. This option may be selected for the annuity reserve, the pension reserve, or both. More than one beneficiary may be named, and the beneficiary (ies) may be changed at any time.

OPTION 2

Joint and 100% Survivor: The retiree receives a reduced monthly lifetime allowance. Upon the death of the retiree, this option allows the named beneficiary to receive 100% of the reduced pension allowance for life. Only one beneficiary may be named, and the designated beneficiary may not be changed once the option is in effect.

OPTION 3

Joint and 50% Survivor: The retiree receives a reduced monthly lifetime allowance. Upon the death of the retiree, this option allows the named beneficiary to receive 50% of the reduced pension allowance for life. Only one beneficiary may be named, and the designated beneficiary may not be changed once this option is in effect.

OPTION 4

Lump Sum: The retiree receives a reduced annual pension allowance for life with the provision that upon the death of the retiree, the beneficiary(ies) will receive a limited lump-sum payment specified by the retiree at the time the option is chosen. More than one beneficiary may be named and the beneficiary(ies) may be changed at any time;

Annuity: The retiree receives a reduced annual pension allowance for life with the provision that upon the death of the retiree, the beneficiary will receive a specified annual annuity, as pre-determined by the retiree. Only one beneficiary may be named, and the designated beneficiary may not be changed once the option is in effect.

“POP-UP” OPTION MODIFICATION

Under this option modification, if the named beneficiary predeceases the retiree, the retirement allowance reverts back to the maximum retirement allowance. The “Pop-up” may ONLY be applied to Option 2, Option 3, and Option 4 annuities. There is an extra cost for this option.

FIVE YEAR OR TEN-YEAR CERTAIN

The Five-Year or Ten-Year Certain Options are available only to Tier 2 members appointed after July 1, 1973.

FIVE-YEAR CERTAIN: The Retiree receives a reduced monthly lifetime allowance. If the retiree dies within five years of his /her retirement, the benefit is paid to the retiree’s beneficiary either in a lump sum or in monthly payments for the remainder of the five years.

TEN-YEAR CERTAIN: The Retiree receives a reduced monthly lifetime allowance. If the retiree dies within ten years of his /her retirement, the benefit is paid to the retiree’s beneficiary either in a lump sum or in monthly payments for the remainder of the ten years.

Should the beneficiary predecease the retiree, upon the death of the retiree, a lump sum will be paid to the estate of said retiree. The beneficiary may be changed at any time with this option.

Notes:

Fifty percent (50%) of any cost-of-living adjustments (COLAs) are paid to a spouse under Options 2 and 3, under Option 4 Annuity, and any “Pop-up” option, whose deceased spouse, if alive, would be eligible for a COLA benefit increase.

Under current tax laws, for the beneficiary(ies) of line-of-duty (accidental) disability retirees, all options are federally taxed on a portion of the pension that was taxable to the retiree, however, the total pension received under an option is exempt from New York State and New York City taxation.

TIERS I and II: SURVIVOR BENEFITS

Tier I survivor benefits are paid if a member dies before retirement, whether death occurs on or off the job.

There are two types of death benefits:

- Death Gamble Benefit – for ordinary (non-line-of-duty) deaths.
- Accidental Death Benefit (Line-of-Duty)

DEATH GAMBLE BENEFIT

For non-line-of-duty deaths, the benefit is computed as though the member had retired the day before his/her death. The designated beneficiary(ies) will be eligible to receive an amount equal to the reserve for the service retirement allowance that would have been payable had the member retired on the day before his/her death. If the beneficiary predeceases the member, this death benefit is paid to the member’s estate.

ACCIDENTAL (LINE –OF-DUTY) DEATH BENEFIT

If the 1-B Medical Board determines that death is the result of an accidental injury received in the line of duty, an accidental death benefit will be paid as follows:

a pension equal to 50% of final compensation will be paid to a surviving spouse, to continue for
life;
or

if there is no surviving spouse or if a surviving spouse dies before any eligible child attains 18 years of age (or, if a student, 23 years of age), then to such child or children under such age, until every such child dies or attains such age;

or

if there is no surviving spouse or eligible child under the age of 18 years (or 23 years, if a student), then to the member's dependent parent(s) to continue for life;

plus

a lump sum equal to the balance of the member's ITHP reserve account

plus

a lump sum equal to the member's accumulated deductions/contributions will be paid to the designated beneficiary(ies)

plus

a Special Accidental Death benefit under Section 208-f of the General Municipal Law (State portion)

This Special Accidental Death benefit, when added to the 50% of final compensation pension paid by the City, and any Social Security Death benefits payable to a surviving spouse, equal to 100% of the member's final salary (final salary is defined as the last 12 months of earnings, and is never less than the full salary of a first-grade Firefighter). The Special Accidental Death benefit is increased from time to time by act of the New York State Legislature and is not payable to dependent parents. Effective September 1, 2000, any COLA (Cost of Living Adjustment) received on the 50% pension payable from the Fund shall be subtracted from the Special Accidental Death Benefit (State's portion).

BENEFICIARY DESIGNATION

Upon membership in the Fund, a beneficiary(ies) for the Life Insurance benefit and for Death Benefits is (are) elected. A member may change beneficiary(ies) at any time by filing the appropriate form(s) with the Pension Bureau. Please note that the beneficiary(ies) designated on the Death Benefits beneficiary form will receive this benefit in the event of the member's non-line-of-duty death. In the event of Accidental Death (Line-of-Duty), benefits will be paid to the appropriate beneficiary(ies) in accordance with the Administrative Code of the City of New York and other applicable sections of the law.

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Summary Funds Benefits

TIER III

This Summary Plan Description (SPD) summarizes the benefits provided by the New York City Fire Department Pension Fund, Subchapter II (the “Fire Pension Fund”), for Tier 3 members. Anyone who became a member of the Fire Pension Fund between July 1, 2009 and March 31, 2012 is a Tier 3 member. Those who become members of the Fire Pension Fund on or after April 1, 2012 are “modified Tier 3” members, also known as Tier 6. The primary difference is that “Modified Tier 3” members have a 5 year Final Average Salary (FAS) calculation upon retirement. Unless otherwise noted, the information presented in this SPD is applicable to both Tier 3 and Modified Tier 3 members, and will be collectively referred to as “Tier 3.” On September 8, 2016 Governor Andrew Cuomo signed into law Chapter 298 of the Laws of 2016, granting “Enhanced Plan” benefits to current Tier 3 members of the New York City Fire Department Pension Fund (FDNY Pension) who opt into the Enhanced Plan. All Tier 3 members with the exception of two joined the enhanced Benefit plan. All new employees appointed after 09/08/2016 will become enhanced benefit members. The new law grants these members of the Fire Pension Fund $\frac{3}{4}$ Disability Benefits, and Presumptive Benefits for certain illnesses covered under the Heart, Lung, Cancer and Infectious Diseases Bills. Enhanced members who join will be required to pay an additional 2% contribution, which could eventually rise to a maximum of 3%, after a three year look-back period, based on actuarial assumptions made by the City of New York.

This summary is as accurate as possible. However, in the event of conflict between this summary and any applicable law, including but not limited to, the Administrative Code of the City of New York (ACNY), the Retirement and Social Security Law (RSSL), and the rules of the Fire Pension Fund, the applicable Law or Rule will govern.

MEMBERSHIP

Uniformed members of the FDNY appointed on or after July 1, 2009 are subject to Article 14 of the RSSL, also known as Tier 3.

CONTRIBUTIONS

The Enhanced Plan members are required to contribute the basic 3% and an additional 2 % of pensionable salary for the first 25 years of credited service (RSSL § 517). Member contributions are federally tax-deferred as per section 414(h) of the Internal Revenue Code, but are subject to state and local income taxation. In the future, the additional contributions may range from 2% to 3% depending on specified future cost calculations. For members appointed before 09/08/2016 who opted to join the enhanced benefit plan, the additional contributions are taxable under Federal, State and Local regulations, and will continue until the 25th year of credited service.

MINIMUM REQUIRED AND INTEREST

Member contributions and any interest earned are referred to as “accumulated contributions.” The Tier 3 rate of interest on member contributions is currently 5%. The amount of accumulated contributions required to be in a member’s account at any given time is referred to as the “minimum required.” In order to be eligible for a benefit at retirement, a member must have the “minimum required” of accumulated contributions, which is equal to the 3% contribution rate, the Enhanced Plan 2% contribution rate plus the statutory interest earned.

DEFICITS

A deficit occurs when a member’s pension account balance falls below the minimum required. Deficits may occur because of delays in contract settlements. Pension contributions on retroactive pay from a contract settlement do not include the interest that would have been earned on those contributions. Since interest earned on contributions is part of a member’s minimum required, a deficit can occur.

Members are not permitted to retire with a deficit, and are responsible for any account shortages. Members may opt to make a lump sum payment or bi-weekly payroll deductions to reduce and eliminate any deficit.

REFUNDS

Upon separation from the Fire Pension Fund for reasons other than retirement, such as resignation or termination, a written request for a refund of accumulated contributions plus interest may be made. If contributions are not withdrawn, the money will continue to earn interest for a maximum of five years from the date of separation.

WITHDRAWAL OF CONTRIBUTIONS

In the event of a resignation or termination, a member who is not vested or entitled to any other benefit under Tier 3 may withdraw accumulated contributions, and thereby terminate his or her Fire Pension Fund membership. A member, who separates from service as a vested member, but with less than 10 years of credited service, may also withdraw his or her accumulated contributions. A withdraw of contributions by such a vested member, however, will terminate all membership rights, include the right to receive a vested retirement benefit in the future. After 10 years of service, contributions may not be withdrawn and members will receive a vested retirement benefit.

LOANS

There is no provision in Tier 3 that allows a member to take loans.

CREDITED SERVICE

Unless otherwise stated, “credited service” is defined as allowable Uniformed service. Participation in the Fire Pension Fund is mandatory for Uniformed employees hired on or after July 1, 2009. Members receive credit for all Uniformed service time while on active payroll, up to a maximum, of 22 years.

ALLOWABLE UNIFORMED SERVICE

Twenty-two (22) years of allowable Uniformed service are required for Normal Service Retirement, or twenty (20) years for Early Service Retirement. Such service includes:

All member service rendered as a Uniformed member of the New York City Fire Department in the competitive class of the civil service.

Credit for service rendered in the Uniformed force of the New York City Police Department acquired pursuant to applicable law.

Credit for any service rendered while a member of the New York State and Local Police and Fire Retirement System as a Police Officer or Firefighter.

Credit for military service acquired pursuant to applicable law.

PRIOR SERVICE CREDIT

A member may obtain prior credited service for any New York State Police or Fire Time, or for Uniformed service with the New York City Police Department, by filing for transfer or buy-back. This prior credit service counts toward the requirements for vesting and retirement.

MILITARY SERVICE CREDIT

Military service with the federal government may be credited pursuant to New York State Military Law 243, the federal Uniformed Services Employment and Reemployment Right Act (USERRA), and RSSL 1000. Members who join the Fire Pension Fund on or after April 1, 2012, and who wish to purchase credit for military service under RSSL 1000, pay an amount for such credit equal to the number of years of military credit being purchased multiplied by 6% of the compensation earned by the member during the 12 months of credited service immediately preceding the member's application to purchase such credit. Members who joined the Fire Pension Fund prior to April 1, 2012 and who wish to purchase credit for military service under RSSL 1000, pay an amount for such credit equal to the number of years of military credit being purchased multiplied by 3% of the compensation earned by the member during the 12 months of credited service immediately preceding the member's application to purchase such credit.

TRANSFER TO THE FIRE PENSION FUND

A member may transfer to the Fire Pension Fund from another public retirement system within the State of New York. In Tier 3, transferring prior City or State service, other than Uniformed Police of Fire service, does not provide any additional monetary benefit, nor does it change your Service Retirement eligibility date. However, members with a membership in a New York public pension fund that began prior to July 1, 2009 will become Tier 2 members of the Fire Pension Fund upon completion of a proper transfer. Before deciding whether to transfer service from another pension system, eligible members should contact the Fire Pension Fund Administration Office at (929) 436-0099.

New York City Fire Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Financial Section

Part II

Fiscal Years Ended June 30, 2019 and June 30, 2018

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INDEPENDENT AUDITORS' REPORT

To the Board of Trustees of the
New York City Fire Pension Funds:

Report on the Combining Financial Statements

We have audited the accompanying combining statements of fiduciary net position of the New York City Fire Pension Fund, New York City Firefighters' Variable Supplements Fund, and New York City Fire Officers' Variable Supplements Fund, which collectively comprise the New York City Fire Pension Funds (the "Funds"), a fiduciary component unit of the City of New York, as of June 30, 2019 and 2018, and the related combining statements of changes in fiduciary net position for the years then ended, and the related notes to the combining financial statements, which collectively comprise the Funds' basic combining financial statements as listed in the table of contents.

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 the combining financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions 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 Funds' 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 Funds' 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 opinions.

Opinions

In our opinion, the combining financial statements referred to above present fairly, in all material respects, the combining fiduciary net position of the Funds as of June 30, 2019 and 2018, and the changes in 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 and Additional Supplementary Information, as listed in the table of contents, be presented to supplement the basic combining financial statements. Such information, although not a 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. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic combining financial statements, and other knowledge we obtained during our audits 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 audits were 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 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, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare 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, Investment, Actuarial and Statistical Sections 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.

Mark Paneth UP

New York, NY
October 24, 2019
(except for the Other Information,
as to which the date is December 20, 2019)

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

This narrative discussion and analysis of the New York City Fire Pension Funds' ("FIRE" or the "Funds") financial performance provides an overview of the Funds' combining financial activities for the fiscal years ended June 30, 2019 and 2018. It is meant to assist the reader in understanding the Funds' combining financial statements by providing an overall review of the combining financial activities during the years and the effects of significant changes, as well as a comparison with the prior years' activity and results. This discussion and analysis is intended to be read in conjunction with the Funds' combining financial statements.

FIRE administers the New York City Fire Pension Fund, which is generally referred to as the New York Fire Department Pension Fund - Qualified Pension Plan ("QPP") - as set forth in the Administrative Code of the City of New York ("ACNY") Section 13-313.1. FIRE also administers the New York City Firefighters' Variable Supplements Fund ("FFVSF") and the New York City Fire Officers' Variable Supplements Fund ("FOVSF").

OVERVIEW OF BASIC COMBINING FINANCIAL STATEMENTS

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

- **The Combining Statements of Fiduciary Net Position** — presents the financial position of the Funds at each fiscal year end. It provides information about the nature and amounts of resources with present service capacity that the Funds presently control (assets), consumption of net assets by the Funds that is applicable to a future reporting period (deferred outflow of resources), present obligations to sacrifice resources that the Funds have little or no discretion to avoid (liabilities), and acquisition of net assets by the Funds 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 Funds 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 the 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 Funds' accounting policies, significant account balances and activities, material risks, obligations, contingencies, and subsequent events, if any.
- **Required Supplementary Information (Unaudited)**— as required by the GASB includes the management discussion and analysis and information presented after the notes to the combining financial statements.

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

FINANCIAL HIGHLIGHTS

For fiscal year ended June 30, 2019, the Funds' net position restricted for benefits stood at approximately \$15.2 billion. This amount reflects an increase of \$1,035.6 million (7.3%) over the Funds' net position restricted for benefits in Fiscal Year 2018. The growth for Fiscal Year 2019 can be attributed to the fact that total contributions, net investment income and other receipts exceeded pension benefits and administrative expenses paid. Additionally, a net appreciation in fair values of the Funds' investment portfolio served to increase the amount of net investment income reported for the period.

For fiscal year ended June 30, 2018, the Funds' net position restricted for benefits exceeded \$14.1 billion. This amount reflects an increase of approximately \$1,182.4 million (9.1%) over the Funds' net position restricted for benefits in Fiscal Year 2017. The growth for Fiscal Year 2018 can be attributed to the excess of total contributions, net investment income and other receipts over pension benefits paid. In addition, a significant net appreciation of invested assets served to increase net investment income reported for the period.

**Changes in Fiduciary Net Position
Years Ended June 30, 2019, 2018 and 2017
(In thousands)**

	2019	2018	2017
Additions:			
Member contributions	\$ 108,015	\$ 108,338	\$ 108,368
Employer contributions	1,398,565	1,200,417	1,061,170
Net investment income	982,348	1,249,731	1,371,721
Other	2,057	9,411	47,284
Total	<u>2,490,985</u>	<u>2,567,897</u>	<u>2,588,543</u>
Deductions:			
Benefit payments and withdrawals	<u>1,455,430</u>	<u>1,385,499</u>	<u>1,334,807</u>
Net increase in net position	1,035,555	1,182,398	1,253,736
Net position restricted for benefits			
Beginning of year	<u>14,143,756</u>	<u>12,961,358</u>	<u>11,707,622</u>
End of year	<u>\$15,179,311</u>	<u>\$14,143,756</u>	<u>\$12,961,358</u>

For fiscal year ended June 30, 2019, member contributions of approximately \$108 million was 0.3% lower compared to member contributions for Fiscal Year 2018. For fiscal year ended June 30, 2018, member contributions at approximately \$108.3 million was slightly lower compared to member contributions for Fiscal Year 2017. Generally, increases or decreases in member contributions are primarily due to changes in the number of active Fund members making voluntary contributions in addition to their required contributions and changes in the average annual pay of Plan members.

Employer contributions are made on a statutory basis determined by the actuarial valuations performed as of June 30, 2017 and 2016 under the One-Year Lag Methodology ("OYLM"). Employer contributions for Fiscal Year 2019 totaled approximately \$1,398.6 million, an increase of \$198.2 million (16.5%) compared to employer contributions for Fiscal Year 2018. Employer contributions for Fiscal Year 2018 totaled approximately \$1,200.4 million, an increase of \$139.2 million (13.1%) compared to employer contributions for Fiscal Year 2017.

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

For fiscal year ended June 30, 2019, the Funds had a net investment gain of \$982.3 million; this amount was 21.4% lower compared to the net investment gain of \$1,249.7 million recorded for Fiscal Year 2018. The net investment gain for Fiscal Year 2019 can be attributed to the overall net appreciation in fair values of the invested assets in the combined investment portfolio of the Funds.

For fiscal year ended June 30, 2018, the Funds had a net investment gain of \$1,249.7 million; this amount was 8.9% lower compared to the net investment gain of \$1,371.7 million recorded for Fiscal Year 2017. The net investment gain for Fiscal Year 2018 can be attributed to the overall net appreciation of invested assets in the combined investment portfolio of the Funds.

Benefit payments, withdrawals and administrative expenses totaled \$1,455.4 million for the fiscal year ended June 30, 2019; an increase of 5.0% compared to benefit payments, withdrawals and administrative expenses paid in the previous fiscal year. During Fiscal Year 2018, the Funds recorded benefit payments, withdrawals and administrative expenses of \$1,385.5 million, this was an increase of 3.8% compared to Fiscal Year 2017. Increases in benefit payments and withdrawals are primarily due to changes in the number of new retirees and the amount of payments made to beneficiaries. Members are also able to withdraw their excess or voluntary contributions made to the pension fund. In addition, legislatively enacted cost of living increases for certain retirees and beneficiaries also serve to increase benefit payments each year.

FIDUCIARY NET POSITION

For Fiscal Year 2019, the Funds' combined net position restricted for benefits increased by 7.3% to \$15.2 billion, compared to the net position restricted for benefits of \$14.1 billion in Fiscal Year 2018. The overall growth for the current fiscal year can be attributed to the excess of total contributions and net investment income over pension benefits and withdrawals disbursed. Additionally, a net appreciation in fair values of the Funds' investment portfolio served to increase the amount of net investment income reported for the period.

For Fiscal Year 2018, the Funds' net position restricted for benefits increased by 9.1% to \$14.1 billion, compared to the net position restricted for benefits of \$12.9 billion in Fiscal Year 2017. The overall growth for Fiscal Year 2018 can be attributed to the excess of total contributions and net investment income over pension benefits paid. In addition, a significant net appreciation of invested assets served to increase net investment income reported for the period.

Outstanding member loans for Fiscal Year 2019 totaled \$23.0 million; this amount is 8.7% less than member loans reported in the prior fiscal year. Outstanding member loans for Fiscal Year 2018 totaled \$25.2 million; this amount was 6.3% less than member loans reported in Fiscal Year 2017. Changes in member loans can be attributed to changes in the number and amounts of new loans disbursed and the amount of repayments received. Members are permitted to borrow up to 75% (for certain members up to 90%) of their required contributions, including accumulated interest.

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

**Fiduciary Net Position
June 30, 2019, 2018 and 2017
(In thousands)**

	2019	2018	2017
Cash	\$ 9,405	\$ 5,435	\$ 39,332
Receivables	331,567	195,552	247,937
Investments — at fair value	15,335,153	14,361,915	13,070,975
Collateral from securities lending	792,150	1,169,286	1,110,853
Other assets	<u>2,573</u>	<u>2,899</u>	<u>2,508</u>
Total assets	<u>16,470,848</u>	<u>15,735,087</u>	<u>14,471,605</u>
Accounts payable	167,532	177,634	148,167
Payables for investments purchased	294,342	204,073	205,595
Accrued benefits payable	37,513	40,338	45,632
Payables for securities lending transactions	<u>792,150</u>	<u>1,169,286</u>	<u>1,110,853</u>
Total liabilities	<u>1,291,537</u>	<u>1,591,331</u>	<u>1,510,247</u>
Net position restricted for benefits	<u>\$ 15,179,311</u>	<u>\$ 14,143,756</u>	<u>\$ 12,961,358</u>

The Funds' receivables and payables are primarily generated through the timing difference between the trade and settlement dates for investment securities purchased or sold.

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

June 30, 2019
(In thousands)

Investments • At fair value:	<u>QPP</u>	<u>FFVSF</u>	<u>FOVSF</u>	<u>Combined</u>
Short-term investments:				
U.S. treasury bills and agencies	\$ 7,208	\$ -	\$ -	\$ 7,208
Commercial paper	264,720	-	-	264,720
Short-term investment fund	71,823	218	128	72,169
Discount notes	103,390	3,589	2,401	109,380
Debt securities:				
U.S. government and agency	1,537,673	-	-	1,537,673
Corporate and other	1,367,788	-	-	1,367,788
Mortgage debt securities	382,897	-	-	382,897
Bank loans	122,249	-	-	122,249
Treasury inflation protected securities	479,548	-	-	479,548
Equity securities	4,436,047	167,231	122,675	4,725,953
International equity	154,311	-	-	154,311
Alternative investments:				
Infrastructure	125,285	-	-	125,285
Opportunistic fixed income	405,346	-	-	405,346
Private equity	939,362	-	-	939,362
Private real estate	609,421	-	-	609,421
Hedge Funds	868,419	-	-	868,419
Collective trust funds:				
Bank loans	105,615	-	-	105,615
Corporate and other	32,300	49,380	31,406	113,086
International equity	2,059,022	145,185	105,202	2,309,409
Domestic equity	156,999	13,624	9,587	180,210
Mortgage debt securities	46,399	51,407	32,696	130,502
Opportunistic fixed income	48,113	-	-	48,113
Treasury inflation protected securities	158,200	-	-	158,200
U.S. Government and agency	-	72,303	45,986	118,289
Collateral from securities lending	774,084	10,296	7,770	792,150
	\$ 15,256,219	\$ 513,233	\$ 357,851	\$16,127,303

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

Investment Summary

June 30, 2018

(In thousands)

Investments - At fair value:	<u>QPP</u>	<u>FFVSF</u>	<u>FOVSF</u>	<u>Combined</u>
Short term investments:				
U.S. treasury bills and agency	\$ 53,484	\$ -	\$ -	\$ 53,484
Commercial paper	189,200	503	1,903	191,606
Short-term investment fund	97,891	21	118	98,030
Discount notes	2,498	-	-	2,498
Debt securities:				
U.S. government and agency	1,767,633	-	-	1,767,633
Corporate and other	900,285	-	-	900,285
Mortgage debt securities	353,129	-	-	353,129
Bank loans	8,044	-	-	8,044
Equity securities	3,848,728	-	111,494	3,960,222
Alternative investments:				
Infrastructure	70,510	-	-	70,510
Opportunistic Fixed Income	392,612	-	-	392,612
Private Equity	1,596,436	-	-	1,596,436
Private Real Estate	548,159	-	-	548,159
Collective trust funds:				
Bank Loans	200,689	-	-	200,689
Corporate and other	363,336	-	-	363,336
International equity	2,264,395	156,502	106,597	2,527,494
Domestic equity	88,801	179,243	10,050	278,094
Mortgage debt securities	99,102	-	-	99,102
Treasury inflation protected securities	590,072	-	124,324	714,396
U.S. Government and agency	52,540	183,616	-	236,156
Collateral from securities lending	1,140,436	16,842	12,008	1,169,286
	<u>\$ 14,627,980</u>	<u>\$ 536,727</u>	<u>\$ 366,494</u>	<u>\$ 15,531,201</u>

**NEW YORK CITY FIRE PENSION FUNDS
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
JUNE 30, 2019 AND 2018**

The tables above summarize the Funds' investment portfolio including collateralized securities lending. To meet the Funds' long-term benefit obligations, 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. For example, the Russell 3000 index, a broad measure of the United States stock market posted gains of 9.0% in Fiscal Year 2019, compared to gains posted of 14.8% in Fiscal Year 2018. Investment results for Fiscal Year 2019 were slightly below related benchmarks, within asset classes. FIRE QPP's investment portfolio posted gains of 7.1% for Fiscal Year 2019 compared to the gain of 9.3% for Fiscal Year 2018. For the three-year period ended June 30, 2019, the overall rate of return on the QPP's investment portfolio was 10.0%.

The FFVSF's investment portfolio posted gains of 6.2% for Fiscal Year 2019 compared to the gain of 7.3% for Fiscal Year 2018. For the three-year period ended June 30, 2019, the overall rate of return on the Plan's investment portfolio was 9.0%.

Similarly, the FOVSF's investment portfolio posted gains of 6.2% for Fiscal Year 2019 compared to the gain of 7.8% for Fiscal Year 2018. For the three-year period ended June 30, 2019, the overall rate of return on the Plan's investment portfolio was 9.4%.

OTHER MATTERS

Chapter 298 of the laws of 2016 provides corpus funding of administrative expense for the Plan commencing September 8, 2016. This means that the administrative expenses are paid for out of the assets of the Plan instead of being paid for by the City of New York. Chapter 298 also allows for the appointment of an executive director of the Plan.

CONTACT INFORMATION

This financial report is designed to provide a general overview of the New York City Fire Pension Funds' finances. Questions concerning any data provided in this report or requests for additional information should be directed to Chief Accountant, New York City Fire Pension Funds, One Battery Park Plaza, 9th Floor, New York, NY 10004.

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NEW YORK CITY FIRE PENSION FUNDS
COMBINING STATEMENTS OF FIDUCIARY NET POSITION
JUNE 30, 2019
(In thousands)

	QPP	FFVSF	FOVSF	Eliminations	Combined Funds
ASSETS:					
Cash	\$ 6,770	\$ 1,454	\$ 1,181	\$ -	\$ 9,405
Receivables:					
Investment securities sold	269,966	-	1,801	-	271,767
Member loans (Note 7)	23,052	-	-	-	23,052
Accrued interest and dividends	36,211	2	309	-	36,522
Accounts Receivable	225	-	1	-	226
Transferrable earnings due from QPP to Variable Supplements Funds	-	15,000	-	(15,000)	-
Total receivables	329,454	15,002	2,111	(15,000)	331,567
INVESTMENTS — At fair value (Notes 2 and 3):					
Short-term investments:					
Commercial paper	264,720	-	-	-	264,720
Short-term investment fund	71,823	218	128	-	72,169
U.S. treasury bills and agencies	7,208	-	-	-	7,208
Discount notes	103,390	3,589	2,401	-	109,380
Debt securities:					
U.S. government and agencies	1,537,673	-	-	-	1,537,673
Mortgage debt security	382,897	-	-	-	382,897
Corporate and other	1,367,788	-	-	-	1,367,788
Treasury inflation protected securities	479,548	-	-	-	479,548
Bank loans	122,249	-	-	-	122,249
Equity securities	4,436,047	167,231	122,675	-	4,725,953
International equity	154,311	-	-	-	154,311
Alternative investments:					
Infrastructure	125,285	-	-	-	125,285
Opportunistic fixed income	405,346	-	-	-	405,346
Private equity	939,362	-	-	-	939,362
Private real estate	609,421	-	-	-	609,421
Hedge funds	868,419	-	-	-	868,419
Collective trust funds:					
Bank loans	105,615	-	-	-	105,615
Corporate and other	32,300	49,380	31,406	-	113,086
International equity	2,059,022	145,185	105,202	-	2,309,409
Domestic equity	156,999	13,624	9,587	-	180,210
Mortgage debt security	46,399	51,407	32,696	-	130,502
Treasury inflation protected securities	158,200	-	-	-	158,200
Opportunistic fixed income	48,113	-	-	-	48,113
U.S. Government and Agency	-	72,303	45,986	-	118,289
Collateral from securities lending (Note 2)	774,084	10,296	7,770	-	792,150
Total investments	15,256,219	513,233	357,851	-	16,127,303
OTHER ASSETS					
Total assets	15,595,016	529,689	361,143	(15,000)	16,470,848
LIABILITIES:					
Accounts payable	167,302	125	105	-	167,532
Payables for investment securities purchased	292,460	-	1,882	-	294,342
Accrued benefits payable (Note 2)	8,552	19,953	9,008	-	37,513
Transferrable earnings due from QPP to Variable Supplements Funds	15,000	-	-	(15,000)	-
Securities lending (Note 2)	774,084	10,296	7,770	-	792,150
Total liabilities	1,257,398	30,374	18,765	(15,000)	1,291,537
NET POSITION RESTRICTED FOR BENEFITS:					
Benefits to be provided by QPP	14,337,618	-	-	-	14,337,618
Benefits to be provided by VSF	-	499,315	342,378	-	841,693
Total net position restricted for benefits	\$ 14,337,618	\$ 499,315	\$ 342,378	\$ -	\$ 15,179,311

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

NEW YORK CITY FIRE PENSION FUNDS
COMBINING STATEMENTS OF FIDUCIARY NET POSITION
JUNE 30, 2018
(In thousands)

	<u>QPP</u>	<u>FFVSF</u>	<u>FOVSF</u>	<u>Eliminations</u>	<u>Combined Funds</u>
ASSETS:					
Cash	\$ 2,883	\$ 1,467	\$ 1,085	\$ -	\$ 5,435
Receivables:					
Investment securities sold	143,921	-	-	-	143,921
Member loans (Note 7)	25,248	-	-	-	25,248
Accrued interest and dividends	25,777	199	245	-	26,221
Accounts receivable	129	-	33	-	162
Transferrable earnings due from QPP to Variable Supplements Funds	-	29,000	-	(29,000)	-
Total receivables	195,075	29,199	278	(29,000)	195,552
INVESTMENTS — At fair value (Notes 2 and 3):					
Short-term investments:					
Commercial paper	189,200	503	1,903	-	191,606
Short-term investment fund	97,891	21	118	-	98,030
U.S. treasury bills and agencies	53,484	-	-	-	53,484
Discount notes	2,498	-	-	-	2,498
Debt securities:					
U.S. government and agency	1,767,633	-	-	-	1,767,633
Corporate and other	900,285	-	-	-	900,285
Mortgage debt securities	353,129	-	-	-	353,129
Bank loans	8,044	-	-	-	8,044
Equity securities	3,848,728	-	111,494	-	3,960,222
Alternative investments:					
Infrastructure	70,510	-	-	-	70,510
Opportunistic fixed income	392,612	-	-	-	392,612
Private equity	1,596,436	-	-	-	1,596,436
Private real estate	548,159	-	-	-	548,159
Collective trust funds:					
Bank loans	200,689	-	-	-	200,689
Corporate and other	363,336	-	-	-	363,336
International equity	2,264,395	156,502	106,597	-	2,527,494
Domestic equity	88,801	179,243	10,050	-	278,094
Mortgage debt securities	99,102	-	-	-	99,102
Treasury inflation protected securities	590,072	-	124,324	-	714,396
U.S. Government and agency	52,540	183,616	-	-	236,156
Collateral from securities lending (Note 2)	1,140,436	16,842	12,008	-	1,169,286
Total investments	14,627,980	536,727	366,494	-	15,531,201
OTHER ASSETS	2,899	-	-	-	2,899
Total assets	14,828,837	567,393	367,857	(29,000)	15,735,087
LIABILITIES:					
Accounts payable	177,540	44	50	-	177,634
Payables for investment securities purchased	203,986	-	87	-	204,073
Accrued benefits payable (Note 2)	10,832	20,427	9,079	-	40,338
Transferrable earnings due from QPP to Variable Supplements Funds	29,000	-	-	(29,000)	-
Securities lending (Note 2)	1,140,436	16,842	12,008	-	1,169,286
Total liabilities	1,561,794	37,313	21,224	(29,000)	1,591,331
NET POSITION RESTRICTED FOR BENEFITS:					
Benefits to be provided by QPP	13,267,043	-	-	-	13,267,043
Benefits to be provided by VSF	-	530,080	346,633	-	876,713
Total net position restricted for benefits	\$ 13,267,043	\$ 530,080	\$ 346,633	\$ -	\$ 14,143,756

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

NEW YORK CITY FIRE PENSION FUNDS
COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2019

	<u>QPP</u>	<u>FFVSF</u>	<u>FOVSF</u>	<u>Eliminations</u>	<u>Total</u>
ADDITIONS:					
Contributions:					
Member contributions	\$ 108,015	\$ -	\$ -	\$ -	\$ 108,015
Employer contributions	1,398,565	-	-	-	1,398,565
Total contributions	<u>1,506,580</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1,506,580</u>
Investment income (Note 3):					
Interest income	181,067	5,301	3,604	-	189,972
Dividend income	170,140	8,470	5,973	-	184,583
Net appreciation in fair value of investments	667,697	14,347	11,023	-	693,067
Total investment income	1,018,904	28,118	20,600	-	1,067,622
Less: investment expenses	89,976	280	219	-	90,475
Net income	<u>928,928</u>	<u>27,838</u>	<u>20,381</u>	<u>-</u>	<u>977,147</u>
Securities lending transactions:					
Securities lending income	5,498	155	109	-	5,762
Securities lending fees	(537)	(14)	(10)	-	(561)
Net securities lending income	<u>4,961</u>	<u>141</u>	<u>99</u>	<u>-</u>	<u>5,201</u>
Net investment income	<u>933,889</u>	<u>27,979</u>	<u>20,480</u>	<u>-</u>	<u>982,348</u>
Net receipts from other retirement systems	1,565	-	-	-	1,565
Transferrable earnings refunded to QPP from Variable Supplements Funds	14,000	(14,000)	-	-	-
Litigation income	492	-	-	-	492
Total additions	<u>2,456,526</u>	<u>13,979</u>	<u>20,480</u>	<u>-</u>	<u>2,490,985</u>
DEDUCTIONS:					
Benefit payments and withdrawals (Note 1)	1,376,090	44,744	24,735	-	1,445,569
Administrative expenses	9,861	-	-	-	9,861
Transferrable earnings from QPP to Variable Supplements Funds	-	-	-	-	-
Total deductions	<u>1,385,951</u>	<u>44,744</u>	<u>24,735</u>	<u>-</u>	<u>1,455,430</u>
NET INCREASE (DECREASE) IN NET POSITION	1,070,575	(30,765)	(4,255)	-	1,035,555
NET POSITION RESTRICTED FOR BENEFITS					
Beginning of year	<u>13,267,043</u>	<u>530,080</u>	<u>346,633</u>	<u>-</u>	<u>14,143,756</u>
End of year	<u>\$ 14,337,618</u>	<u>\$ 499,315</u>	<u>\$ 342,378</u>	<u>\$ -</u>	<u>\$ 15,179,311</u>

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

NEW YORK CITY FIRE PENSION FUNDS
COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2018

	<u>QPP</u>	<u>FFVSF</u>	<u>FOVSF</u>	<u>Eliminations</u>	<u>Total</u>
ADDITIONS:					
Contributions:					
Member contributions	\$ 108,338	\$ -	\$ -	\$ -	\$ 108,338
Employer contributions	1,200,417	-	-	-	1,200,417
Total contributions	<u>1,308,755</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1,308,755</u>
Investment income (Note 3):					
Interest income	168,451	4,584	3,103	-	176,138
Dividend income	159,918	8,123	5,448	-	173,489
Net appreciation in fair value of investments	<u>952,687</u>	<u>22,865</u>	<u>17,000</u>	<u>-</u>	<u>992,552</u>
Total investment income	1,281,056	35,572	25,551	-	1,342,179
Less: investment expenses	<u>96,936</u>	<u>404</u>	<u>248</u>	<u>-</u>	<u>97,588</u>
Net income	<u>1,184,120</u>	<u>35,168</u>	<u>25,303</u>	<u>-</u>	<u>1,244,591</u>
Securities lending transactions:					
Securities lending income	5,267	265	180	-	5,712
Securities lending fees	<u>(527)</u>	<u>(27)</u>	<u>(18)</u>	<u>-</u>	<u>(572)</u>
Net securities lending income	<u>4,740</u>	<u>238</u>	<u>162</u>	<u>-</u>	<u>5,140</u>
Net investment income	<u>1,188,860</u>	<u>35,406</u>	<u>25,465</u>	<u>-</u>	<u>1,249,731</u>
Net receipts from other retirement systems	8,697	-	-	-	8,697
Transferrable earnings from QPP to Variable Supplements Funds	-	15,000	-	(15,000)	-
Litigation income	<u>714</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>714</u>
Total additions	<u>2,507,026</u>	<u>50,406</u>	<u>25,465</u>	<u>(15,000)</u>	<u>2,567,897</u>
DEDUCTIONS:					
Benefit payments and withdrawals (Note 1)	1,308,467	46,572	24,048	-	1,379,087
Administrative expenses	6,412	-	-	-	6,412
Transferrable earnings from QPP to Variable Supplements Funds	15,000	-	-	(15,000)	-
Total deductions	<u>1,329,879</u>	<u>46,572</u>	<u>24,048</u>	<u>(15,000)</u>	<u>1,385,499</u>
NET INCREASE IN NET POSITION	1,177,147	3,834	1,417	-	1,182,398
NET POSITION RESTRICTED FOR BENEFITS					
Beginning of year	<u>12,089,896</u>	<u>526,246</u>	<u>345,216</u>	<u>-</u>	<u>12,961,358</u>
End of year	<u>\$ 13,267,043</u>	<u>\$ 530,080</u>	<u>\$ 346,633</u>	<u>\$ -</u>	<u>\$ 14,143,756</u>

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

**NEW YORK CITY FIRE PENSION FUNDS
COMBINING NOTES TO THE FINANCIAL STATEMENTS
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1. PLAN DESCRIPTION

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

FIRE administers the New York City Fire Subchapter Two Pension Fund, which is generally referred to as the New York City Fire Pension Fund (“QPP”) as set forth in the Administrative Code of the City of New York (“ACNY”) Section 13-313.1. FIRE also administers the New York City Firefighters’ Variable Supplements Fund (“FFVSF”) and the New York City Fire Officers’ Variable Supplements Fund (“FOVSF”).

The QPP is a single-employer pension plan. The QPP provides pension benefits for full-time uniformed employees of the New York City Fire Pension Fund (the “Employer”). All full-time uniformed employees of the New York City Fire Department become members of the QPP upon appointment. The QPP functions in accordance with existing State statutes and City laws, which are the basis by which benefit terms and Employer and member contribution requirements are established and amended. The QPP 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.

The FFVSF and the FOVSF (collectively, the “VSFs”) operate pursuant to the provisions of Title 13, Chapter 3 of the ACNY and provide supplemental benefits to retired Firefighters and Wipers, and Fire Officers, respectively. To be eligible to receive benefits from the VSFs, Firefighters and Wipers, and Fire Officers must retire, on or after October 1, 1968, with 20 or more years of uniformed services and be receiving a service retirement benefit from the QPP. Under current law, the VSFs are not to be construed as constituting a pension or retirement system. Instead, they provide defined supplemental payments, other than pension or retirement system allowances, in accordance with applicable statutory provisions. While The City guarantees these payments, the New York State Legislature has reserved to itself and the State the right and power to amend, modify, or repeal the VSFs and the payments they provide. For financial reporting purposes, however, the VSFs are considered single-employer defined benefit pension plans.

FIRE is a fiduciary fund of The City and is included in the Pension and Other Employee Benefit Trust Funds section of The City’s Comprehensive Annual Financial Report (“CAFR”).

Boards of Trustees

The QPP’s Board of Trustees consists of twelve members. The Trustees and their voting rights are as follows: the City Fire Commissioner, Mayor, Comptroller, and Commissioner of Finance (three votes each); the President, the Vice President, Treasurer, and Chairperson of the Board of Trustees of the Uniformed Firefighters Association of Greater New York (“UFA”) (two votes each); the President of the Uniformed Fire Officers’ Association of Greater New York (“UFOA”) and three elected members of the Executive Board of the UFOA, one of whom shall be an officer with rank above that of captain (one vote), one of whom shall be a captain (one vote) and one of whom shall be a lieutenant (one and one-half votes); and a representative of the Uniformed Pilots’ and Marine Engineers’ Association of Greater New York (one-half vote).

The FFVSF’s Board of Trustees consists of five members. The Trustees are as follows: The City Mayor, Comptroller, Commissioner of Finance, and two representatives of the UFA who are members of the QPP Board of Trustees with one vote each.

**NEW YORK CITY FIRE PENSION FUNDS
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The FOVSF's Board of Trustees consists of five members. The Trustees are as follows: The City Mayor, Comptroller, Commissioner of Finance, and two of the representatives of the UFOA who members of the QPP Board of Trustees with one vote each.

Membership Data

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

	<u>2019*</u>	<u>2018</u>	<u>2017</u>
Retirees and beneficiaries receiving benefits	17,296	16,593	16,636
Terminated vested members not yet receiving benefits	68	68	58
Other inactives **	28	35	15
Active members receiving salary	<u>11,243</u>	<u>11,237</u>	<u>11,091</u>
Total	<u><u>28,635</u></u>	<u><u>27,933</u></u>	<u><u>27,800</u></u>

* Estimated headcount

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

At June 30, 2019, June 30, 2018, and June 30, 2017 the FFVSF and FOVSF membership consisted of:

	<u>FFVSF</u>			<u>FOVSF</u>		
	<u>2019*</u>	<u>2018</u>	<u>2017</u>	<u>2019*</u>	<u>2018</u>	<u>2017</u>
Retirees currently receiving payments	3,348	3,387	3,474	1,509	1,532	1,536
Active members**	<u>8,478</u>	<u>8,627</u>	<u>8,431</u>	<u>2,765</u>	<u>2,610</u>	<u>2,660</u>
Total	<u><u>11,826</u></u>	<u><u>12,014</u></u>	<u><u>11,905</u></u>	<u><u>4,274</u></u>	<u><u>4,142</u></u>	<u><u>4,196</u></u>

* Estimated headcount

** Represents the number of actively employed Firefighters and Fire Officers, respectively, as of the June 30 valuation dates.

**NEW YORK CITY FIRE PENSION FUNDS
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Summary of Benefits

QPP

The New York State Constitution provides that the pension rights of public employees are contractual and shall not be diminished or impaired. In 1973, amendments were made to the New York State Retirement and Social Security Law (“RSSL”) to modify certain benefits for employees joining the QPP on or after the effective date of such amendments. These amendments, which affect employees who joined the QPP on and after July 1, 1973, established certain benefit limitations relating to eligibility for retirement, the salary base for benefits and maximum benefits. Recent laws, including but not limited to Chapter 372 of the Laws of 2000 which provides a revised definition of salary base to be used in the computation of certain benefits for Tier 2 members of the QPP and Chapter 589 of the Laws of 2001 which eliminated the Tier 2 maximum 30 years of service limitation, have lessened these limitations.

The QPP currently administers the following pension tiers: Tier 1, Tier 2, Tier 3, and Tier 6 (Tier 3 Modified).

The QPP provides four main types of retirement benefits for all tiers: Vested Retirement benefits, Service Retirements, Ordinary Disability Retirements (non-job-related disabilities), and Accident Disability Retirements (job-related disabilities). Additionally, the QPP provides death benefits for all tiers.

Tier 1 is applicable to members appointed to the FDNY prior to July 1, 1973. Tier 2 is applicable to members appointed between July 1, 1973 and June 30, 2009. Benefits are generally the same for Tier 1 and Tier 2.

For Tier 1 and Tier 2 members, the QPP generally provides the following:

- A Vested retirement benefit is payable to Tier 1 and 2 members with at least five years of uniformed service. Tier 1 and 2 members who commenced their membership with the QPP prior to February 4, 2000 must have 15 years of uniformed service to be eligible for a vested retirement benefit. This benefit is generally comprised of a pension equal to 1/40 of their final average salary for every year of uniformed service and is reduced or increased based on the actuarial value of an account shortage or excess. The benefit can also be increased for any purchased non-uniformed service.
- A Service retirement benefit, in both tiers, provides an allowance of one-half of “final salary” after 20 years or 25 years of uniformed service (as elected), with additional benefits equal to a specified percentage per year of service (currently approximately 1.67%) of “average salary” times the number of years of credited service in excess of the 20-year or 25-year minimum. Under the new program, these additional benefits are increased, where applicable, by an annuity attributable to employee contributions accumulated with interest with respect to service over the 20-year or 25-year minimum and an annuity attributable to the Increased-Take-Home-Pay (“ITHP”) contributions accumulated after required member qualifying service. ITHP represents amounts contributed by The City in lieu of members’ own contributions. These amounts reduce the contributions that the 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 and increase pension contributions made to the plan.

**NEW YORK CITY FIRE PENSION FUNDS
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- An Ordinary Disability Retirement (“ODR”) benefit generally provides a pension equal to 1/40 of “final salary” times the number of years of service but not less than one-half of “final salary” if 10 or more years of service were completed, or one-third of “final salary” if less than 10 years of service were completed. Members of the Improved Benefits Plan with years of service in excess of 20 years receive the actuarial equivalent of their Annuity Savings Fund balance.
- An Accident Disability Retirement (“ADR”) benefit provides a pension of three-fourths of “final salary” plus an increment, as described above based on years of credited service in excess of the 20-years or 25-years minimum plus: (i) under the Original Plan, accumulated employee contributions without interest as a lump sum or an actuarially equivalent annuity, (ii) under the Improved Benefits Plan, an annuity based on the member’s contributions and ITHP contributions both of which are accumulated with interest.
- Tier 1 and Tier 2 members have the right to make voluntary member contributions (“Voluntary Contributions”) in excess of their required member contributions (“Required Contributions”). Both the Voluntary Contributions and the Required Contributions are credited with interest at a statutory rate (currently 8.25% APR). At the time of retirement or refund of contributions, a member’s aggregate balance of actual Required Contributions and Voluntary Contributions, including statutory interest (“Actual Balance”), less the outstanding balance of any member loans (“Net Actual Contributions”), may exceed (“Excess of Contributions”) or fall short of (“Deficiency of Contributions”) the member’s Required Amount. The Required Amount is the sum of the Required Contributions which a member should have made during his or her first 20 years of credited service, plus statutory interest earnings thereon. The amount of the member’s retirement annuity or the refund of contributions that he or she is entitled to is increased by the actuarial value of any Excess of Contributions or reduced by any Deficiency of Contributions. The collective value of Required Amount, Actual Balance, and outstanding member loans, as of June 30, 2019, is as follows:

	Tier 1	Tier 2	Total
Required amount	\$ 95,139	\$ 485,025,987	\$ 485,121,126
Actual balance	564,246	1,880,813,967	1,881,378,213
Outstanding loans	-	23,051,861	23,051,861

Annuities attributable to member contributions are reduced on an actuarial basis for any loans with unpaid balances outstanding at the date of retirement.

Cost of living adjustments (“COLA”) are automatically payable to members who are either: (1) at least age 62 and have been retired for at least 5 years or (2) at least age 55 and have been retired for at least 10 years. Additionally, COLA are payable to members who retired for disability after being retired for 5 or more years and to beneficiaries receiving accidental death benefits who have been receiving them for at least 5 years. Beginning September 2001, COLA benefits equal 50% of the increase in the CPI-U based on the year ending March 31, rounded to the next higher .1% not less than 1% nor greater than 3% of the first \$18,000 of the sum of maximum pension allowance and prior COLA.

In June of 2009, the Governor vetoed legislation that would have extended Tier 2 to members hired after June 30, 2009. As a result of the Governor’s veto, QPP members hired on and after July 1, 2009 are covered under Tier 3, as governed by Article 14 of the New York State Retirement and Social Security Law (“RSSL”). As a result of Chapter 18 of the Laws of 2012, there are certain limitations on Tier 3 benefits available to participants hired on and after April 1, 2012. In most New York State PERS, including the QPP, these changes are sometimes referred to as Tier 6 or Tier 3 Modified.

**NEW YORK CITY FIRE PENSION FUNDS
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For Tier 3/Tier 3 Modified members, the QPP generally provides the following:

- A Normal Service Retirement benefit is payable after completion of 22 years of uniformed service.
- An Early Service Retirement is payable upon completion of 20 years or age 62 for Tier 3 or upon completion of 20 years for Tier 3 Modified and is payable as a pension equal to 2.1% of Final Average Salary plus 1/3% of Final Average Salary for each month in excess of 20 years of uniformed service, such benefit not to exceed 50% of Final Average Salary.
- A Vested benefit is payable to members with at least five years of uniformed service. The benefit is equal to 2.1% of final average salary for every year of uniformed service payable upon attainment of eligibility for early age, or 55.
- An ODR retirement allowance is payable to a Non-Enhanced Member who has at least 5 years of service and is in receipt of Social Security Disability Benefits. An ODR benefit is 1/3 of Final Average Salary or 2% of Final Average Salary for each year of credited service, whichever is greater and does not exceed 50% of Final Average Salary. The ODR retirement allowance for Enhanced Members is described on page 42.
- An ADR retirement allowance is payable to a Non-Enhanced Member who was disabled as the result of a line-of-duty accident not attributable to his own willful negligence. An ADR pension is 50% of a member's Final Average Salary. The ADR retirement allowance for Enhanced Members is described on page 42.

The Normal Service, Early Service and Vested retirement allowances are reduced by one-half of the member's Social Security Benefit attributable to New York State public earnings, at age 62, regardless of eligibility for Social Security.

Tier 3/Tier 3 Modified members are also eligible for annual escalation on the retirement allowance: (1) in full, if they have retired for Service after completing 25 or more years of uniformed service (or elected to defer commencement of their benefit to that 25-year date) or on a reduced basis, by 1/36 for each month that their retirement precedes 25 years or (2) in full, if they have retired for disability and are Non-Enhanced Members or (3) in full, to their beneficiary for accidental death benefits. Escalation is determined from the change in the CPI-U based on the prior year ending December 31, not greater than 3%.nor less than – 3% in the event of a decrease. Tier 3/Tier 3 Modified members, when eligible, receive the greater of the applicable increase from COLA or escalation.

VSFs

The FFVSF provides a guaranteed schedule of supplemental benefits for Firefighters who retire (or have retired) as Firefighters on Service retirement with at least 20 years of credited service as follows:

- For those Firefighters who retired from service as Firefighters before July 1, 1988, the annual supplemental benefit was \$2,500 in Calendar Year 1988. For those who retired during Calendar Year 1988, the annual \$2,500 benefit payment was prorated. The annual benefit increases \$500 each year thereafter to a maximum of \$12,000 in Calendar Year 2007. The 1988 benefits included any payments made under the prior program.

For those Firefighters hired before July 1, 1988 and who retire after Calendar Year 1988, the annual benefit payment is the scheduled amount as described above, prorated in the year of retirement and the full amount thereafter.

- For those who become members of QPP on or after July 1, 1988, the annual supplemental benefit is \$2,500 for the first 12 months of retirement, which increases by \$500 each year until a maximum of \$12,000 is payable in the twentieth and later years of retirement. This was later modified by Chapter 500 of the Laws of 1995 ("Chapter 500/95") such that these members will receive the maximum \$12,000 benefit beginning Calendar Year 2008 and thereafter.

**NEW YORK CITY FIRE PENSION FUNDS
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The FOVSF provides a guaranteed schedule of supplemental benefits for Fire Officers who retire (or have retired) as Fire Officers on Service retirement with at least 20 years of credited uniformed service as follows:

- A Fire Officer hired before July 1, 1988, who retired from service as a Fire Officer on or after October 1, 1988, and prior to Calendar Year 1993 receives a defined schedule of benefits starting at \$5,000 payable in January 1994 for the Calendar Year 1993 payment. For those who retired during Calendar Year 1993, the annual \$5,000 benefit payment was prorated. The annual benefit increases \$500 each year thereafter to a maximum of \$12,000 for Calendar Year 2007 (payable by January 31, 2008) and thereafter.

For those who were members of QPP prior to July 1, 1988, and who retire after Calendar Year 1993, the annual benefit payment is the scheduled amount as described above, prorated in the year of retirement and the full amount thereafter.

- For those who become members of the QPP on or after July 1, 1988, the annual supplemental benefit is \$2,500 for the first twelve months of retirement, which increases by \$500 each year until a maximum of \$12,000 is payable in the twentieth and later years of retirement. This was later modified by Chapter 500 of the Laws of 1998 ("Chapter 500/98") such that these members will receive the maximum \$12,000 benefit beginning Calendar Year 2008 and thereafter.

Chapter 500/95 permitted certain active employees with prior service credit before entering the QPP to utilize their original dates of hire for determining eligibility for benefits from the FFVSF and the FOVSF. In addition, this law permitted certain active employees with prior service credit before entering the QPP to utilize their original dates of hire for determining eligibility for benefits from the FFVSF and the FOVSF.

Additionally, Chapter 216 of the Laws of 2002 ("Chapter 216/02") provides that participants of the VSFs who retire from the QPP on and after January 1, 2002 with more than 20 years of credited service are entitled to an additional one-time special lump sum payment, the Deferred Retirement Option Plan ("DROP"). The DROP also known as "Banked Variable" represents the amount the member would have received had he/she retired for Service upon reaching eligibility. The DROP payment is an eligible distribution that may be rolled over pursuant to IRS regulations. Members who retired for a disability or die in active service are not eligible for the VSF DROP. Accumulated VSF DROP balances for Fiscal Year 2019 were \$58.1 million for FFVSF and \$110.9 million for FOVSF. Similarly, for Fiscal Year 2018 the balances were \$58.7 million for FFVSF and \$112.0 million for FOVSF.

Any increase in the amount of ad hoc cost-of-living increases ("Supplementation") or automatic Cost-of-Living Adjustments ("COLA") payable from the QPP to a retiree of the FFVSF under legislation enacted on or after July 1, 1988 or to a retiree of the FOVSF under legislation enacted on or after January 1, 1993, will reduce benefits payable from the FFVSF or FOVSF to such retiree by an amount equal to such increase until the following date:

- For a retiree with a date of membership before July 1, 1988, the later of: (a) the first day of the month following the month such retiree attains age 62 and (b) January 1, 2007.
- For a retiree with a date of membership on or after July 1, 1988, the later of: (a) the first day of the month following the month such retiree attains age 62 and (b) the earlier of: (1) the first day of the month following the 19th anniversary of such retiree's date of retirement and (2) January 1, 2008.

**NEW YORK CITY FIRE PENSION FUNDS
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2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting – The Funds use the accrual basis of accounting where the measurement focus is on the flow of economic resources. Revenues are recognized in the accounting period in which they are earned, and expenses are recognized in the period incurred. Contributions from members are recognized by the QPP when the Employer makes payroll deductions from QPP members. Employer contributions are recognized when due and the Employer has a legal obligation to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the Funds.

Use of Estimates – The preparation of 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 financial statements and revenues and expenses during the reporting period. Actual results could differ from those estimates.

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

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

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

Income Taxes – Income earned by the Funds is not subject to Federal income tax.

Accounts Payable – Accounts payable is principally comprised of amounts owed to the Funds’ banks for overdrawn bank balances. The Funds’ practice is to fully invest cash balances in most bank accounts daily. 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.

Accrued Benefits Payable – Accrued benefits payable represent either: (1) benefits due and unpaid by the Funds as of year-end or (2) related to the VSFs, benefits deemed incurred and unpaid (an accrual for a portion of the current calendar year benefit) for the fiscal year end of June 30.

Securities Lending Transactions – State statutes and Board policies permit the Funds 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 Funds’ 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.

**NEW YORK CITY FIRE PENSION FUNDS
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In return, the Funds receive 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, 2019 and 2018, management believes that the Funds had no credit risk exposure to borrowers because the amounts the Funds owed the borrowers equaled or exceeded the amounts the borrowers owed the Funds. The contracts with the Fund's Custodian require the Securities Lending Agent to Indemnify the Funds.

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 Funds or the borrowers. Cash collateral is invested by the securities lending agent using approved Lender's Investment guidelines. The weighted average maturity is 30.46 days. The securities lending program in which the Funds participate 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 Funds recorded the investments purchased with the cash collateral as collateral from securities lending with a corresponding liability for securities lending.

Securities on loans are carried at fair value and the value as of June 30, 2019 and 2018 was \$767.4 million and \$1,131.3 million, respectively for the QPP, \$10.9 million and \$18.0 million, respectively for the FFVSF, and \$8.2 million and \$12.8 million, respectively for the FOVSF. Cash collateral received related to securities lending as of June 30, 2019 and 2018 was \$774.1 million and \$1,140.4 million, respectively for the QPP, \$10.3 million and \$16.8 million, respectively for the FFVSF, and \$7.8 million and \$12.0 million, respectively for the FOVSF. As of the date of the combining statements of fiduciary net position, the maturities of the investments made with cash collateral on average exceed the maturities of the securities loans by approximately 30 days.

GASB Statement No. 72, *Fair Value Measurement and Application* requires the Funds to use valuation techniques which are appropriate under the circumstances and are either a market approach, a cost approach or income approach. GASB 72 establishes a hierarchy of inputs used to measure fair value consisting of three levels. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs, and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. 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 FIRE PENSION FUNDS
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3. INVESTMENTS AND DEPOSITS

The City Comptroller (the “Comptroller”) acts as an investment advisor to the Funds. In addition, the Funds employ an independent investment consultant as an investment advisor. The Funds utilize several investment managers to manage the long-term debt and equity portfolios. The managers are regularly reviewed, regarding both their investment performance and their adherence to investment guidelines.

The Boards of Trustees of the respective Funds set investment objectives to assure adequate accumulation of reserves and to protect the long-term value of the assets. The Boards’ investment policy is implemented using a strategic allocation of assets that meet the objectives of the Funds, while working within the confines of the legislative guidelines. The guidelines dictate that fixed income, equity and other investments may be made permitted by the New York State Retirement and Social Security Laws (“RSSL”) and State Banking Law, the ACNY, and the Legal Investments for New York Savings Banks list as published by The New York State Banking Department. The Funds’ asset allocation policy is constructed to meet both short-term funding requirements and long-term pension obligations. Investments up to 25% of assets of the Funds may be made in instruments not expressly permitted by the State RSSL.

The Funds do not possess an investment risk policy statement, nor does it actively manage assets to specific risk targets. Rather, investment risk management is an inherent function of our asset allocation process. Assets are diversified over a broad range of asset classes and encompass multiple investment strategies aimed at limiting concentration risk. The asset allocation targeted for the Funds in fiscal year 2019 and 2018. Includes securities in the following categories:

	<u>2019</u>	<u>2018</u>
U.S. Equity	31.0 %	31.0 %
Core U.S. Fixed	11.0	11.0
EAFE Markets	9.0	9.0
Private Equities	7.0	7.0
Emerging Markets	6.0	6.0
Enhanced Yield Bonds	7.0	7.0
Real Estate	8.0	8.0
Private Real Estate	2.0	2.0
Hedge Funds	6.0	6.0
REITS	0.0	0.0
TIPS	4.0	4.0
Opportunistic Fixed	5.0	5.0
Cash	0.0	0.0
Bank Loans	2.0	2.0
ETI	2.0	2.0
Convertible Bonds	0.0	0.0
Total	<u>100.0 %</u>	<u>100.0 %</u>

State Street Bank is the primary custodian for substantially all the securities of the Funds.

Concentrations — None of the Funds have any investments in any one entity that represent 5% or more of their fiduciary net position.

**NEW YORK CITY FIRE PENSION FUNDS
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Credit Risk — The plausible risk 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 Baa2 and above, except that they are also permitted a 10% maximum exposure to Ba2 & B2 rated securities. While High Yield non-investment grade managers primarily invest in Ba2& B2 rated securities, they can also invest up to 10% of their portfolio in securities rated Caa2. The quality ratings of the Fund's investments, by percentage of the rated portfolio, as described by nationally recognized rating organizations, at June 30, 2019 are as follows:

June 30, 2019 Investment Type (in percent)	Moody's Quality Ratings											Caa & Below		Not Rated	Total							
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3			B1	B2	B3	Caa1			
U.S. Government	52.50%	0.02%	0.06%	0.02%	0.04%	0.02%	0.06%	0.02%	0.10%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.40%	56.26%	
Corporate Bonds	0.53%	0.13%	0.14%	0.22%	0.47%	1.04%	1.29%	1.57%	1.82%	2.22%	1.42%	2.22%	3.74%	2.98%	3.71%	3.48%	2.42%	0.00%	0.00%	6.61%	36.00%	
Short-Term																						
Commercial Paper	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.43%	5.43%
STIF	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.31%	2.31%
Percent of Rated Portfolio	53.03%	0.15%	0.20%	0.24%	0.51%	1.06%	1.35%	1.59%	1.92%	2.23%	1.42%	2.22%	3.74%	2.98%	3.71%	3.48%	2.42%	0.00%	0.00%	17.75%	100.00%	

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Credit Risk — plausible risk 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 Baa2 and above, except that they are also permitted a 10% maximum exposure to Ba2 & B2 rated securities. While High Yield non-investment grade managers primarily invest in Ba2& B2 rated securities, they can also invest up to 10% of their portfolio in securities rated Caa2. The quality ratings of the Fund's investments, by percentage of the rated portfolio, as described by nationally recognized rating organizations, at June 30, 2018 are as follows:

June 30, 2018 Investment Type (in percent)	Moody's Quality Ratings											Caa & Below		Not Rated	Total							
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3			B1	B2	B3	Caa1	Caa2		
U.S. Government	56.74%	0.02%	0.05%	0.01%	0.02%	0.02%	0.09%	0.00%	0.10%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.64%	59.70%	
Corporate Bonds	0.86%	0.14%	0.13%	0.27%	0.57%	0.66%	1.72%	1.92%	2.37%	2.28%	1.45%	1.57%	2.53%	2.58%	2.60%	2.64%	1.95%	1.95%	6.70%	32.94%		
Commercial Paper	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.88%	3.88%	
STF	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.48%	3.48%	
Discount Notes & T-Bills	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent of Rated Portfolio	57.60%	0.16%	0.18%	0.28%	0.59%	0.68%	1.81%	1.92%	2.47%	2.29%	1.45%	1.57%	2.53%	2.58%	2.60%	2.64%	1.95%	1.95%	16.70%	100.00%		

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Custodial Credit Risk — Deposits are exposed to custodial credit risk if they are uninsured and uncollateralized. Custodial credit risk is the risk that, in the event of a failure of the counterparty, the Funds will not be able to recover the value of their investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the 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 the Funds' deposits are insured by the Federal Deposit Insurance Corporation and collateralized by securities held by a financial institution separate from the Funds' depository financial institution.

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 Bureau of Asset Management. The lengths of investment maturities (in years) of the Funds' investments, as shown by the percent of the rated portfolio, at June 30, 2019 and 2018 are as follows:

Investment Maturities					
Years to Maturity June 30, 2019	Fair Value	Less Than One Year	One to Five Years	Six to Ten Rated	More Than Ten Years
U.S. Government	56.26 %	2.57 %	8.92 %	16.86 %	27.91 %
Corporate bonds	36.00	0.49	13.90	16.17	5.44
Short-term:					
Commercial Paper	5.43	5.43	-	-	-
STIF	2.31	2.31	-	-	-
Percent of rated portfolio	<u>100.00 %</u>	<u>10.80 %</u>	<u>22.82 %</u>	<u>33.03 %</u>	<u>33.35 %</u>

Investment Maturities					
Years to Maturity June 30, 2018	Fair Value	Less Than One Year	One to Five Years	Six to Ten Rated	More Than Ten Years
U.S. Government	59.7 %	1.68 %	22.09 %	11.08 %	24.85 %
Corporate bonds	32.94	0.85	12.13	14.10	5.86
Short-term:					
Commercial Paper	3.88	3.88	-	-	-
STIF	3.48	3.48	-	-	-
U.S. Treasuries & Agencies	-	-	-	-	-
Discount Notes	-	-	-	-	-
Percent of rated portfolio	<u>100.00 %</u>	<u>9.89 %</u>	<u>34.22 %</u>	<u>25.18 %</u>	<u>30.71 %</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

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stocks and/or bonds. The currency markets have proven to be good diversifiers in a total portfolio context; therefore, the Funds have 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 Funds' combined foreign currency holdings as of June 30, 2019 and 2018 are as follows:

Trade Currency	6/30/2019 Fair Value	6/30/2018 Fair Value
AUSTRALIAN DOLLAR	\$ 51,510	\$ 45,737
BOTSWANA PULA	420	378
BRAZILIAN REAL	61,095	47,957
CANADIAN DOLLAR	74,938	61,987
CHILEAN PESO	9,096	9,478
CHINESE YUAN (OFFSHORE)	12	-
CHINESE YUAN RENMINBI	11,454	3,326
COLOMBIAN PESO	4,176	4,770
CROATIAN KUNA	1,255	1,173
CZECH KORUNA	1,963	2,389
DANISH KRONE	38,362	37,778
EGYPTIAN POUND	1,640	1,704
EURO CURRENCY	563,078	510,273
GHANA CEDI	244	310
HONG KONG DOLLAR	283,223	274,438
HUNGARIAN FORINT	3,969	2,798
INDIAN RUPEE	97,617	98,099
INDONESIAN RUPIAH	24,776	22,662
JAPANESE YEN	283,979	284,564
JORDANIAN DINAR	1,137	1,187
KENYAN SHILLING	1,315	1,461
KUWAITI DINAR	3,928	3,051
MALAYSIAN RINGGIT	18,535	21,476
MAURITIUS RUPEE	1,019	1,057
MEXICAN PESO (NEW)	23,053	24,907
MOROCCAN DIRHAM	1,071	1,125
NEW ISRAELI SHEQEL	4,268	3,793
NEW TAIWAN DOLLAR	93,619	99,901
NEW ZEALAND DOLLAR	1,924	1,105
NIGERIAN NAIRA	962	1,076
NORWEGIAN KRONE	15,856	16,193
OMANI RIAL	1,089	1,197
PAKISTAN RUPEE	1,101	2,500
PERUVIAN NOUVEAU SOL	798	914
PHILIPPINE PESO	11,030	10,475
POLISH ZLOTY	16,564	15,163
POUND STERLING	263,180	259,676
QATARI RIAL	6,633	7,074
ROMANIAN LEU	1,533	1,336
RUSSIAN RUBLE	1,144	953
SINGAPORE DOLLAR	22,675	20,472
SOUTH AFRICAN RAND	49,524	56,476
SOUTH KOREAN WON	125,050	136,375
SWEDISH KRONA	27,646	29,019
SWISS FRANC	129,000	112,299
THAILAND BAHT	33,289	28,542
TUNISIAN DINAR	440	472
TURKISH LIRA	15,077	17,066
UAE DIRHAM	5,361	4,696
Total	\$ 2,390,628	\$ 2,290,855

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Securities Lending Transactions

Credit Risk — The quality ratings of investments held as collateral for securities lending by the Funds' at June 30, 2019 and 2018 are as follows:

Investment Type and Fair Value
of Securities Lending Transactions
(In thousands)

	Moody's Quality Ratings										Total	
	Aaa & Below	Aa & Below	A1	A2	A3	Baa2 & Below	Ba & Below	B & Below	Caa & Below	Ca & Below		Not Rated
June 30, 2019												
U.S. Government	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate	-	-	-	-	-	-	-	-	-	-	-	-
Short Term:												
Repurchase Agreements	-	-	-	-	-	-	-	-	-	-	-	-
Reverse Repurchase Agreements	-	25,000	29,728	265,099	12,055	-	-	-	-	-	361,184	693,066
Certificates of Deposit	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Paper	-	-	-	-	-	-	-	-	-	-	-	-
Money Market	11,426	-	-	-	-	-	-	-	-	-	2,959	14,385
Bank Notes	-	-	-	-	-	-	-	-	-	-	-	-
U.S. Treasury	-	-	-	-	-	-	-	-	-	-	-	-
U.S. Agency	-	-	-	-	-	-	-	-	-	-	6,841	6,841
Time Deposit	-	-	77,153	-	-	-	-	-	-	-	-	77,153
Cash or Cash Equivalent	-	-	-	-	-	-	-	-	-	-	-	-
Payable/Receivable	-	-	-	-	-	-	-	-	-	-	-	-
Uninvested	-	-	-	-	-	-	-	-	-	-	705	705
Total	\$ 11,426	\$ -	\$ 102,153	\$ 29,728	\$ 265,099	\$ 12,055	\$ -	\$ -	\$ -	\$ -	\$ 371,689	\$ 792,150
Percent of securities lending portfolio	1.44%	0.00%	12.90%	3.75%	33.47%	1.52%	0.00%	0.00%	0.00%	0.00%	46.92%	100.00%

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Investment Type and Fair Value
of Securities Lending Transactions
(In thousands)

	Moody's Quality Ratings										Total	
	Aaa & Below	Aa	A1	A2	A3	Baa2 & Below	Ba & Below	B & Below	Caa & Below	Ca & Below		Not Rated
June 30, 2018												
U.S. Government Corporate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Short Term:												
Repurchase Agreements	-	-	-	-	-	-	-	-	-	-	-	-
Reverse Repurchase Agreements	-	-	25,000	36,526	269,775	86,191	-	-	-	-	632,761	1,050,263
Certificates of Deposit	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Paper	-	-	-	-	-	-	-	-	-	-	-	-
Money Market	8,764	-	-	-	-	-	-	-	-	-	-	8,764
Bank Notes	-	-	-	-	-	-	-	-	-	-	2,598	2,598
U.S. Treasury	-	-	-	-	-	-	-	-	-	-	-	-
U.S. Agency	-	-	-	-	-	-	-	-	-	-	-	-
Time Deposit	-	-	101,733	-	-	-	-	-	-	-	-	101,733
Cash or Cash Equivalent	-	-	-	-	-	-	-	-	-	-	-	-
Payable/Receivable	-	-	-	-	-	-	-	-	-	-	-	-
Uninvested	-	-	-	-	-	-	-	-	-	-	5,938	5,938
Total	\$ 8,764	\$ -	\$ 126,733	\$ 36,526	\$ 269,775	\$ 86,191	\$ -	\$ -	\$ -	\$ -	\$ 641,297	\$ 1,169,286
Percent of securities lending portfolio	0.75%	0.00%	10.84%	3.12%	23.07%	7.37%	0.00%	0.00%	0.00%	0.00%	54.85%	100.00%

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Interest Rate Risk — The lengths of investment maturities (in years) of the collateral for securities lending held by the Funds' are as follows:

Years to Maturity
Investment Type
(In Thousands)

	Investment Maturities (in years)				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
June 30, 2019					
Government	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate	-	-	-	-	-
Yankee	-	-	-	-	-
Short-Term:					
Repurchase Agreements	-	-	-	-	-
Reverse Repurchase Agreements	693,066	693,066	-	-	-
Certificate of Deposits	-	-	-	-	-
Commercial Paper	-	-	-	-	-
Money Market	14,385	14,385	-	-	-
Bank Notes	-	-	-	-	-
U.S. Treasury	-	-	-	-	-
U.S. Agency	6,841	6,841	-	-	-
Time Deposit	-	-	-	-	-
Cash or Cash Equivalent	77,153	77,153	-	-	-
Uninvested	705	705	-	-	-
Total	\$ 792,150	\$ 792,150	\$ -	\$ -	\$ -
Percent of securities lending portfolio	100.00%	100.00%	0.00%	0.00%	0.00%

Years to Maturity
Investment Type
(In Thousands)

	Investment Maturities (in years)				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
June 30, 2018					
Government	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate	-	-	-	-	-
Yankee	-	-	-	-	-
Short-Term:					
Reverse Repurchase Agreements	1,050,252	1,050,252	-	-	-
Certificates of Deposit	-	-	-	-	-
Commercial Paper	-	-	-	-	-
Money Market	8,764	8,764	-	-	-
Bank Notes	2,598	2,598	-	-	-
Cash or Cash Equivalent	101,733	101,733	-	-	-
Uninvested	5,939	5,939	-	-	-
Total	\$ 1,169,286	\$ 1,169,286	\$ -	\$ -	\$ -
Percent of securities lending portfolio	100.00%	100.00%	0.00%	0.00%	0.00%

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Rate of return — For the years ended June 30, 2019 and 2018, the annual money weighted rate of return on investments, net of investment expense, for the Funds was as follows:

	2019	2018
QPP	7.11%	9.34%
FFVSF	5.70%	7.28%
FOVSF	5.93%	7.75%

The money-weighted rate of return expresses investment performance, net of investment expense adjusted for the changing amounts invested.

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In Fiscal Year 2015, the Funds adopted GASB Statement No. 72 (“GASB 72”), *Fair Value Measurement and Application*. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements. The Funds categorize their fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the 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 Funds have the following recurring fair value measurements as of June 30, 2019 and June 30, 2018:

GASB 72 Disclosure (in thousands)	2019			
	Level One	Level Two	Level Three	Total
INVESTMENTS – At fair value				
Short-term investments:				
Commercial Paper	\$ -	\$ 264,720	\$ -	\$ 264,720
Discount Notes	-	109,380	-	109,380
Short-Term Investment Fund	-	72,169	-	72,169
U.S. Treasury bills and Agencies	-	7,208	-	7,208
Debt securities:				
Bank Loans	-	122,000	249	122,249
Corporate and Other	-	1,367,788	-	1,367,788
Mortgage Debt Securities	-	322,175	60,722	382,897
Treasury Inflation Protected Securities	-	479,548	-	479,548
U.S. Government and Agency	-	1,537,673	-	1,537,673
Equity securities:				
Domestic Equity	4,724,623	-	1,330	4,725,953
International Equity	154,216	-	95	154,311
Collective Pooled funds:				
Bank loans	-	105,106	509	105,615
Corporate and Other	-	113,086	-	113,086
Domestic Equity	179,501	-	709	180,210
International Equity	2,309,211	-	198	2,309,409
Mortgage Debt Securities	-	113,348	17,154	130,502
Opportunistic Fixed Income	-	47,220	893	48,113
Treasury Inflation Protected Securities	-	158,200	-	158,200
U.S. Government and Agency	-	118,289	-	118,289
Alternative investments:				
Infrastructure	-	-	125,285	125,285
Opportunistic Fixed Income	-	-	405,346	405,346
Private Equity	-	-	939,362	939,362
Private Real Estate	-	-	609,421	609,421
Total investments	\$ 7,367,551	\$ 4,937,910	\$ 2,161,273	14,466,734
Hedge Fund Investment Measured at Net Asset Value				868,419
Total				\$ 15,335,153

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GASB 72 Disclosure (in thousands) INVESTMENTS – At fair value	2018			
	Level One	Level Two	Level Three	Total
Short-term investments:				
Commercial paper	\$ -	\$ 191,606	\$ -	\$ 191,606
Short-term investment fund	-	98,030	-	98,030
U.S. treasury bills and agencies	53,484	-	-	53,484
Discount notes	-	2,498	-	2,498
Debt securities:				
U.S. government and agency	-	1,767,633	-	1,767,633
Corporate and other	-	900,285	-	900,285
Mortgage debt security	-	353,129	-	353,129
Bank loans	-	8,044	-	8,044
Equity securities:				
Domestic equity	3,959,523	350	349	3,960,222
Alternative investments:				
Infrastructure	-	-	70,510	70,510
Opportunistic fixed income	-	-	392,612	392,612
Private equity	3,267	-	899,664	902,931
Private real estate	-	-	548,159	548,159
Collective trust funds:				
Bank loans	-	200,689	-	200,689
Corporate and other	-	363,329	6	363,335
Domestic equity	277,093	-	1,001	278,094
International equity	2,527,227	-	267	2,527,494
Mortgage debt security	-	27,149	71,953	99,102
Treasury inflation protected securities	-	590,072	-	590,072
U.S. government and agency	-	360,480	-	360,480
Total investments	<u>\$ 6,820,594</u>	<u>\$ 4,863,294</u>	<u>\$ 1,984,521</u>	<u>13,668,409</u>
Alternative investments valued at net asset value				693,506
Total				<u>\$ 14,361,915</u>

Equity and 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 using 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 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 our custodian bank.

Alternative Investments – 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 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

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party transactions, financial operating results and other factors deemed relevant by the GP. The assets in our Alternative Investment program are classified as Level 3 assets. A more detailed explanation of the Level 3 valuation methodologies follows:

Investments in non-public equity securities should be valued by the GP using one or more valuation methodologies outlined in ASC 820, 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 EBITDA or projected fiscal year EBITDA) or (2) the income or discounted cash flow approach.

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.

In accordance within the scope of paragraphs 820-10-15-4, alternative investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient in paragraph 820-10-35-59 have not been classified in the fair value hierarchy. The fair value quantities presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the entity's combining financial statements.

4. TRANSFER TO VARIABLE SUPPLEMENTS FUNDS

The ACNY provides that the QPP transfer to the VSFs an amount equal to certain excess earnings on equity investments limited to the unfunded Accumulated Benefit Obligation ("ABO") of the VSF. Excess earnings are defined as the amount by which earnings on equity investments of the QPP exceed what the earnings would have been had such funds been invested at a yield comparable to that available from fixed-income securities ("Hypothetical Fixed Income Security Earnings"), less any cumulative deficiencies. The VSFs also receive credit for investment earnings on their respective assets.

**NEW YORK CITY FIRE PENSION FUNDS
NOTES TO THE COMBINING FINANCIAL STATEMENTS
JUNE 30, 2019 AND 2018**

The calculation of the Hypothetical Fixed Income Security Earnings requires the determination of the Hypothetical Interest Rate (“HIR”), which is computed by the Comptroller.

For Fiscal Year 2019, the excess earnings of the QPP, inclusive of prior year’s cumulative deficiencies, are estimated to be equal to \$262 million. After application of the ABO Gate, a liability and transfer of \$0 million to FFVSF and a liability and transfer of \$0 million to FOVSF have been reported by the QPP as of and for the year ended June 30, 2019, respectively.

For Fiscal Year 2018, the excess earnings of the QPP, inclusive of prior year’s cumulative deficiencies, are estimated to be equal to \$788 million. After application of the ABO Gate, a liability and transfer of \$15 million to FFVSF and a liability and transfer of \$0 million to FOVSF have been reported by the QPP as of and for the year ended June 30, 2018, respectively.

In addition, Chapter 583 of the Laws of 1989 states that if the assets of the FFVSF or FOVSF are less than the amount required to pay the retirees’ guaranteed scheduled annual supplemental benefit payments, then The City is required by law to fund the difference.

The amount shown below as the ABO is the measure of the present value of scheduled supplemental benefits estimated to be payable in the future as a result of employee service-to-date. The ABO is calculated as the actuarial present value of credited projected benefits, prorated on service and is intended to help users assess the funded status of the VSFs on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due and make comparisons among Variable Supplements Funds.

Actuarial valuations of the VSFs are performed annually as of June 30.

A comparison of the ABO as calculated by the Funds’ Chief Actuary (the “Actuary”) with the net position restricted for benefits for the FFVSF and the FOVSF as of June 30, 2018 and June 30, 2017, follows:

	FFVSF		FOVSF	
	2018	2017	2018	2017
	(in millions)		(in millions)	
Accumulated benefit obligation ¹				
for:				
Retirees currently receiving benefits	\$ 334.4	\$ 345.8	\$ 148.5	\$ 149.2
Active employees	111.7	107.9	118.7	115.9
Total accumulated benefit obligation ²	446.1	453.7	267.2	265.1
Plan net position held in trust for benefits ³	530.1	526.2	346.6	345.2
Unfunded accumulated benefit obligation	<u>\$ (84.0)</u>	<u>\$ (72.5)</u>	<u>\$ (79.4)</u>	<u>\$ (80.1)</u>

¹Based on actuarial assumptions adopted by the Board of Trustees of the QPP during Fiscal Year 2019.

²These total ABOs have been reduced by accrued benefits payable. This basis of reporting the total ABO is consistent with that used to report net position restricted for benefits in these combining financial statements but may differ from the bases used for other purposes.

³See Note 2 for valuation of investments in the calculation of net position restricted for benefits.

**NEW YORK CITY FIRE PENSION FUNDS
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JUNE 30, 2019 AND 2018**

For purposes of the June 30, 2018 and the June 30, 2017 actuarial valuations of the VSFs, Chapter 125/00 has been taken into account in the determination of the unfunded ABO relative to the Supplementation benefit increases that began Fiscal Year 2001 and to the automatic COLA benefits provided for Fiscal Year 2002 and each future year.

Sections 13-384 and 13-394 of the ACNY provide that the Boards of Trustees of the FFVSF and the FOVSF shall adopt, upon the recommendation of the Actuary, actuarial assumptions as to interest rate, mortality of retirees and estimated number of active members of the QPP in service as of each June 30 who will retire for service with 20 or more years of service as Firefighters and Fire Officers, for use in making annual valuations of liabilities.

The following actuarial assumptions represent the recommendations of the Actuary and were used in the actuarial calculations to determine the preceding ABOs as of June 30, 2018 and June 30, 2017, respectively:

	<u>June 30, 2018</u>	<u>June 30, 2017</u>
Investment rate of return	7.0% per annum. ^{1,2}	7.0% per annum. ^{1,2}
Post-retirement mortality	Tables adopted by the Board of Trustees during Fiscal Year 2019.	Tables adopted by the Board of Trustees during Fiscal Year 2019.
Active service: withdrawal, death, disability	Tables adopted by the Board of Trustees during Fiscal Year 2019.	Tables adopted by the Board of Trustees during Fiscal Year 2019.
Service retirement	Tables adopted by the Board of Trustees during Fiscal Year 2019.	Tables adopted by the Board of Trustees during Fiscal Year 2019.
Percentage of all active Fire members estimated to retire for service with 20 or more years of service as Firefighters	70%	70%
Percentage of all active Fire Officers estimated to retire for service with 20 or more years of service as Fire Officers	100%	100%
Cost-of-Living Adjustments ¹	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 Developed assuming a long-term Consumer Price Inflation assumption of 2.5% per year.

² Net of Investment Expenses.

**NEW YORK CITY FIRE PENSION FUNDS
NOTES TO THE COMBINING FINANCIAL STATEMENTS
JUNE 30, 2019 AND 2018**

5. QPP CONTRIBUTIONS

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, are intended to ultimately be enough to accumulate assets to pay benefits when due.

Member Contributions — Tier 1 and Tier 2 members contribute by salary deductions on the basis of a normal rate of contribution which is assigned by the QPP at membership. A member's normal rate is dependent upon age and actuarial tables in effect at the time of membership. These member contributions are reduced by 5.0% under the ITHP program.

Members may voluntarily increase their rates of contribution by 50% for the purpose of purchasing an additional annuity. Members are permitted to borrow up to 90% of their own contributions including accumulated interest.

Tier 3 and Tier 3 Modified members contribute 3.0% of salary until they have 25 years of credited service.

Employer Contributions — Statutory Contributions to the QPP, determined by the Actuary in accordance with State statutes and City laws, are generally funded by the Employer within the appropriate fiscal year. The Statutory Contribution for the year ended June 30, 2019, based on an actuarial valuation as of June 30, 2017 was \$1,398.6 million and the Statutory Contribution for the year ended June 30, 2018, based on an actuarial valuation as of June 30, 2016 was \$1,200.4 million. The Statutory Contributions for Fiscal Years 2019 and 2018 were equal to the Actuarial Contributions. Refer to the Schedule of Employer Contributions in the accompanying required supplementary information for more information on the actuarial methods and assumptions applied by the Actuary to determine the Statutory Contributions.

6. NET PENSION LIABILITY

The components of net pension liability of the Employer at June 30, 2019 and 2018 for the Funds were as follows:

	(in thousands)			
June 30, 2019	QPP	FFVSF	FOVSF	TOTAL
Total Pension liability*	\$ 22,477,031	\$ 490,809	\$ 298,944	\$ 23,266,784
Fiduciary net position**	14,337,618	519,268	351,386	15,208,272
Employers' net pension liability	<u>\$ 8,139,413</u>	<u>\$ (28,459)</u>	<u>\$ (52,442)</u>	<u>\$ 8,058,512</u>
Fiduciary net position as a percentage of the total	<u>63.79%</u>	<u>105.80%</u>	<u>117.54%</u>	<u>65.36%</u>

	(in thousands)			
June 30, 2018	QPP	FFVSF	FOVSF	TOTAL
Total Pension liability*	\$ 21,073,770	\$ 545,063	\$ 373,079	\$ 21,991,912
Fiduciary net position**	13,267,043	550,507	355,712	14,173,262
Employers' net pension liability	<u>\$ 7,806,727</u>	<u>\$ (5,444)</u>	<u>\$ 17,367</u>	<u>\$ 7,818,650</u>
Fiduciary net position as a percentage of the total	<u>62.96%</u>	<u>101.00%</u>	<u>95.34%</u>	<u>64.45%</u>

*Includes Liabilities from Special Accidental Death Benefits pursuant to Section 208-f of the General Municipal Law.

**Such amounts represent the preliminary Funds' fiduciary net position and may differ from the final Funds' fiduciary net position.

**NEW YORK CITY FIRE PENSION FUNDS
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JUNE 30, 2019 AND 2018**

Actuarial Methods and Assumptions

The total pension liability as of June 30, 2019 and 2018 was determined by actuarial valuations as of June 30, 2018 and June 30, 2016 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. 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.

Mortality tables for Service and Disability pensioners and beneficiaries were developed from an experience study of the QPP.

The Fiscal Year 2019 results reflect changes in the actuarial assumptions and methods since the prior year. The changes are primarily the result of an experience study performed by Bolton, Inc., which compared actual experience of the Systems for the four and ten-year periods ending June 30, 2017 to that expected based on the prior set of actuarial assumptions and methods. These new actuarial assumptions and methods were adopted by the FIRE Retirement Board during Fiscal Year 2019.

Pursuant to Section 96 of the New York City Charter, a study of the actuarial assumptions used to value liabilities of the Funds is conducted every two years.

The obligations of the QPP to the FFVSF and the FOVSF are recognized through the Liability Valuation Method. Under this method the actuarial present value ("APV") of Future SKIM from the QPP to the FFVSF and FOVSF is included directly as an actuarial liability to the QPP. SKIM is all or a portion of the excess earnings on equity securities of the QPP which are transferable to the FFVSF and FOVSF. The APV of Future SKIM is computed as the excess, if any, of the APV of benefits of the FFVSF and FOVSF offset by the AAV of the FFVSF and FOVSF, respectively.

Expected Rate of Return on Investments

The long-term expected rate of return on the Funds' investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of 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:

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Asset Class	Target Asset Allocation	Long-Term Expected Real Rate of Return
U.S Public Market Equities	31 %	6.0 %
International Public Market Equities	9	6.8
Emerging Public Market Equities	6	9.7
Private Market Equities	9	9.5
Fixed Income	31	2.6
Alternative Investments	14	4.7
Total	<u>100 %</u>	

Discount Rate

The discount rate used to measure the total pension liability was 7.0%. The projection of cash flows used to determine the discount rate assumes 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 Funds' fiduciary net position was projected to be available to make all projected future benefit payments of current active and non-active members. Therefore, the long-term expected rate of return on the Funds' 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 Employer for the Funds as of June 30, 2019, calculated using the discount rate of 7.0%, as well as what the Employer's 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:

	1% Decrease (6.0%)	(in thousands) Discount Rate (7.0%)	1% Increase (8.0%)
QPP	\$ 10,646,913	\$ 8,139,414	\$ 6,034,770
FFVSF	15,979	(28,459)	(66,731)
FOVSF	(27,620)	(52,442)	(73,929)
Total	<u>\$ 10,635,272</u>	<u>\$ 8,058,513</u>	<u>\$ 5,894,110</u>

7. MEMBER LOANS

Tier 1 and Tier 2 members are permitted to borrow up to 90% of their own accumulated contributions including accumulated interest. The balance of QPP member loans receivable at June 30, 2019 and 2018 was \$23.0 million and \$25.2 million, respectively. Members repay their loans at the statutory rate of 4% per annum. Upon termination of employment before retirement, certain members are entitled to refunds of their own contributions including, for new program members, accumulated interest less any loans outstanding. Certain prior year loans to retirees were removed from member loans receivables. Such balances should be reduced at the effective date of retirement as a result of payoff or future benefit reductions.

**NEW YORK CITY FIRE PENSION FUNDS
NOTES TO THE COMBINING FINANCIAL STATEMENTS
JUNE 30, 2019 AND 2018**

8. RELATED PARTIES

The Comptroller of the City of New York has been appointed by law as custodian for Fixed Annuity Program assets with revocable discretionary authority. Securities are held by certain banks under custodial agreements with the Comptroller. The Comptroller also provides cash receipt and cash disbursement services to the Funds. Actuarial services are provided to the Funds by the Office of the Actuary employed by the Boards of Trustees of The City's main pension systems. The City's Corporation Counsel provides legal services to the Funds. Other administrative services are also provided by The City. The cost of providing such services amounted to \$2.4 million and \$2.3 million in Fiscal Years 2019 and 2018, respectively.

9. ADMINISTRATIVE AND INVESTMENT EXPENSES

During fiscal year 2019, in accordance with Chapter 298 of the New York State Laws of 2016, the QPP Plan provided corpus funding for administrative expenses in the amount of \$9.9 million. Additionally, services, as set out in Note 8 on "Related Parties" are provided by various City Agencies. The City defrayed the cost associated with these services. In fiscal year 2018, there were \$6.4 million in administrative expenses paid out of the corpus of the Fund. Investment expenses charged to the investment earnings of the QPP, exclusive of expenses relating to securities-lending transactions amounted to approximately \$90.0 million and \$96.9 million in 2019 and 2018, respectively.

In March 2018, the Fund entered into a lease agreement for office space. The agreement is for a term of 15 years and 4 months. Future minimum rental payments for the next five years and thereafter is approximately:

<u>Fiscal Years Ending June 30,</u>	<u>Amount</u>
2020	\$ 1,034,000
2021	1,034,000
2022	1,075,000
2023	1,096,000
2024	1,179,000
Thereafter	<u>11,022,000</u>
	<u>\$ 16,440,000</u>

Rent expense for the years ended June 30, 2019 and 2018 was \$900,620 and \$763,423, respectively.

10. CONTINGENT LIABILITIES AND OTHER MATTERS

Contingent Liabilities — The Funds have a number of claims pending against them and have been named as a defendant in a number of lawsuits. The Funds also have certain other contingent liabilities. Management of FIRE, on the advice of legal counsel, believes that such proceedings will not have a material effect on the Funds' net position or changes in Funds' net position. Under the existing State statutes and City laws that govern the functioning of the Funds, increases in the obligations of the Funds to members and beneficiaries ordinarily result in increases in the obligations of The City to the Funds.

Other Matters — During Fiscal Years 2016 and 2015, certain events described below took place which, in the opinion of FIRE management, could have the effect of increasing benefits to members and/or their beneficiaries. The effect of such events has not been fully quantified. However, it is the opinion of FIRE management that such developments would not have a material effect on the Funds' net position restricted for benefits or cause changes in Funds' net position restricted for benefits.

NEW YORK CITY FIRE PENSION FUNDS
NOTES TO THE COMBINING FINANCIAL STATEMENTS
JUNE 30, 2019 AND 2018

Actuarial Audit — Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded New York City Retirement Systems (“NYCRS”) are conducted every two years. Refer to Note 6 for the results of the most recent actuarial studies for FIRE.

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

The most recently completed study was published by Bolton, Inc. dated June 2019. Bolton analyzed experience for the four and ten-year periods ending 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 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 FIRE.

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

Chapter 489 of the Laws of 2013 (“Chapter 489/13”) 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 the New York City Fire Department 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 41 of the Laws of 2016 (“Chapter 427/14”) removes the specified periods of time, medal requirements, and theaters of operation in which military service would had to have been rendered for a service purchase pursuant to New York State Retirement and Social Security Law (“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 (“Chapter 326/16”) extended the deadline to file a Notice of Participation in the World Trade Center Rescue, Recovery, and Clean-up Operations to September 11, 2018.

Chapter 298 of the Laws of 2016 (“Chapter 298/16”) amended the Accidental Disability Retirement and

NEW YORK CITY FIRE PENSION FUNDS
NOTES TO THE COMBINING FINANCIAL STATEMENTS
JUNE 30, 2019 AND 2018

Ordinary Disability Retirement benefits for Tier 3 and Tier 3 Modified members with dates of membership prior to June 15, 2016 who elect to participate in the Enhanced Disability Benefits. Tier 3 Modified members with dates of membership June 15, 2016 and later are mandated into the Enhanced Disability Benefits. Members electing or mandated into this benefit will pay an extra 2% of wages.

The following outlines the changes to Tier 3 and Tier 3 Modified provisions with the Enhanced Disability legislation:

1. Member Contributions

- Tier 3 Enhanced Members contribute 3% of pensionable earnings plus an additional contribution rate to help fund the enhanced disability benefit. Currently, the additional contribution rate is 2% that can be raised to 3% based on a financial analysis by the Office of the Actuary every three years. At no time can the total contribution rate exceed 6%.
- Taxability
 - Base Member Contributions
 - Pre-tax
 - Increased Member Contributions for Enhanced Disability Provisions
 - Pre-tax for members appointed June 15, 2016 and later (i.e., the date new members are mandated into the Plan).
 - Post-tax for those who were eligible to elect the Enhanced Disability Plan provisions and elected such provisions.

2. Accidental Disability Retirement (ADR)

- The ADR benefit for Tier 3 Enhanced Members is 75% of their Five-Year Final Average Salary (FAS5).
- Tier 3 Enhanced Members have statutory presumptions (i.e. Heart/HHAT/Lung)

3. Ordinary Disability Retirement (ODR)

- The ODR benefit for Tier3 Enhanced Members is the greater of:
 - 33 1/3% of FAS5 or
 - FAS5 multiplied by years of credited service (not greater than 22 years)

4. Escalation

- Tier 3 Enhanced Members who retire for ODR or ADR are not subject to escalation. Tier 3 Enhanced Members are subject to COLA, the same as Tier 1 and 2 members.

5. Social Security Offset

- Tier 3 Enhanced Members who retire for ODR or ADR are not subject to the Social Security offset.
- Tier 3 Enhanced Members who retire for a Service or Vested Retirement are subject to the Social Security offset.

6. Final Average Salary

- Tier 3 Enhanced Members have a FAS5 calculation.
- The Tier 3 Original Members who opt into the Tier 3 Enhanced benefit have their FAS5 applied for ODR or ADR, but their Three-Year Final Average Salary (FAS3) applied for Service or Vested Retirements.

**NEW YORK CITY FIRE PENSION FUNDS
NOTES TO THE COMBINING FINANCIAL STATEMENTS
JUNE 30, 2019 AND 2018**

Additionally, Chapter 298/16 allows the Board of Trustees of FIRE to establish a budget for the administration of FIRE and authorized payment from the assets of FIRE to cover such Administrative Expenses. The Administrative Expenses will be charged against FIRE in the first instance and then reimbursed with interest by the City of New York as an Employer Contribution in the following fiscal year. This structure is commonly referred to as a “corpus-funded entity.” Accordingly, starting in Fiscal Year 2019, Administrative Expenses will be reflected in the Employer Contribution and the UAAL Payments.

Chapter 61 of the Laws of 2017 permits FIRE members subject to Retirement and Social Security Law (“RSSL”) Article 14 (“Eligible Members”), who would be ineligible for disability retirement benefits solely on account of being eligible for a normal service retirement benefit, to be eligible for disability benefits. It also relaxed the safeguards provisions regarding restrictions on post-retirement employment for Eligible Members who are awarded Accidental Disability Retirement (“ADR”) and modified the process for reducing or eliminating an ADR benefit based on post-retirement earnings.

The following changes apply to **all** Tier 3 members (Original, Revised and Enhanced):

1. Eligibility for ADR

- Members no longer cease to be eligible for ADR at 22 years and can apply at any time as long as they are active.

2. Safeguards

- RSSL § 507(d) no longer applies to Tier 3 ADR retirees; the Tier 2 safeguard provisions contained in New York City Administrative Code § 13-254 apply. Therefore, all Tier 3 ADR retirees will be treated identically to Tier 2 ADR retirees for Safeguards purposes. This includes earnings limitations and re-employment.
- Safeguards remain unchanged for ODR retirees. Thus, they must continue to be in receipt of Social Security Disability benefits to maintain their receipt of pension benefits.

* * * * *

**NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
(In thousands)**

June 30, 2019	QPP*	FFVSF	FOVSF	TOTAL
Total pension liability:				
Service cost	\$ 467,493	\$ 10,961	\$ 6,373	\$ 484,827
Interest	1,460,537	37,366	25,708	1,523,611
Changes of benefit terms	-	-	-	-
Differences between expected and actual experience	154,208	6,872	(20,300)	140,780
Changes of assumptions	697,113	(64,235)	(61,110)	571,768
Benefit payments and withdrawals	(1,376,090)	(45,218)	(24,806)	(1,446,114)
Net change in total pension liability	1,403,261	(54,254)	(74,135)	1,274,872
Total pension liability – beginning	21,073,770	545,063	373,079	21,991,912
Total pension liability – ending (a)	22,477,031	490,809	298,944	23,266,784
Plan fiduciary net position:				
Employer contributions	1,398,565	-	-	1,398,565
Member contributions	108,015	-	-	108,015
Net investment income	933,889	27,979	20,480	982,348
Benefit payments and withdrawals	(1,376,090)	(45,218)	(24,806)	(1,446,114)
Administrative expenses	(9,861)	-	-	(9,861)
Other changes	2,057	-	-	2,057
Net change in plan fiduciary net position	1,056,575	(17,239)	(4,326)	1,035,010
Accrued transfers To/From VSF's	14,000	(14,000)	-	-
Plan fiduciary net position – beginning	13,267,043	550,507	355,712	14,173,262
Plan fiduciary net position – ending (b) **	14,337,618	519,268	351,386	15,208,272
Employer's net pension liability – ending (a)-(b)	\$ 8,139,413	\$ (28,459)	\$ (52,442)	\$ 8,058,512
Plan fiduciary net position as a percentage of the total pension liability	63.79%	105.80%	117.54%	65.36%
Covered payroll	\$ 1,302,872	N/A	N/A	\$ 1,302,872
Employer's net pension liability as a percentage of covered payroll	624.73%	N/A	N/A	618.52%

Additionally, in accordance with GASB No. 67 paragraph 50, such information was not readily available for periods prior to 2014.

* Such amounts represent the preliminary Fund's fiduciary net position and may differ from the final Fund's fiduciary net position.

** Includes liabilities from Special Accidental Death Benefits pursuant to Section 208-F of the General Municipal Law.

See Independent Auditors' Report.

NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
(In thousands)

June 30, 2018	QPP*	FFVSF	FOVSF	TOTAL
Total pension liability:				
Service cost	\$ 419,209	\$ 12,234	\$ 4,926	\$ 436,369
Interest	1,422,180	37,221	25,208	1,484,609
Changes of benefit terms	14,335	(2,416)	(317)	11,602
Differences between expected and actual experience	141,892	(12,073)	(5,183)	124,636
Changes of assumptions	-	-	-	-
Benefit payments and withdrawals	(1,308,467)	(46,976)	(24,090)	(1,379,533)
Net change in total pension liability	689,149	(12,010)	544	677,683
Total pension liability – beginning	20,384,622	557,073	372,535	21,314,230
Total pension liability – ending (a)	21,073,771	545,063	373,079	21,991,913
Plan fiduciary net position:				
Employer contributions	1,200,417	-	-	1,200,417
Member contributions	108,338	-	-	108,338
Net investment income	1,188,860	35,406	25,465	1,249,731
Benefit payments and withdrawals	(1,308,467)	(46,976)	(24,090)	(1,379,533)
Administrative expenses	(6,412)	-	-	(6,412)
Other changes	9,411	-	-	9,411
Net change in plan fiduciary net position	1,192,147	(11,570)	1,375	1,181,952
Accrued transfers to/from VSF's	(15,000)	15,000	-	-
Plan fiduciary net position – beginning	12,089,896	547,077	354,337	12,991,310
Plan fiduciary net position – ending (b) **	13,267,043	550,507	355,712	14,173,262
Employer's net pension liability – ending (a)-(b)	\$ 7,806,728	\$ (5,444)	\$ 17,367	\$ 7,818,651
Plan fiduciary net position as a percentage of the total pension liability	62.96%	101.00%	95.34%	64.45%
Covered payroll	\$ 1,164,528	N/A	N/A	\$ 1,164,528
Employer's net pension liability as a percentage of covered payroll	670.38%	N/A	N/A	671.40%

Additionally, in accordance with GASB No. 67 paragraph 50, such information was not readily available for periods prior to 2014.

* Such amounts represent the preliminary Fund's fiduciary net position and may differ from the final Fund's fiduciary net position.

** Includes liabilities from Special Accidental Death Benefits pursuant to Section 208-F of the General Municipal Law.

See Independent Auditors' Report.

**NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
(In thousands)**

June 30, 2017	QPP*	FFVSF	FOVSF	TOTAL
Total pension liability:				
Service cost	\$ 415,221	\$ 12,180	\$ 5,081	\$ 432,482
Interest	1,375,677	38,029	25,099	1,438,805
Changes of benefit terms	-	-	-	-
Differences between expected and actual experience	148,046	(13,683)	115	134,478
Changes of assumptions	-	-	-	-
Benefit payments and withdrawals	(1,265,817)	(47,667)	(21,859)	(1,335,343)
Net change in total pension liability	673,127	(11,141)	8,436	670,422
Total pension liability – beginning	19,711,495	568,214	364,099	20,643,808
Total pension liability – ending (a)	20,384,622	557,073	372,535	21,314,230
Plan fiduciary net position:				
Employer contributions	1,061,170	-	-	1,061,170
Member contributions	108,368	-	-	108,368
Net investment income	1,284,871	46,755	40,095	1,371,721
Benefit payments and withdrawals	(1,265,817)	(47,667)	(21,859)	(1,335,343)
Administrative expenses	-	-	-	-
Other changes	47,284	-	-	47,284
Net change in plan fiduciary net position	1,235,876	(912)	18,236	1,253,200
Accrued transfers to/from VSF's	(45,743)	23,914	21,829	-
Plan fiduciary net position – beginning	10,899,763	524,075	314,272	11,738,110
Plan fiduciary net position – ending (b) **	12,089,896	547,077	354,337	12,991,310
Employer's net pension liability – ending (a)-(b)	\$ 8,294,726	\$ 9,996	\$ 18,198	\$ 8,322,920
Plan fiduciary net position as a percentage of the total pension liability	59.31%	98.21%	95.12%	60.95%
Covered payroll	\$ 1,145,919	N/A	N/A	\$ 1,145,919
Employer's net pension liability as a percentage of covered payroll	723.85%	N/A	N/A	726.31%

Additionally, in accordance with GASB No. 67 paragraph 50, such information was not readily available for periods prior to 2014.

* Such amounts represent the preliminary Fund's fiduciary net position and may differ from the final Fund's fiduciary net position.

** Includes liabilities from Special Accidental Death Benefits pursuant to Section 208-F of the General Municipal Law.

See Independent Auditors' Report.

NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
(In thousands)

June 30, 2016	QPP*	FFVSF	FOVSF	TOTAL
Total pension liability:				
Service cost	\$ 414,614	\$ 11,652	\$ 5,002	\$ 431,268
Interest	1,332,473	38,716	24,546	1,395,735
Changes of benefit terms	-	-	-	-
Differences between expected and actual experience	324,429	3,728	(4,548)	323,609
Changes of assumptions	386,534	12,421	6,544	405,499
Benefit payments and withdrawals	<u>(1,290,862)</u>	<u>(46,407)</u>	<u>(21,826)</u>	<u>(1,359,095)</u>
Net change in total pension liability	1,167,188	20,110	9,718	1,197,016
Total pension liability – beginning	<u>18,544,307</u>	<u>548,104</u>	<u>354,381</u>	<u>19,446,792</u>
Total pension liability – ending (a)	<u>19,711,495</u>	<u>568,214</u>	<u>364,099</u>	<u>20,643,808</u>
Plan fiduciary net position:				
Employer contributions	1,054,478	-	-	1,054,478
Member contributions	116,619	-	-	116,619
Net investment income	197,398	4,669	1,037	203,104
Benefit payments and withdrawals	<u>(1,290,862)</u>	<u>(46,407)</u>	<u>(21,826)</u>	<u>(1,359,095)</u>
Administrative expenses	-	-	-	-
Other changes	<u>43,673</u>	<u>-</u>	<u>-</u>	<u>43,673</u>
Net change in plan fiduciary net position	121,306	(41,738)	(20,789)	58,779
Accrued transfers to/from VSF's	(36,873)	18,739	18,134	-
Plan fiduciary net position – beginning	<u>10,815,330</u>	<u>547,074</u>	<u>316,927</u>	<u>11,679,331</u>
Plan fiduciary net position – ending (b) **	<u>10,899,763</u>	<u>524,075</u>	<u>314,272</u>	<u>11,738,110</u>
Employer's net pension liability – ending (a)-(b)	<u>\$ 8,811,732</u>	<u>\$ 44,139</u>	<u>\$ 49,827</u>	<u>\$ 8,905,698</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>55.30%</u>	<u>92.23%</u>	<u>86.31%</u>	<u>56.86%</u>
Covered payroll	\$ 1,129,470	N/A	N/A	\$ 1,129,470
Employer's net pension liability as a percentage of covered payroll	<u>780.20%</u>	<u>N/A</u>	<u>N/A</u>	<u>788.50%</u>

Additionally, in accordance with GASB No. 67NYC paragraph 50, such information was not readily available for periods prior to 2014.

*Such amounts represent the preliminary Funds' fiduciary net position and may differ from the final Funds' fiduciary net position.

** Includes liabilities from Special Accidental Death Benefits pursuant to Section 208-F of the General Municipal Law.

See Independent Auditors' Report.

NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
(In thousands)

June 30, 2015	QPP*	FFVSF	FOVSF	TOTAL
Total pension liability:				
Service cost	\$ 403,514	\$ 11,500	\$ 4,561	\$ 419,575
Interest	1,251,448	37,447	23,920	1,312,815
Changes of benefit terms	-	-	-	-
Differences between expected and actual experience	180,533	(4,324)	(4,862)	171,347
Changes of assumptions				
Benefit payments and withdrawals	<u>(1,150,505)</u>	<u>(47,819)</u>	<u>(22,117)</u>	<u>(1,220,441)</u>
Net change in total pension liability	684,990	(3,196)	1,502	683,296
Total pension liability – beginning	<u>17,859,317</u>	<u>551,300</u>	<u>352,879</u>	<u>18,763,496</u>
Total pension liability – ending (a)	<u>18,544,307</u>	<u>548,104</u>	<u>354,381</u>	<u>19,446,792</u>
Plan fiduciary net position:				
Employer contributions	988,784	-	-	988,784
Member contributions	108,582	-	-	108,582
Net investment income	271,430	18,888	12,249	302,567
Benefit payments and withdrawals	(1,150,505)	(47,819)	(22,117)	(1,220,441)
Administrative expenses	-	-	-	-
Other changes	<u>41,201</u>	<u>-</u>	<u>-</u>	<u>41,201</u>
Net change in plan fiduciary net position	<u>259,492</u>	<u>(28,931)</u>	<u>(9,868)</u>	<u>220,693</u>
Accrued transfers to/from VSF's	(40,000)	30,000	10,000	-
Plan fiduciary net position – beginning	<u>10,595,838</u>	<u>546,005</u>	<u>316,795</u>	<u>11,458,638</u>
Plan fiduciary net position – ending (b) **	<u>10,815,330</u>	<u>547,074</u>	<u>316,927</u>	<u>11,679,331</u>
Employer's net pension liability – ending (a)-(b)	<u>\$ 7,728,977</u>	<u>\$ 1,030</u>	<u>\$ 37,454</u>	<u>\$ 7,767,461</u>
Plan fiduciary net position as a percentage of				
the total pension liability	<u>71.46%</u>	<u>0.19%</u>	<u>11.82%</u>	<u>66.51%</u>
Covered payroll	\$ 1,111,744	N/A	N/A	\$ 1,111,744
Employer's net pension liability as a percentage				
of covered payroll	<u>619.20%</u>	<u>N/A</u>	<u>N/A</u>	<u>622.70%</u>

Additionally, in accordance with GASB No. 67 paragraph 50, such information was not readily available for periods prior to 2014.

* Such amounts represent the preliminary Fund's fiduciary net position and may differ from the final Fund's fiduciary net position.

** Includes liabilities from Special Accidental Death Benefits pursuant to Section 208-F of the General Municipal Law.

See Independent Auditors' Report.

NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
(In thousands)

June 30, 2014	QPP*	FFVSF	FOVSF	TOTAL
Total pension liability:				
Service cost	\$ 397,037	\$ 11,403	\$ 4,471	\$ 412,911
Interest	1,153,702	37,757	23,818	1,215,277
Changes of benefit terms	-	-	-	-
Differences between expected and actual experience	-	-	-	-
Changes of assumptions	-	-	-	-
Benefit payments and withdrawals	<u>(1,099,162)</u>	<u>(50,822)</u>	<u>(22,014)</u>	<u>(1,171,998)</u>
Net change in total pension liability	451,577	(1,662)	6,275	456,190
Total pension liability – beginning	<u>16,624,736</u>	<u>552,962</u>	<u>346,604</u>	<u>17,524,302</u>
Total pension liability – ending (a)	<u>17,076,313</u>	<u>551,300</u>	<u>352,879</u>	<u>17,980,492</u>
Plan fiduciary net position:				
Employer contributions	969,956	-	-	969,956
Member contributions	108,859	-	-	108,859
Net investment income	1,569,013	69,027	51,445	1,689,485
Benefit payments and withdrawals	(1,099,162)	(50,822)	(22,014)	(1,171,998)
Administrative expenses	-	-	-	-
Other changes	39,980	-	-	39,980
Net change in plan fiduciary net position	<u>1,588,646</u>	<u>18,205</u>	<u>29,431</u>	<u>1,636,282</u>
Accrued transfers to/from VSF's	(120,000)	110,000	10,000	-
Plan fiduciary net position – beginning	<u>9,127,192</u>	<u>417,800</u>	<u>277,364</u>	<u>9,822,356</u>
Plan fiduciary net position – ending (b) **	<u>10,595,838</u>	<u>546,005</u>	<u>316,795</u>	<u>11,458,638</u>
Employer's net pension liability – ending (a)-(b)	<u>\$ 6,480,475</u>	<u>\$ 5,295</u>	<u>\$ 36,084</u>	<u>\$ 6,521,854</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>62.05%</u>	<u>99.04%</u>	<u>89.77%</u>	<u>63.73%</u>
Covered payroll	\$ 1,102,396	N/A	N/A	\$ 1,102,396
Employer's net pension liability as a percentage of covered payroll	<u>587.85%</u>	<u>N/A</u>	<u>N/A</u>	<u>591.61%</u>

Additionally, in accordance with GASB No. 67 paragraph 50, such information was not readily available for periods prior to 2014.

* Such amounts represent the preliminary Fund's fiduciary net position and may differ from the final Fund's fiduciary net position.

** Includes liabilities from Special Accidental death Benefits pursuant to Section 208-F of the General Municipal Law.

See Independent Auditors' Report.

Schedule 2

NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF EMPLOYER CONTRIBUTIONS
(In thousands)

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Actuarially determined contribution	\$ 1,398,565	\$ 1,200,417	\$ 1,061,170	\$ 1,054,478	\$ 988,784	\$ 969,956	\$ 962,173	\$ 976,895	\$ 890,706	\$ 874,331
Contributions in relation to the actuarially determined contribution	<u>1,398,565</u>	<u>1,200,417</u>	<u>1,061,170</u>	<u>1,054,478</u>	<u>988,784</u>	<u>969,956</u>	<u>962,173</u>	<u>976,895</u>	<u>890,706</u>	<u>874,331</u>
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Covered payroll	<u>\$ 1,302,872</u>	<u>\$ 1,164,528</u>	<u>\$ 1,145,919</u>	<u>\$ 1,129,470</u>	<u>\$ 1,111,744</u>	<u>\$ 1,102,396</u>	<u>\$ 1,129,921</u>	<u>\$ 1,149,423</u>	<u>\$ 1,057,243</u>	<u>\$ 1,059,911</u>
Contributions as a percentage of covered payroll	107.35%	103.08%	92.60%	93.36%	88.94%	87.99%	85.15%	84.99%	84.25%	82.49%

See Independent Auditors' Report.

SCHEDULE 2 (CONTINUED)
NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
NOTES TO SCHEDULE 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 2019 contributions were determined using an actuarial valuation as of June 30, 2017). The methods and assumptions used to determine the actuarially determined contributions are as follows:

Valuation Dates	June 30, 2017	June 30, 2015	June 30, 2014	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010	June 30, 2009- June 30, 2008 (lag)
Actuarial cost method	Entry/Age	Entry/Age	Entry/Age	Entry/Age	Entry/Age	Entry/Age	Entry/Age	Frozen Initial Liability ¹
Amortization method for Unfunded Actuarial Accrued Liabilities:								
Initial Unfunded Post-2010 Unfunded	Increasing Dollar Level Dollar	Increasing Dollar Level Dollar	Increasing Dollar Level Dollar	Increasing Dollar Level Dollar	Increasing Dollar Level Dollar	Increasing Dollar Level Dollar	Increasing Dollar Level Dollar	Increasing dollar ² NA
Remaining amortization period:	15 years (closed)	17 years (closed)	18 years (closed)	19 years (closed)	20 years (closed)	21 years (closed)	22 years (closed)	AI-Outstanding components of reestablished UAAL are being amortized over an 11-year closed period beginning in Fiscal Year 2007 ³
2012 Actuarial Gain/Loss	10 years (closed)	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA
2013 Actuarial Gain/Loss	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA
2014 Actuarial Gain/Loss	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA	NA
2015 Actuarial Gain/Loss	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA	NA	NA
2016 Actuarial Gain/Loss	14 years (closed)	15 years (closed)	NA	NA	NA	NA	NA	NA
2017 Actuarial Gain/Loss	15 years (closed)	NA	NA	NA	NA	NA	NA	NA
2018 Actuarial Gain/Loss	20 years (closed)	NA	NA	NA	NA	NA	NA	NA
Actuarial Asset Valuation (AAV) Method	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2011 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 1999.
Actuarial assumptions:	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	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	6.0% per annum
Assumed rate of return ⁴	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	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	Board of Trustees
Post-retirement mortality	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	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
Active services: withdrawal, death, disability, service retirement	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	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
Salary/increases ³	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage Increases of 3.0% per year.	In general, merit and promotion increases plus assumed General Wage increases of 6.33% per annum
Cost-of-Living Adjustments ³	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.	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 Under this actuarial cost method, the Initial Liability was reestablished as of June 30, 1999, by the Entry Age Actuarial Cost Method but with the unfunded actuarial accrued liability (UAAL) not less than \$0. The financial results using this Frozen Initial Liability Actuarial Cost Method are the same as those that would be produced using the Frozen Entry Age Cost Method.

² In conjunction with Chapter 85 of the Laws of 2000, there is an amortization method. It reestablished UAAL and eliminated BSL as of June 30, 1999. The schedule of payments toward the reestablished UAAL (referred to in the ACNY as the Fire Pension Fund ("FPF")) 1999 UAAL and elsewhere as the UAAL) provided that the UAAL be amortized over a period of 11 years beginning Fiscal Year 2000, where each annual payment after the first equals 103% of its preceding annual payment.

³ Developed using a long-term Consumer Price Inflation assumption of 2.5% per year.

See Independent Auditors' Report.

**NEW YORK CITY FIRE PENSION FUNDS
REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)
SCHEDULE OF INVESTMENT RETURNS**

The following table displays annual money-weighted rate of return, net of investment expense, for the Funds for each of the past six fiscal years:

Fiscal year ended	<u>QPP</u>	<u>FFVSF</u>	<u>FOVSF</u>
June 30, 2019	7.11 %	5.70 %	5.93 %
June 30, 2018	9.34	7.28	7.75
June 30, 2017	12.82	13.48	14.53
June 30, 2016	1.37	0.88	0.24
June 30, 2015	3.28	4.13	4.02
June 30, 2014	17.51	18.03	19.57

Note: In accordance with GASB No. 67, paragraph 50, such information was not readily available for periods prior to 2014.

See Independent Auditors' Report.

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Additional Supplementary Information
Schedule of Investment Expenses
For Fiscal Year Ended June 30, 2019

Schedule 4

Investment Manager	Average Assets Under Management (\$MM)	Total Fees
US Equities		
Brown Asset Mgmt US SCG	\$ 68.76	\$ 681,003
Ceredex US SCV	85.83	444,969
Dalton US SCV	62.89	368,559
Blackrock R2000 Growth	79.24	3,354
Blackrock R2000 Value	4.01	171
Iridian US MCC	107.18	619,735
Wellington Mgmt MCC	161.83	1,470,143
RAFI Enhanced Large Co.	393.30	455,156
Legal General US LMCE	182.84	-
BlackRock US LC R1000 Growth	0.87	-
BlackRock US LC R1000 Value	0.32	-
BlackRock US LMC R1000 Core	2,209.76	43,793
LEGATO-ALTRAVUE SCV	2.93	14,579
LEGATO-BOWLING SCV	2.97	14,835
LEGATO-BRIDGE CITY SCG	4.83	23,908
LEGATO-DEAN SCV	3.86	19,284
LEGATO-ESSEX SCG	3.86	19,180
LEGATO-LISANTI-SCG	2.44	12,094
LEGATO-PACIFIC SCG	-	-
LEG-TRANSITION	-	-
SSGA Russell Top 200	747.09	40,641
Total US Equities	4,124.81	4,231,404
NON-US Equities		
Baillie Gifford WorldxUS LMCC	193.48	487,712
Walter Scott WorldxUS LMCC	237.54	707,108
Causeway WorldxUS LMCC	198.36	708,448
Sprucegrove WorldxUS LMCC	237.36	497,757
Acadian WorldxUS SCC	74.02	243,532
Algert EAFE SCC	18.62	28,330
Fidelity WorldxUS SCC	37.91	490,136
SSGA WorldxUS SC Passive	40.14	19,896
SSGA WorldxUS LMC Passive Core	92.39	10,690
Transition US Global	0.01	-
Acadian EM	135.29	451,665
Baillie Gifford EM	152.92	806,496
DFA EM	142.78	596,094

See Independent Auditors' Report

Additional Supplementary Information
Schedule of Investment Expenses
For Fiscal Year Ended June 30, 2019

Schedule 4

Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Eaton Vance EM	\$ 146.17	\$ 436,963
BlackRock Passive MSCI EM Core	260.78	71,251
FIS-ALGERT EAFE SC	1.69	6,506
FIS-ATIVO EAFE	10.23	34,676
FIS-AUBREY EM	7.70	24,991
FIS-CHANGE GLOBAL EM	8.63	29,556
FIS-DENALI EAFE	9.50	33,277
FIS-DUNDAS EAFE	11.54	39,520
FIS-MARTIN-EAFE	5.47	7,701
FIS-METIS EAFE	5.04	17,751
FIS-OSMOSIS EAFE	9.87	33,436
FIS-REDWOOD INVESTMENTS	6.25	8,806
FIS-TRANSITION	0.03	1,838
Fiera Capital - Global	101.98	556,917
Morgan Stanley - Global	96.29	511,819
Total NON-US Equities	2,241.99	6,862,872
Fixed Income		
Adelante Capital Management - REITS	104.47	322,839
European REIT MTA	0.01	-
Morgan Stanley REITS	70.19	390,034
Fischer Francis LI Treasury	0.06	17,440
SSGA IT Treasury 1-10Y	3.30	312
SSGA ST Treasury 1-3Y	608.75	64,530
SSGA LI Treasury	509.33	197,697
SSGA LT Treasury FTSE	468.49	46,490
Blackrock - Mortgage	223.89	96,984
Neuberger Berman - Mortgage	104.84	64,144
Blackrock - Credit	106.53	46,087
Prudential - Credit	79.63	59,988
Taplin Canida - Credit	50.45	48,799
T. Rowe Price - Credit	172.52	209,341
LM Capital-Core Plus	23.15	34,828
GIA-Core Plus	21.70	53,201
PIM - Optimum Quantvest (fka Hillswick) Core-Core Plus	2.98	10,157
PIM - Integrity Core-Core Plus	2.68	9,132
PIM - New Century Core-Core Plus	8.04	27,386
PIM - Ramirez Core-Core Plus	7.71	26,279

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
PIM - Pugh Capital Mgmt -Core	\$ 9.28	\$ 31,607
Blackrock TIPS	-	-
Blackrock TIPS	151.80	103,219
SSGA TIPS Passive	452.94	16,569
SSGA TIPS Passive	239.19	5,574
Brigade High Yield	51.70	193,552
Mackay Shields High Yield	79.52	220,438
Eaton Vance High Yield	83.11	258,841
Nomura High Yield	50.99	167,027
Penn Capital Mgt - High Yield	2.84	-
Loomis Sayles - High Yield	0.49	-
Shenkman - High Yield	149.65	337,068
T. Rowe Price - High Yield	368.22	1,118,139
Transition - High Yield	3.47	-
Barings Bank Loans	103.48	341,757
Bain Capital Bank Loans	105.82	73,271
Guggenheim Bank Loans	79.39	329,891
Advent Convertible Bonds	233.20	1,116,900
RBC Access MBS	26.43	48,385
AFL-CIO Housing Investment Trust	55.92	216,991
CPC Construction Facility	1.79	-
BOA PPAR FNMA	2.92	-
CFSB PPAR GNMA	0.38	-
Citibank PPAR GNMA	0.93	-
Citibank PPAR FNMA	2.14	-
CPC PPAR FNMA	2.28	-
JPMC PPAR FNMA	4.91	-
LIIF PPAR GNMA	0.42	-
LIIF PPAR FNMA	2.45	-
LISC PPAR FNMA	0.82	-
NCBCI PPAR GNMA	0.25	-
NCBCI PPAR FNMA	0.02	-
Wells Fargo PPAR FNMA	0.26	-
Short Term Accounts	175.28	-
KKR Cash Account	0.09	-
Securities Lending	-	-
Cash Account (C/D - Fail Float Earnings)	0.09	-
Total Fixed Income	5,011.19	6,304,897

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Opportunistic Fixed Income		
Avenue Special Situations Fund VI	\$ 1.09	\$ 873
Brightwood Capital Fund III, LP	5.41	67,724
Brightwood Capital Fund IV	9.25	177,360
Fortress Ptnrs LP	33.68	878,108
Oaktree Opportunities Fund IX, L.P.	23.27	396,218
Torchlight Debt Opportunity Fund III	0.05	21,528
Torchlight Debt Opp V	14.94	243,112
Torchlight Debt Opp VI	5.00	-
Angelo Gordon Ptnrs LP	30.44	307,258
Apollo Centre Street Partnership LP	39.88	355,610
Ares Centre Street Partnership, L.P.	37.34	781,584
Contrarian Centre Street Partnership, L.P.	16.84	159,043
Goldentree OD MTA	46.60	248,030
ICG Centre St Partnership	11.56	149,749
KKR SP-OFI (KKR-NYC Credit)	17.00	70,635
Maranon Centre Street Partnership	7.05	112,079
Marathon Centre Street Partnership, L.P.	63.16	582,152
Oak Hill Ptnrs LP	50.74	428,200
Total Opportunistic Fixed Income	413.30	4,979,263
Hedge Funds		
Permal accounts w/o CITY Plan	0.53	2,965
Altimeter Partners Fund LP	25.65	380,608
Brevan Howard AH Fund	60.46	457,040
Caspian Select Credit Fund, L.P.	24.89	247,343
CCP Quantitative Fund LP	0.22	-
D.E. Shaw Composite Fund, L.L.C.	84.89	5,116,550
DL Partners Opportunities Fund LP	39.96	263,762
Fir Tree Value Fund, L.P.	33.78	-
Florin Court Capital Fund	34.36	317,976
Gresham Quant ACAR Fund	20.00	-
Gotham Targeted Neutral, LP	12.02	119,981
GSA Trend Fund LP	57.99	305,729
Jefferies Structured Alpha Fund B	24.85	-
Key Square Partners LP	63.32	1,012,832
Lansdowne Euro Abs Opp	30.81	25,194

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Luxor Capital Partners, LP	\$ 56.79	\$ 630,827
Perry Capital	1.16	11,532
Pharo Gaia Fd Ltd	57.07	1,061,986
Pharo Macro Fd Ltd	48.11	998,336
Quest Partners	51.34	535,229
SRS Investment Management	43.87	652,040
Standard General	16.02	401,159
Turiya Fund LP	41.45	259,523
Voloridge Fund, LP	27.21	-
Voloridge Trading Aggressive Fund, LP	14.56	-
Total Hedge Funds	871.31	12,800,612
Private Equity		
ACON Equity Partners III, L.P.	0.84	10,579
Aisling Capital II, LP	0.08	451
Aisling Capital III, L.P.	1.57	781,522
Altaris Health Partners III, L.P.	1.51	14,955
American Securities Partners VI, L.P.	9.25	-
American Securities Partners VII, L.P.	8.36	271,636
Ampersand 2011 L.P.	6.18	550,102
Apax Partners IX	11.95	509,168
Apollo Investment Fund V, L.P.	0.21	3,956
Apollo Investment Fund VI, L.P.	3.10	6,047
Apollo Investment Fund VII, L.P.	5.12	48,786
Apollo Investment Fund VIII	35.42	479,122
Apollo IX	3.50	691,095
Ares Corporate Opportunities Fund, L.P.	0.28	380
Ares Corporate Opportunities Fund II, L.P.	0.32	12,107
Ares Corporate Opportunities Fund III, L.P.	7.90	340,718
Ares Corporate Opportunities Fund IV, L.P.	18.53	106,937
Ares Corporate Opportunities Fund V, L.P.	7.49	259,837
ASF VI B	18.80	223,369
ASF VI B NYC Co-Invest L.P.	4.89	11,539
ASF VII B, L.P.	6.42	212,166
ASF VII B NYC Co-Invest L.P.	6.59	4,787
ASF VIII B, L.P.	0.13	222,888
ASF VIII B NYC Co-Invest L.P.	-	-
Arlington Capital Partners II, L.P.	0.20	338

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Atlantic Equity Partners IV, L.P.	\$ 1.88	\$ 6,404
Arsenal Capital Partners II	1.14	74,787
Aurora Equity Partners III, L.P.	0.05	12,919
Avista Capital Partners, L.P.	0.15	2,386
Avista Capital Partners II, L.P.	2.59	2,999
AXA Secondary Fund V B L.P.	7.91	293,974
BC European Capital IX	16.80	186,568
BC European Capital X	5.94	183,482
BC European Capital X Co-Investment	3.85	7,643
BDCM Opportunity Fund III, L.P.	12.78	152,722
Blackstone Capital Partners IV, L.P.	1.15	188,752
Blackstone Capital Partners V, L.P.	0.74	29,816
Blackstone Capital Partners VI, L.P.	9.52	300,719
Blackstone Mezzanine Partners II L.P.	0.03	-
Blue Wolf Capital Fund II, L.P.	0.78	10,930
Bridgepoint Europe III	-	-
Bridgepoint Europe IV	3.39	256,329
Bridgepoint Europe V L.P.	11.12	93,508
Bridgepoint Europe V Co-Investment	4.45	3,371
Bridgepoint Europe VI L.P.	0.84	381,324
Bridgepoint Europe VI Co-Investment	0.97	-
Capital Partners Private Equity Income Fund, L.P.	0.19	81,451
Capital Partners Private Equity Income Fund II, L.P.	1.06	12,172
Capital Partners Private Equity Income Fund III, L.P.	0.53	48,070
Princeton Capital Corp. (fka Capital Point)	1.20	38,239
Carlyle Partners III, L.P.	-	-
Carlyle Partners IV, L.P.	0.13	3,340
Carlyle Partners V, L.P.	1.69	51,015
Carlyle Partners VI, L.P.	18.66	113,659
Carlyle Partners VI, L.P. (Side Car)	1.53	983
Carpenter Community BancFund-A, L.P.	0.27	141,972
Catterton Partners VI, L.P.	2.41	27,319
CCMP Capital Investors II, L.P.	(0.01)	11,181
Clayton, Dubilier & Rice Fund VII, L.P.	-	-
Celtic Pharmaceutical Holdings, L.P.	0.40	-
Centerbridge Capital Partners III, L.P.	2.25	119,174
Coller International Partners V, L.P.	0.46	103,293
ComVest Investment Partners IV, L.P.	8.79	1,014,037

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Constellation Venture Capital III, L.P.	\$ 1.66	\$ 17,538
Crestview Partners II, L.P.	3.95	261,902
Crestview Partners III, L.P.	14.90	374,139
Crestview Partners III (Co-Investment B), L.P.	7.78	11,803
Crestview Partners IV	-	-
Crestview Partners IV Co-Investment	-	-
CVC Capital Partners VI	32.43	369,769
CVC Capital Partners VII	3.42	516,358
CVC European Equity Partners III, L.P.	0.70	1,105
CVC European Equity Partners V, L.P.	4.09	561,309
Cypress Merchant Banking Partners II, L.P.	0.01	-
EQT VI, L.P.	10.85	1,319,219
EQT VII, L.P.	24.55	409,691
EQT VIII	1.83	419,322
EQT VIII Co-Investment	1.31	20,729
NB New York City Growth Fund IA	0.39	-
New York/Fairview Emerging Managers Fund, L.P.-Tranche 1	0.45	3,739
New York/Fairview Emerging Managers Fund, L.P.-Tranche 2	3.91	16,452
Falconhead Capital Partners II, L.P.	1.23	3,903
FdG Capital Partners, L.P.	1.26	-
FdG Capital Partners II LP	0.31	3,046
Fenway Partners Capital Fund III, L.P.	2.06	272,407
FirstMark Capital I, L.P. (fka FirstMark IV)	6.07	-
First Reserve Fund XI, L.P.	0.32	2,447
First Reserve Fund XII, L.P.	1.05	9,819
The Fourth Cinven Fund	-	-
FS Equity Partners V, L.P.	0.75	730
FS Equity Partners VI, L.P.	10.62	892,367
FTVentures III, L.P.	1.12	48,018
FTV IV, LP	3.55	46,178
FTV V, LP	2.34	89,328
GF Capital Private Equity Fund, L.P.	1.74	2,833
GI Partners Fund II	-	-
GI Partners Fund III	0.44	-
Gleacher Mezzanine Fund II, LP	0.03	525
Grain Communications Opportunities Fund II	0.47	86,754
Green Equity Investors VI	26.22	204,069
Green Equity Investors VII	8.69	246,328

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Grey Mountain Partners Fund III, LP	\$ 0.80	\$ 17,552
GCM Grosvenor Emerging Manager Co-Inv, L.P.	-	-
GCM Grosvenor Emerging Manager Fund, L.P.	5.96	111,210
GSO Capital Opportunities Fund, L.P.	0.16	4,183
Highland Consumer Fund I	0.55	10,286
ICV Partners III, L.P.	2.16	7,370
ICV Partners IV, L.P.	0.31	70,737
Incline Equity Partners III, L.P.	1.35	5,257
Intermedia Partners VII, L.P.	1.38	1,826
JP Morgan Fleming (Tranche A)	1.09	15,866
KKR Americas Fund XII L.P.	8.70	137,306
Landmark Equity Partners XI, L.P.	0.01	-
Landmark Equity Partners XIV, L.P.	2.85	41,045
Landmark Equity Partners XV	10.79	343,393
Landmark NYC Fund I	6.03	5,876
Lee Equity Partners, L.P.	0.03	-
Levine Leichtman Capital Deep Value	-	-
Levine Leichtman Capital Partners IV LP	1.10	25,674
Lexington Capital Partners VII, L.P.	2.99	106,867
Lexington Capital Partners VIII, L.P.	27.61	647,849
Lexington Capital Partners IX L.P.	0.64	-
Lexington Capital Partners IX Side Car	-	-
Lincolnshire Equity Fund II, L.P.	0.26	-
Lincolnshire Equity Fund III, L.P.	1.95	26,209
Lincolnshire Equity Fund IV, L.P.	1.30	8,334
Euro Choice II (Delaware) L.P.	0.31	-
Euro Choice III L.P.	0.65	24,825
Euro Choice IV L.P.	3.43	47,015
Markstone Capital Partners, L.P.	0.02	-
Medica III Investments (Intl) L.P.	0.74	-
MidOcean Partners III, L.P.	3.11	432,297
Milestone Partners III, LP	0.53	16,475
Mill City Capital II	0.63	19,743
Montreux Equity Partners IV L.P.	4.36	55,553
NorthBound Emerging Manager Custom Fd LP	1.97	41,927
New MainStream Capital II	1.22	19,865
New MainStream Capital III	0.18	41,950
New Mountain Partners I, L.P.	-	-

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
New Mountain Partners II, L.P.	\$ 0.06	\$ 189
New Mountain Partners III, L.P.	6.71	129,799
NGN BioMed Opportunity II, L.P.	2.52	52,886
Olympus Capital Asia III	2.25	39,108
Olympus Growth Fund VI, L.P.	11.20	167,543
Onex Partners III LP	2.41	113,103
Paladin Homeland Security Fund L.P.	0.04	7,412
Paladin III, L.P.	7.77	123,896
Palladium Equity Partners III, L.P.	1.34	192,613
Palladium Equity Partners IV	7.77	70,446
Palladium V	0.77	303,280
Patriot Financial Partners II	1.44	27,499
Patriot Financial Partners III	0.67	49,460
NB PCG Clean Energy Tech Fund East, L.P.	2.34	11,991
Pegasus Partners IV, L.P.	2.26	105,578
Pegasus Partners V, L.P.	7.03	449,491
Permira IV	0.67	15,411
CLP 2014 (fka Perseus Partners VII)	-	-
Pine Brook Capital Partners	1.58	10,385
Platinum Equity Capital Partners III, LP	12.70	1,255,530
Platinum Equity Partners Small Cap I	0.37	76,288
Platinum Equity Capital Partners IV, LP	12.33	378,902
Platinum Equity Capital Partners IV - SC	1.67	3,087
Post Capital Equity Partners II LP	0.46	13,087
Prism Venture Partners V, L.P.	0.09	8,291
Psilos Group Partners III, L.P.	1.65	4,914
Raine Partners II	2.44	47,958
Raine Partners III	0.40	29,232
Relativity Fund, L.P.	0.02	-
Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	3.13	25,824
RRE Ventures IV, L.P.	2.91	2,054
Scale Venture Partners III, LP	2.97	2,206
SCP Private Equity Partners II, L.P.	1.89	48,917
SCP Vitalife Partners II, L.P.	2.46	63,061
Siris Partners III	3.36	206,257
Siris Partners IV	2.48	69,075
Snow Phipps Group, L.P.	2.49	1,934
Snow Phipps II, L.P.	4.86	72,619

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Stellex Capital Management LP	\$ 2.43	\$ 65,800
Summit Partners Growth Equity VIII-A	20.68	1,316,402
Terra Firma Capital Partners III, L.P.	0.75	2,172
Thomas, McNerney & Partners II, L.P.	0.53	2,414
Trident V, L.P.	10.41	1,734,084
Trilantic Capital Partners III, L.P.	0.01	4,464
Trilantic Capital Partners IV L.P.	0.95	8,625
Trilantic Capital Partners V L.P.	6.82	247,133
USPF II Institutional Fund, L.P.	1.84	17,510
United States Power Fund III, L.P.	1.67	18,390
Valor Equity III	1.72	29,859
Valor Equity Partners IV	3.09	94,392
Vista Equity Partners Fund III, L.P.	1.72	43,262
Vista Equity Partners Fund IV, L.P.	24.56	1,120,236
Vista Equity Partners Fund V, L.P.	45.88	3,575,463
Vista Equity Partners Fund VI, L.P.	28.18	398,102
Vista VII	3.37	53,586
Vista Foundation Fund II, L.P.	2.35	151,952
VSS Communications Partners IV, L.P.	-	-
Welsh, Carson, Anderson & Stowe XII, L.P.	11.13	260,023
Welsh, Carson, Anderson & Stowe XIII, L.P.	0.04	91,030
Warburg Pincus Financial Sector Fund	4.06	440,429
Warburg Pincus Private Equity XI, LP	32.66	901,244
Warburg Pincus Private Equity XII, LP	27.30	566,959
Warburg Pincus Global Growth, L.P.	0.18	77,966
Webster Capital III	2.73	32,258
Wellspring Capital Partners V, L.P.	3.44	6,361
Welsh, Carson, Anderson & Stowe XI, L.P.	2.87	247,625
Yucaipa American Alliance Fund I, L.P.	1.69	33,351
Yucaipa American Alliance Fund II, LP	17.13	493,837
Yucaipa Corporate Initiatives Fund II LP	2.68	12,105
Total Private Equity	940.33	33,441,700
Private Real Estate		
Aermont Capital Real Estate Fund IV	0.72	86,670
AG Realty Fund VII L.P.	0.68	101,092
Almanac Fund VIII	0.16	72,682
Almanac VIII Sidecar	0.15	5,654

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
American Value Partners Fund I	\$ 0.52	\$ 15,396
Ares European Real Estate Fund III, L.P.	0.57	12,981
ARA Asia Dragon Fd	-	-
Artemis Income & Growth	-	-
Artemis Co-Investment (Artemis Mach II, LLC)	8.71	94,347
Avanath Affordable Housing II	2.99	41,127
BIG Real Estate Fund I	1.57	30,576
Blackstone Real Estate Partners Europe III L.P.	1.08	65,210
Blackstone Real Estate Partners Europe IV, L.P.	14.39	509,940
Blackstone Real Estate Ptnrs IV	0.62	484
Blackstone Real Estate Ptnrs VI	1.00	67,630
Blackstone Real Estate Ptnrs VII	21.67	641,933
Blackstone Real Estate Ptnrs VIII	23.94	450,125
Brookfield Strategic Real Estate	13.79	1,215,013
Brookfield Strategic Real Estate Partners III	5.61	181,043
Brookfield Premier Real Estate Partners	23.35	230,301
Canyon Johnson Urban Fd II	0.03	416
Canyon Johnson Urban Fd III	0.01	1,083
Carlyle Property Investors, LP	20.59	149,730
Carlyle Realty Partners V, L.P.	1.48	10,800
Carlyle Realty Partners VI, L.P.	2.98	158,752
Carlyle Realty Partners VII	9.55	339,199
Colony Investors VIII	0.47	1,712
Colony Realty Ptnrs II	-	390
DivcoWest Fund III REIT LLC	1.74	1,676,768
DivcoWest Fund IV	6.21	328,018
DivcoWest Fund V	5.42	174,943
DRA Growth and Income Fund IX	4.07	109,287
NYC Vanbarton Interborough Fund LLC (NYC Asset Investors #1 LL	5.02	165,939
Exeter Core Industrial Club Fund II, L.P.	4.18	32,007
Exeter Industrial Value Fund IV LP	5.45	126,210
Harrison Street Core Property Fund, L.P.	-	-
Harrison Street (HSRE) Core Co-investment, L.P.	1.46	-
H/2 Special Opportunities II L.P.	1.70	360,293
H/2 Special Opportunities III L.P.	10.00	209,294
H/2 Special Opportunities IV L.P.	2.77	118,072
Heitman America Real Estate Trust, L.P.	19.73	128,686
Heitman Credit	6.79	23,706

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Hudson Superstorm Sandy Rebuilding Fund (NYC Asset Investor #3 I \$	4.14	\$ 53,339
Jamestown Premier Fund	7.21	90,248
JP Morgan Strategic Property Fund	50.16	397,205
JP Morgan Special Situation Property	7.18	111,419
KKR Real Estate Credit Opp Ptnrs Agg I	17.85	245,625
KKR Real Estate Partners Americas II LP	4.99	204,712
KTR Industrial Fund III, L.P.	-	-
Lasalle US Property Fd	43.63	228,538
Clarion Lion Industrial Trust	26.41	187,860
Lone Star RE Fd III	4.34	225,298
Lone Star RE Partner V, L.P.	2.08	513,516
MetLife Core Property	22.07	117,838
Metropolitan Workforce Housing Fund, LLC	0.13	356
Pramerica Real Estate VI, LP	3.67	63,199
Prudential PRISA	9.84	84,219
Prudential PRISA II	30.30	310,004
Prologis Targeted US Logistics Fd	9.09	44,332
PW Real Estate Fund III LP	6.60	85,232
RFM NYCRCR Sandy LLC (NYC Asset Investors #2 -Related)	11.12	100,788
RREEF America REIT II	10.07	94,930
RREEF America REIT III	-	-
Silverpeak Legacy Partners III	0.45	5,489
Stockbridge Real Estate Fd	7.33	26,245
Taconic New York City Investment Fund, L.P.	1.06	19,994
The City Investment Fd	0.07	5,642
Thor Urban Property Fd II	2.14	13,615
Tristan European Property Investors Special Opportunities 4	6.95	210,134
UBS Trumbull Property Fd	35.94	276,997
USAA Eagle Real Estate Fund	20.37	111,690
Walton Street Real Estate Fund VI	2.03	21,183
Westbrook Real Estate Fund VIII	1.01	14,268
Westbrook Real Estate Fund X	-	-
Westbrook Real Estate Fund X Co-Investment	3.71	134,232
Total Real Estate	583.11	11,935,656
Infrastructure		
Axium Infrastructure Canada II (Intl) L.P.	8.42	365
AxInfra US II L.P.	6.02	57,477

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Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Actis Energy 4	\$ 5.66	\$ 252,833
ASF VII Infrastructure B LP	2.67	190,731
Brookfield Infrastructure Fund II	14.43	98,447
Brookfield Infrastructure Fund III	8.17	208,297
Brookfield Infrastructure Fund III Co-Invest	2.07	20
EIG Energy Partners Co-Invest	-	-
EIG Energy Partners	2.32	5,186
EQT Infrastructure III	8.34	249,121
EQT Infrastructure IV	0.46	-
Global Energy & Power Infrastructure Fund II	6.48	163,660
Global Energy & Power Infrastructure Fund III	0.32	-
Global Infrastructure Partners III	16.52	378,682
Global Infrastructure Partners IV-A/B, L.P.	-	-
IFM Global Infrastructure	13.84	408,449
KKR Global Infrastructure Investors II, L.P.	11.97	112,126
KKR Global Infrastructure Investors III	1.55	146,795
Total Infrastructure	109.24	2,272,189
Total Management Expenses	\$ 14,295	\$ 82,828,593
Consultant Expenses		
AKSIA LLC		129,866.00
ERNST & YOUNG US LLP		227
ERNST AND YOUNG LLP		3,587
MERCER		13,636
MSCI - ESG RESEARCH LLC		6,453
MSCI - RISKMETRICS GROUP		39,292
MSCI BARRA LLC		55,080
MSCI-INVESTMENT PROPERTY DATABANK LTD		18,768
NEW ENGLAND PENSION CONSULTANT		459,375
PRICEWATERHOUSECOOPERS TAIWAN		3,075
RETURN OF PWC TAIWAN CONSULTING FEE SENT 1/17/19		(1,503)
STEPSTONE GROUP LLC		564,667
THE BURGISS GROUP		19,033
TOWNSEND HOLDINGS		60,211
TOWNSEND HOLDINGS LLC		63,992
Total Consultant Expenses		1,435,757

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For Fiscal Year Ended June 30, 2019

Schedule 4

Investment Manager	Average Assets Under Management (\$MM)	Total Fees
Legal Expenses		
BRYAN CAVE LEIGHTON PAISNER LLP		\$ 745
COX CASTLE NICHOLSON LLP		5,115
DAY PITNEY LLP		5,372
FOLEY AND LARDNER LLP		6,699
FOSTER PEPPER PLLC		25,545
HITCHCOCK LAW FIRM PLLC		3,610
MORGAN LEWIS BOCKIUS LLP		42,306
NIXON PEABODY LLP		609
PILLSBURY WINTHROP SHAW PITTMAN LLP		26,516
REINHART BOERNER VAN DUEREN		23,165
RETURN OF PAYMENT FOR FOSTER AND PEPPER LEGAL FEES		(2,198)
SEWARD KISSEL LLP		151
SQUIRE PATTON BOGGS (US) LLP		4,396
Total Legal Expenses		142,031
Total Consultant & Legal Expenses		\$ 1,577,788
Other Miscellaneous Expenses		
Tax expense fixed inc		15,081
Tax expense equity		11,148
Tax expense mutual fixed		38
Tax expense mutual equity		186
Tax expense Intl -dividend inc		4,283,730
Tax expense intl - nybu		107,973
Tax expense alt fixed income		16,972
Misc expense cd fail flt		350
Misc expense fixed income		2,093
Misc expense mutual fixed income		354
Misc exp mutual equity		(1)
Misc exp Intl		26,887
Misc exp Intl-nybu		(128,518)
Misc exp Alt. equity		8
Misc Exp Alt Fixed		2,135
misc chgs fail flt		17,885
misc chgs fixed inc		2,563
custody fees fail flt		56
custody fees fixed inc		20,113

See Independent Auditors' Report

Additional Supplementary Information
Schedule of Investment Expenses
For Fiscal Year Ended June 30, 2019

Schedule 4

Investment Manager	Average Assets Under Management (\$MM)	Total Fees
custody fees equity		\$ 5,091
custody fees mutual fund fixed		566
custody fees mutual fund eq		1,519
custody fees intl		77,693
custody fees intl nybu		8,046
custody fees alt inv		3
custody fees real est		168
custody fees hedge funds		39
other expenses equity		988,053
FX Service Fees fl flt		2
FX Service Fees Intl		56,346
FX Service Fees Intl-nybu		11,507
FX Service fees Alt Equity		9,678
FX Service fees Alt Real Est		3,850
Hard Dollar Compensation Bank Chg s IT flt		21
Hard Dollar Compensation Bank Chg s Itfxd		11,464
Hard Dollar Compensation Bank Chg s st st		12,749
Hard Dollar Compensation Bank Chg s eq		489
Hard Dollar Compensation Bank Chgs mut fx		115
Hard Dollar Compensation Bank Chgs mut eq		204
Hard Dollar Compensation Bank Chgs mut mtg		5
Hard Dollar Compensation Bank Chg s mut itl		1,029
Hard Dollar Compensation Bank Chgs int nybu		195
Hard Dollar Compensation Bank Chgs alt eq		101
Hard Dollar Compensation Bank Chgs alt fxd		39
Hard Dollar Compensation Bank Chgs alt re		246
Hard Dollar Compensation Bank Chgs hedge fd		898
Total Other Miscellaneous Expenses		5,569,169
Total Investment Expenses	\$ 14,295	\$ 89,975,550

**Additional Supplementary Information
Schedule of Administrative Expenses
For Fiscal Year Ended June 30, 2019**

Schedule 5

EXPENSE TYPE:

PERSONNEL SERVICES

Salaries and Fringe Benefits paid to Personnel	\$	4,048,234
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TOTAL PERSONNEL SERVICES		4,048,234
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PROFESSIONAL SERVICES

Consultants ¹		593,860
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Medical Board and Medical Consultants		861,043
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Trading & Investment Services		1,306,315
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TOTAL PROFESSIONAL SERVICES		2,761,218
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RENTALS

Office Space & Equipment		930,954
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TOTAL RENTALS		930,954
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COMMUNICATION & GENERAL SERVICES

Communication & Utilities		105,199
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Office Supplies and Materials		36,541
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Relocation Expenses		1,876,549
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Postage & General		101,986
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TOTAL COMMUNICATION		2,120,275
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FIRE DIRECT EXPENSES FY 2019	\$	9,860,681
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**EXPENSES INCURRED BY OTHER CITY AGENCIES:
ON BEHALF OF FIRE PENSION FUND:**

Financial Information Services	\$	609,057
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Law Department		86,759
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Office of the Comptroller		1,596,326
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Office of Payroll Administration		48,835
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Office of Management and Budget		90,079
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TOTAL OTHER EXPENSES	\$	2,431,056
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TOTAL ADMINISTRATIVE EXPENSES :	\$	12,291,737
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1) For details see Schedule of Payments to Consultants
Schedule 6

**Additional Supplementary Information
Schedule of Payments to Consultants
Fire Qualified Pension Fund
Fiscal Year Ended June 30, 2019**

Schedule 6

<u>Nature of Services</u>	<u>Firm Name</u>	<u>Total Fees</u>
Consultant Services		
	Blue Diamond Solutions Inc.	\$ 40,625
	DJ Associates Architect	6,000
	GRM Document Management Services	317,267
	FDNY Support Services	188,750
	Net '@ work Inc	9,641
	PBI, LLC	9,470
	NYSID	7,673
	NYS Department of Financial Services	7,039
	PKF O'CONNOR	7,395
	Total Payments to Consultants	\$ 593,860

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New York Fire Department Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Investment Section

Part III

Fiscal Year Ended June 30, 2019

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INVESTMENT REPORT

This report is prepared by management based on data provided by the investment managers of the New York City Fire Pension Funds and the Comptroller of the City of New York through the Bureau of Asset Management. The Bureau of Asset Management in overseeing the Funds' investment portfolio provides investment advice, implements Board decisions and reports on investment performance. The Boards of Trustees of the respective funds are responsible for ensuring that assets of the Funds are managed efficiently and prudently, in full compliance with the Administrative Code of the City of New York (ACNY) and the State Retirement and Social Security Laws, for the benefit of the Funds' membership.

Investment Policy

The Qualified Pension Fund's primary purpose is to provide retirement benefits for members and beneficiaries, while the Variable Supplements' Funds provide supplemental payments other than pension benefits for eligible members. These benefits and payments are financed through accumulated employer contributions, member contributions and investment earnings. The Boards of Trustees therefore set investment objectives to assure adequate accumulation of reserves and to protect the long-term value of assets. The Boards' overall philosophy on strategic factors, i.e. risk tolerance, returns, diversification and liquidity requirements determine the objectives of the investment policy adopted. Listed below are key objectives of the Boards' philosophy:

- To assure that members and beneficiaries receive benefits now and, in the future, the level of investment risk in the portfolio will be prudent and not exceed levels that may jeopardize objectives.
- To enhance portfolio returns moderate risk levels are assumed, since over the long term there is a relationship between the level of risk taken and the rate of return realized.
- To reduce portfolio risk by investing in a broad array of investments and by allocating funds among many asset categories, industries and geographic locations.
- To maintain liquidity requirements through the structuring of cash flows from contributions, investment income and short-term investments; thereby assuring timely payment of benefits.

The Funds utilize several investment managers to manage the long-term debt and equity portfolio. In addition, the Funds employ independent investment consultants as advisers. The Funds' managers are periodically reviewed for performance and adherence to investment guidelines.

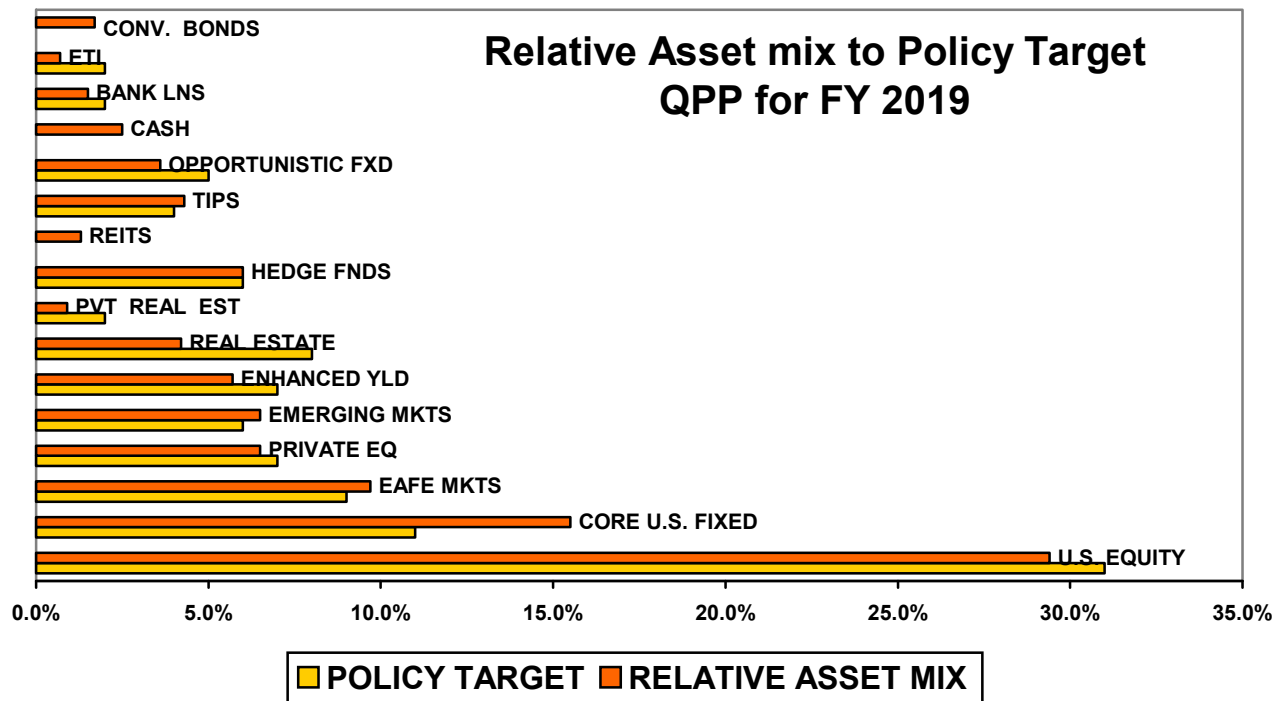
Investment Criteria and Asset Allocation

The Boards' investment policies are implemented using a strategic allocation of assets that meet the objectives of the Funds, while working within the confines of the legislative guidelines. The guidelines dictate that Fixed income, equity and other investments may be made as permitted by The New York State Retirement and Social Security Laws (RSSL) §§ 176-178(a) and State Banking Law § 235, the New York City Administrative Code, and the Legal Investments for New York Savings Banks list published by The New York State Banking Department, subject to Note 3, of Notes to the financial statements. Additionally, investments of up to 25% of the Funds' total assets may be invested in instruments not specifically covered by RSSL.

Investment Section

New York City Fire Pension Funds

Each Fund's asset allocation policy is constructed to meet both short-term funding requirements and long-term benefit obligations. The Funds' portfolio is largely invested in publicly traded securities with additional allocations to private equity, real estate, infrastructure, hedge funds and opportunistic fixed income investments. The percentages assigned each category of assets held in the Funds are based in part on the results of an analytical study, which indicates the expected rates of return, levels of risk and correlations for various allocations. These allocations are reviewed periodically to address fluctuating market events and new investment opportunities.



The chart above shows a comparison of relative asset mix to policy targets for the QPP as at June 30, 2019. The current targeted policy allocations include investments in the following major categories: U.S equity, Core U.S. fixed income, International equity (EAFE Markets), Private equity, Emerging markets, Enhanced yield bonds, Real Estate investments, Private Real Estate investments, Hedge Funds, Treasury inflation protected securities (TIPS), Opportunistic Fixed, Bank loans and Economically Targeted Investments (ETI). The Funds' assets are periodically re-balanced to keep in line with long term asset allocation objectives, and actual allocation may vary from policy weights as market values shift and investments are added or terminated. As indicated in the chart, the Fund exceeded targeted allocations of Core U.S Fixed, EAFE, Emerging Markets, REITS, TIPS, Cash and Convertible bonds. Hedge Funds closely matched allocation levels. However, U.S. equity, Private equity, Enhanced Yield bonds, Real estate, Private Real Estate, Opportunistic Fixed, Bank Loans and ETI fell below the current targeted allocations.

Actual asset allocation in effect on 6/30/2019 for the QPP and the VSF's are presented in the chart titled "Asset Allocation" (Exhibit 1a -1b). Changes in actual asset allocation for the QPP over the ten years from June 2010 through June 2019 are presented in bar charts showing the major categories and amount of assets held at the end of each fiscal period (Exhibit 1a).

Summary of Investment Results for Fiscal Year 2019

The Qualified Pension Fund's portfolio of approximately \$14.5 billion returned 7.1 %¹ on a net basis, for the fiscal year ended June 2019. This return although less than the gain of 7.7% posted by the Fund's policy benchmark was slightly above the actuarial assumed rate of return at 7.0%, for the period. The QPP closed fiscal year 2019 with a net position restricted for pension benefits totaling \$14.3 billion.

For the fiscal period ended June 30, 2019, performance across asset classes was mixed. The fixed income composite as a group performed well, returning approximately 7.4% for the period. The largest segment within this category, the structured fixed income group was among the best performers, closing at 9.6%, although well below its benchmark the New York City Custom structured index, which gained 10.8%. The High yield group, also among the better performers in this category, posted gains of 6.9%, also well below its benchmark the Citigroup BB&B index, which gained 7.5%. The Treasury Inflation Protected securities group was among the lower performers, gaining 4.8%, close to its benchmark the Barclays Global inflation linked TIPS index at 4.8% for the period. Overall, the fixed income sector returned approximately 3.2% for the quarter ended June 30, 2019.

The equities portfolio, the largest composite among the asset classes returned 6.8% as a group, for the period. Private equities were the best performers within the equity portfolio. The group returned 14.5% for the period, well ahead of its benchmark the NYC R3000+3% Lagged, which gained 12.0%. US Equities, the largest segment within equity portfolio, among the better performers, gained overall 8.2%, compared to its benchmark, the Russell 3000 Index which gained 8.9% for the fiscal period. The Emerging markets group although among the lower performers in this category, gained 2.2%, as compared to its benchmark, the MSCI emerging markets index, which gained 1.2% over the same period. For the quarter ended June 30, 2019, U S Equities, posted gains averaging 3.8%.

For the five-year period ended June 30, 2019, the QPP's portfolio annualized returns remained positive at 6.7% although below the portfolio policy benchmark return at 7.0%.

Investment returns for the Variable Supplements funds were similar to the returns posted by the QPP. The Fire Fighters' Variable Supplements Fund, with assets under management of \$503.0 million posted overall gains of 6.2% for the period; slightly below the gain of 6.3% posted by the policy benchmark. The Fire Officers Variable Supplements Fund with assets under management of \$350.1 million posted returns of approximately 6.2% for the period, also below the policy benchmark with gains of 6.3%.

For the five- year period ended June 30, 2019, the FFVSF's and the FOVSF 's annualized returns stood at 6.3 % and 6.5% respectively, while the corresponding policy benchmarks returned 6.3%.

Schedule 1A-1B presents our Consolidated Performance Reports, displaying the percentage of portfolio market values and returns for the QPP and the Variable Supplements Funds'. The schedules include returns for each major investment asset class along with the returns for corresponding benchmarks as at June 30, 2019.

¹ Calculations on the rate of return for investments were prepared using a time -weighted rate of return, based on the market rate of return consistent with Global Investment Performance Standards (GIPS).

Investment Section

New York City Fire Pension Funds

The Funds' combined investments including Collateral from securities lending rose from \$15,531.2 million to \$16,127.3 million, by the close of fiscal year 2019. This change is depicted in **Exhibit 2**, a chart showing changes in total investment at market value over the ten fiscal periods between 2010 and 2019.

The Funds' Portfolio assets invested during fiscal year 2019 returned net gains of \$ 982.3 million. The gains were due mainly to solid overall performances in the invested assets. Exhibit 3 shows a summary of the changes in investment income over the ten-year period 2010 through 2019.

Listings of the Fund's largest bonds and stocks holdings are presented in Schedule 2A & 3A respectively.

Fees and Brokers' commissions are calculated based on total assets under management for the period. Summaries of Brokers' commissions for investments traded are presented in schedule 4A.

The Summary of investments presented in Schedule 5A shows the overall market values of each major investment asset class in the Funds' portfolio, including short-term holdings and collateral from securities lending. The schedule also shows the percentage value of each category in relation to total investments in the Funds for fiscal year 2019.

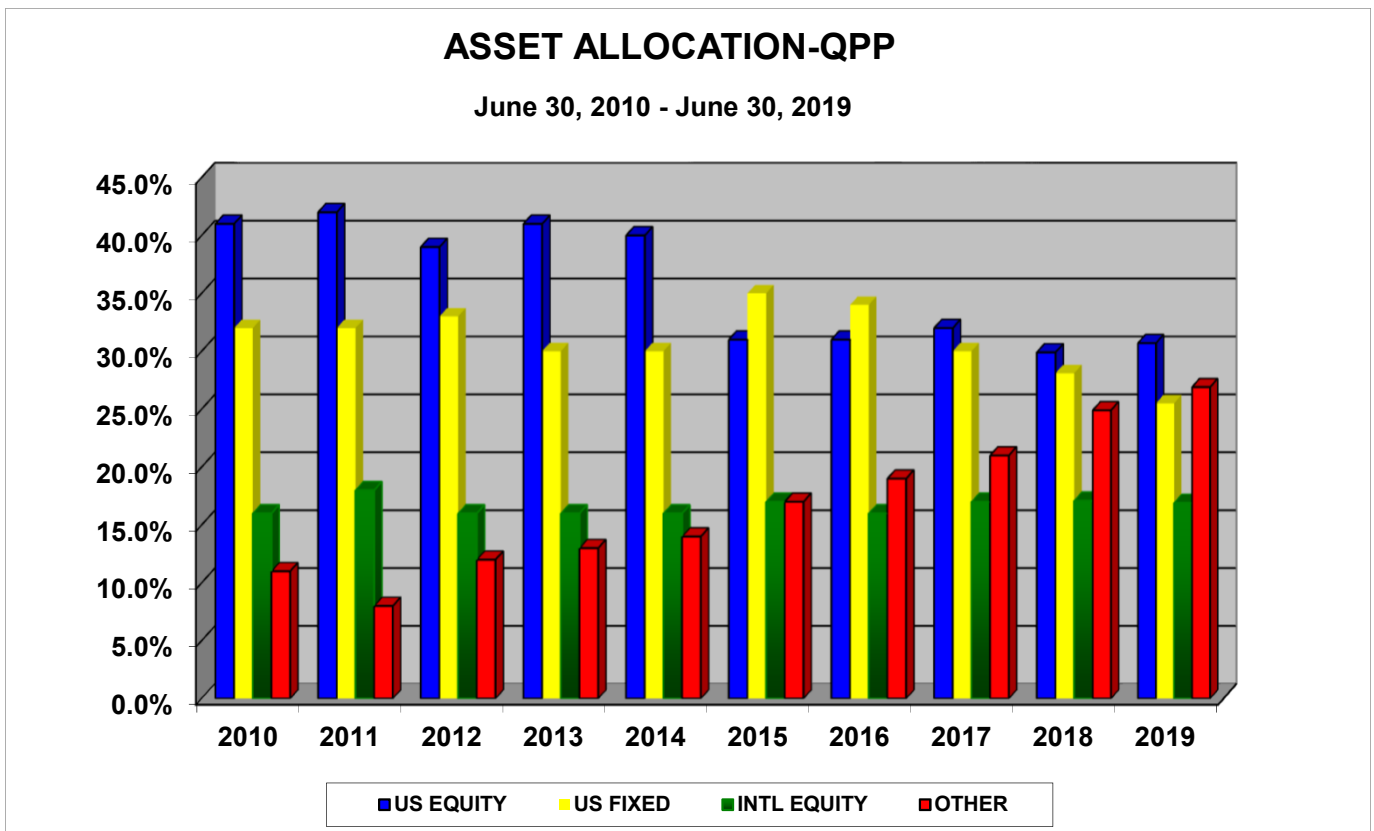
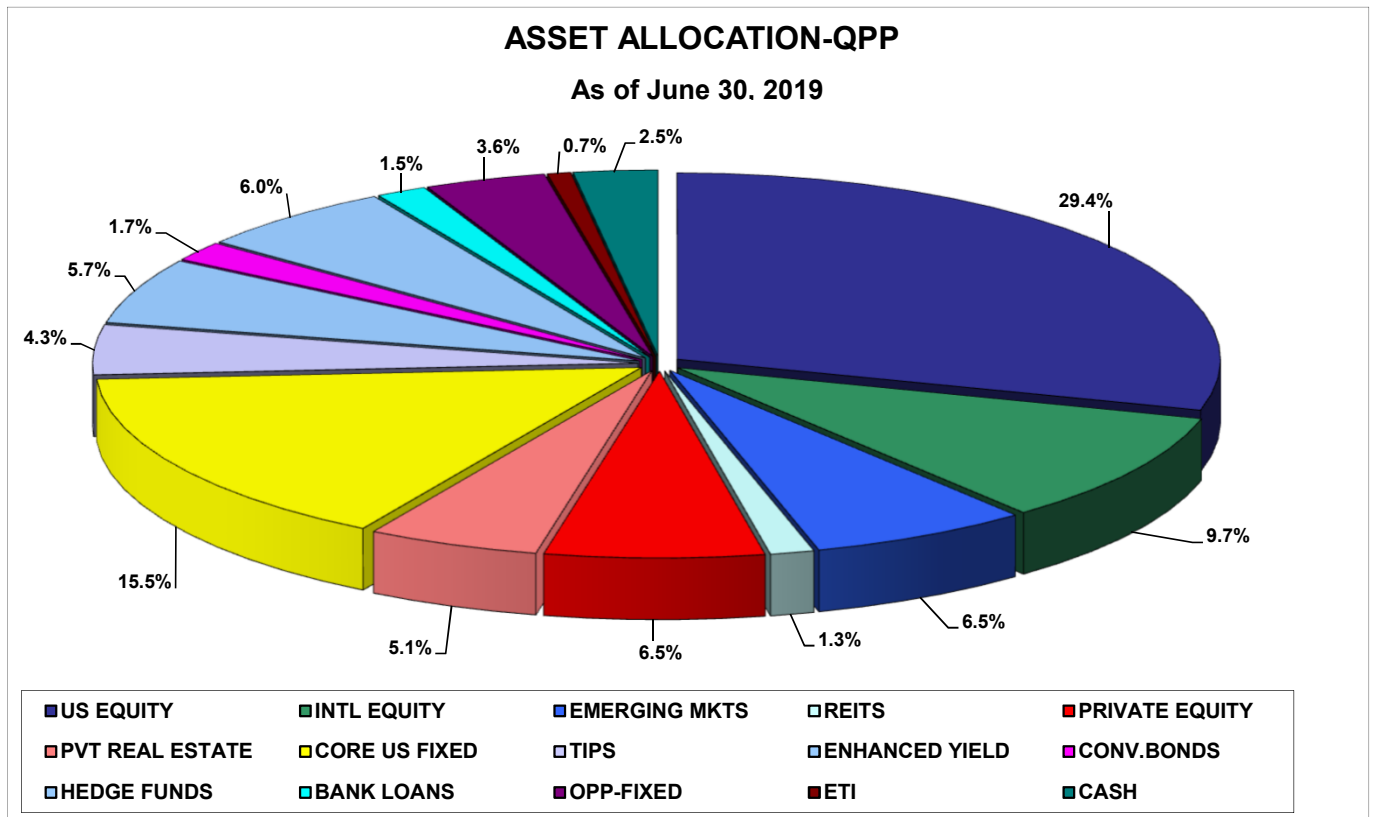


Exhibit 1B

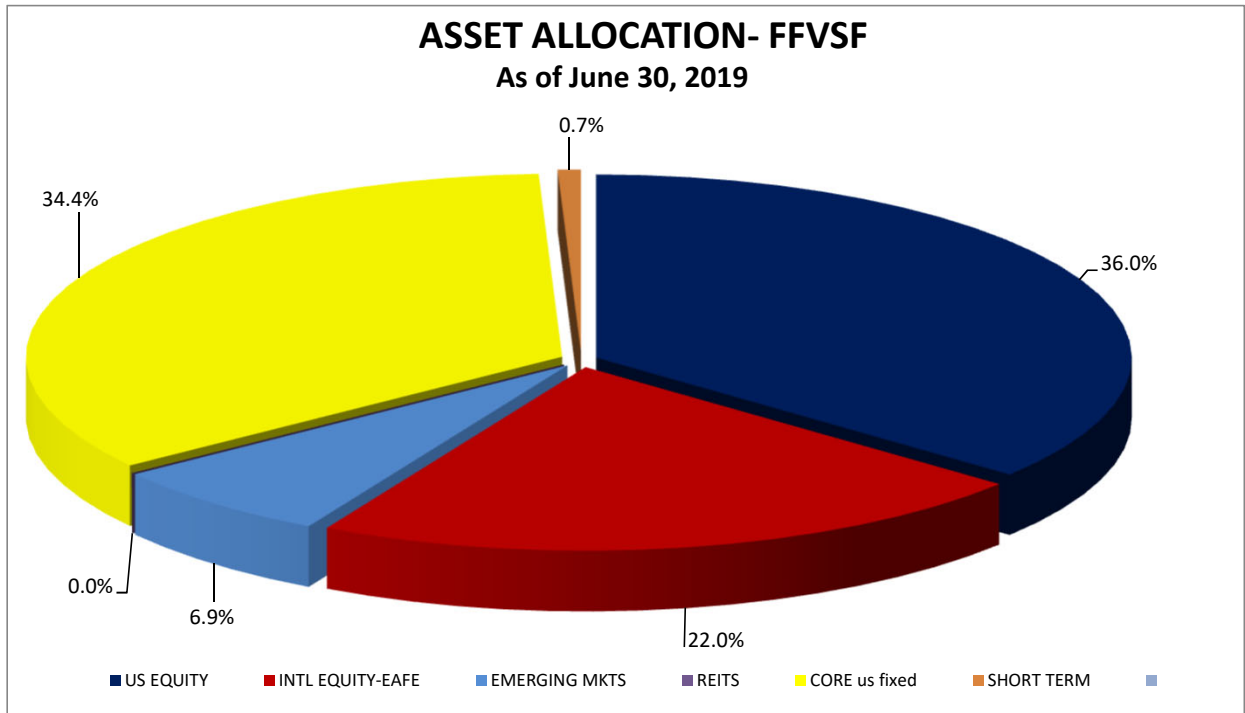
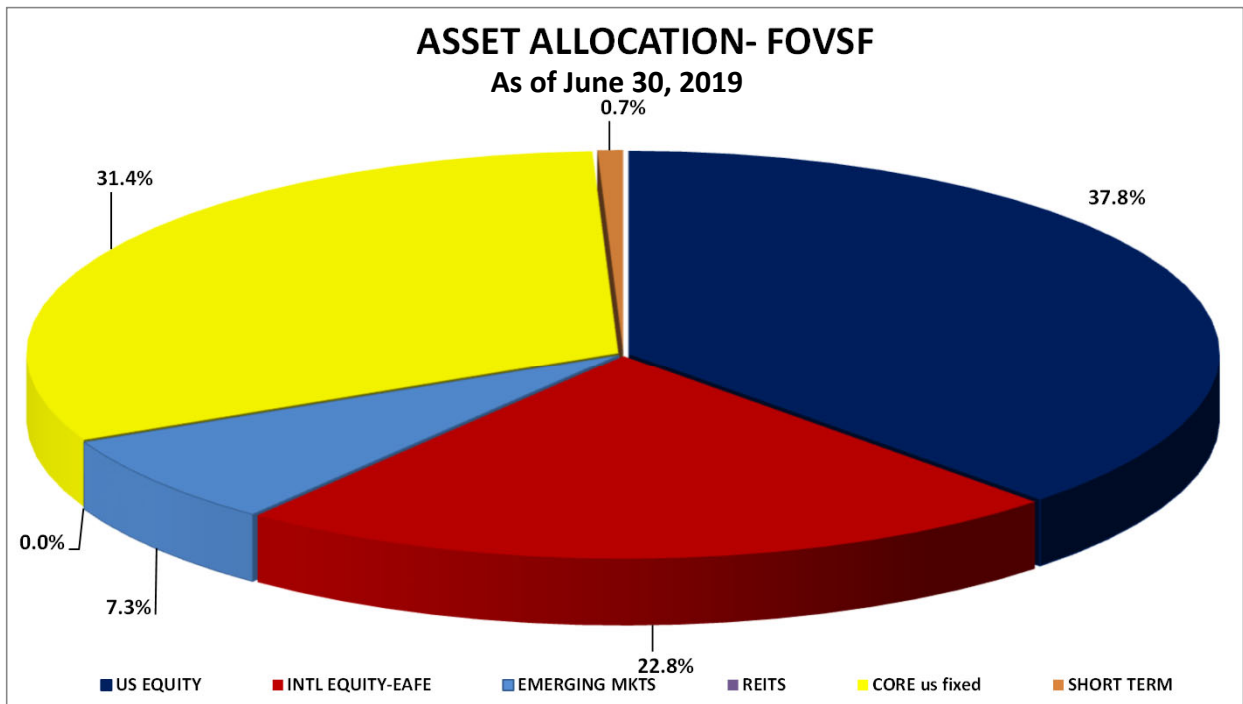


Exhibit 1C

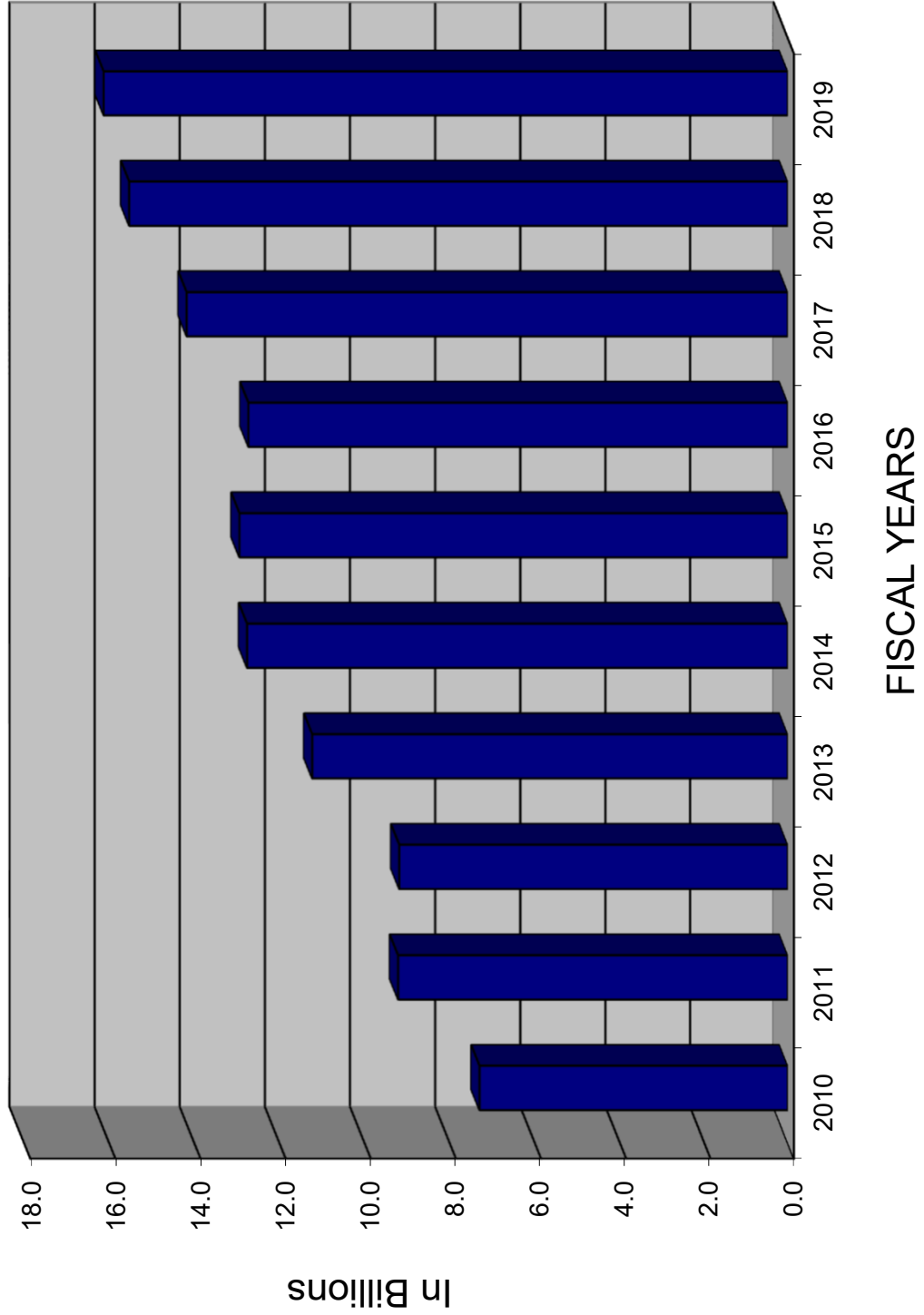


TOTAL INVESTMENTS

Fire Funds Combined

(At Market - Value)

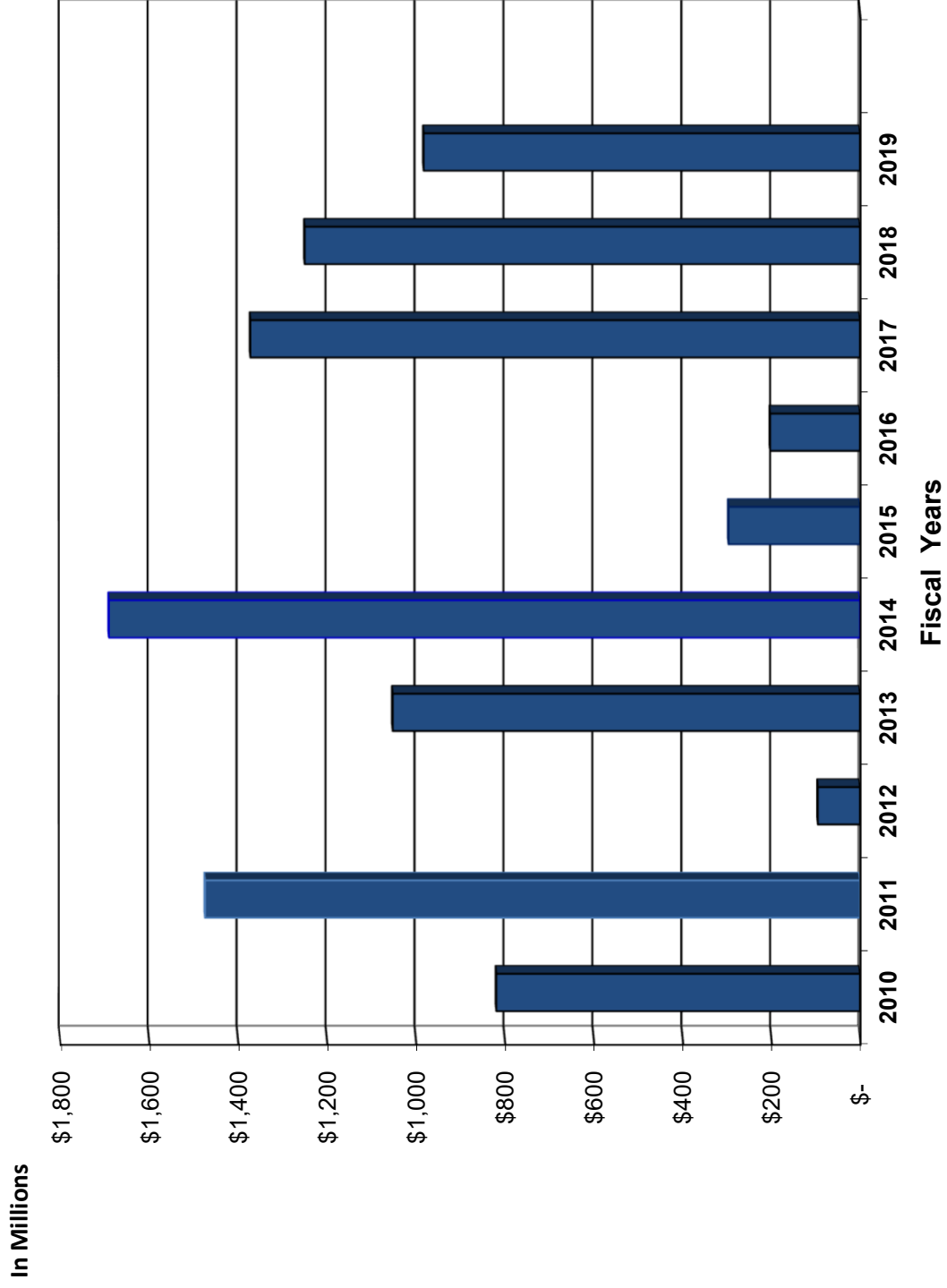
Exhibit 2



INVESTMENT INCOME

Fire Funds Combined

Exhibit 3



New York City Fire Pension Funds

Investment Section

Schedule 1A

Schedule of Portfolio Returns* Fire QPP
June 30, 2019

Assets (\$MM)	% Total	Asset Class	3 Mos Apr-19 Jun-19	YTD Jan-19 Jun-19	1 YR Jul-18 Jun-19	3 YRS Jul-16 Jun-19	5 YRS Jul-14 Jun-19	10 YRS Jul-09 Jun-19
4,256.20	29.39	U.S. Equities Russell 3000	3.84 4.10	18.41 18.71	8.24 8.98	13.81 14.02	9.68 10.19	14.49 14.67
1,209.56	8.35	Total International - World ex-USA MSCI AC WORLD EX US (Net) Benchmark	3.30 3.50	15.65 14.39	0.05 0.16	11.16 9.23	4.06 2.60	8.27 7.28
868.54	6.00	Total International Emerging mkts MSCI Emerging mkts index	1.27 0.61	10.99 10.58	2.23 1.21	11.81 10.66	2.83 2.49	6.77 5.81
218.84	1.51	Total Gobal Equity MSC AC World (Daily Const)	6.49 3.61	24.97 16.23	9.22 5.74	n/a n/a	n/a n/a	n/a n/a
73.45	0.51	Total International Fund of Funds MSCI ACWI EX USA IMI Net	3.96 2.74	14.50 13.33	0.35 0.26	n/a n/a	n/a n/a	n/a n/a
184.23	1.27	Total Real Estate Sec.(REITS) DJ US Select Real Estate Securities Index	0.57 0.82	17.10 16.67	9.36 9.75	4.81 3.73	6.61 7.59	15.11 15.39
852.22	5.91	Total Hedge Funds HFRI Funds of funds composite index+ 1%	4.25 1.74	6.19 6.68	4.98 2.16	7.32 5.29	4.24 3.21	n/a n/a
942.87	6.51	Total Private Equity NYC R3000+3% Lagged	5.10 14.85	4.70 -0.80	14.52 12.01	18.19 16.86	15.00 13.64	14.52 19.77
613.06	4.23	Total Private Real Estate NCREIF NFI-ODCE NET+100BP	2.12 1.02	3.44 2.48	8.27 6.51	10.45 7.67	12.09 9.84	9.96 n/a
125.63	0.87	Total Infrastructure CPI+ 4%	3.59 1.45	5.59 3.02	13.56 5.86	16.25 6.16	15.08 5.55	n/a n/a
		Total Equity Segment	3.47	13.31	6.81	12.49	8.24	12.36
2,228.43	15.39	Total Structured Program NYC Custom structured Index-FIRE	4.28 4.94	8.00 9.39	9.61 10.80	3.27 n/a	3.61 n/a	5.16 n/a
826.09	5.71	Total High Yield Citigroup BB & B	2.82 2.50	10.00 9.94	6.87 7.48	6.83 7.06	4.04 4.41	8.34 8.24
47.01	0.32	Total Core FI-Developing MGRS BBG Barclays Aggregate DLY	3.15 3.08	7.00 6.11	7.86 7.87	2.67 2.31	3.18 2.95	4.73 3.90
32.30	0.22	Total Core FI-Emerging MGRS BBG Barclays Aggregate DLY	3.19 3.08	6.29 6.11	7.85 7.87	2.71 2.31	3.15 2.95	n/a n/a
622.79	4.30	Total Tips Managers Barclays Global Inflation linked US Tips	2.85 2.86	6.18 6.15	4.82 4.84	2.08 2.08	1.76 1.76	3.71 3.64
213.55	1.47	Total Bank Loans Credit Suisse FB Leveraged Loan index	1.01 1.58	4.35 5.42	3.08 4.15	4.65 5.43	3.69 3.85	n/a n/a
240.89	1.66	Total Convertible Bonds BofA ML All Conv. Ex mandatory index	1.97 3.92	8.42 14.39	5.18 8.00	6.15 13.65	3.66 7.60	8.26 12.04
453.46	3.13	Total Opportunistic Fixed JPM GHY/CSFB 50/50 BLEND PLUS 300	1.83 2.96	3.22 9.32	5.70 9.26	8.67 9.86	5.07 7.48	11.83 11.14
107.13	0.74	Total Targeted Investments (no cash) Fire custom Benchmark-no cash	3.43 2.67	6.24 5.30	8.59 7.27	2.54 2.35	3.48 2.91	3.85 3.69
		Total Fixed Income Segment	3.22	7.22	7.41	4.04	3.47	5.54
363.79	2.51	State Street Short Term	0.64	1.26	2.36	1.53	1.14	0.79
0.02	0.00	Cash Account	n/a	n/a	n/a	n/a	n/a	n/a
14,480.06	100.00	Total Portfolio Policy Benchmark	3.39 4.22	11.08 11.69	7.11 7.73	9.72 9.50	6.71 7.00	10.14 10.63

*Calculations on the rate of return for Investments were prepared using a time weighted rate of return, based on the market rate of return-consistent with Global Investment Performance Standards (GIPS).

New York City Fire Pension Funds

Investment Section

Schedule 1B

**Schedule of Portfolio Returns FFVSF*
June 30, 2019**

Assets (\$MM)	% Total	Asset Class	3 Mos	YTD	1 YR	3 YRS	5 YRS	10 YRS
			Apr-19 Jun-19	Jan-19 Jun-19	Jul-18 Jun-19	Jul-16 Jun-19	Jul-14 Jun-19	Jul-09 Jun-19
181.10	36.00	U.S. Equities Russell 3000 Daily	4.07 4.10	18.67 18.71	8.92 8.98	14.05 14.02	10.24 10.19	14.66 14.67
110.50	21.97	Total WORLD ex-USA World EX USA Custom Benchmark	3.67 3.50	14.57 14.39	0.67 0.16	9.69 9.23	2.59 2.60	6.67 7.28
34.70	6.90	Total Emerging Markets MSCI Emerging Markets	0.70 0.61	10.81 10.58	1.42 1.21	10.71 10.66	1.50 2.49	5.17 5.81
173.10	34.41	Total structured Fixed Income BBG BARC AGG (DLY)	3.10 3.08	6.21 6.11	7.99 7.87	2.56 2.31	3.17 2.95	4.77 3.90
3.60	0.72	Fire Fighters short term	0.59	1.17	2.28	n/a	n/a	n/a
-	-	Securities Lending	n/a	n/a	n/a	n/a	n/a	n/a
503.00	100.00	Total Portfolio Policy Benchmark	3.39 3.46	12.53 12.76	6.20 6.29	8.94 8.88	6.31 6.33	10.23 10.37

*Calculations on the rate of return for Investments were prepared using a time weighted rate of return, based on the market rate of return consistent with Global Investment Performance Standards (GIPS).

Investment Section

Schedule 1C

**Schedule of Portfolio Returns FOVSF*
June 30, 2019**

Assets (\$MM)	% Total	Asset Class	3 Mos	YTD	1 YR	3 YRS	5 YRS	10 YRS
			Apr-19 Jun-19	Jan-19 Jun-19	Jul-18 Jun-19	Jul-16 Jun-19	Jul-14 Jun-19	Jul-09 Jun-19
132.40	37.82	U.S. Equities Russell 3000/S&P500	4.08 4.10	18.68 18.71	8.96 8.98	14.12 14.02	10.30 10.19	14.75 14.67
79.70	22.76	Total WORLD ex-USA World EX USA Custom Benchmark	3.65 3.50	14.55 14.39	0.27 0.16	12.17 9.23	3.84 2.60	7.20 7.28
25.50	7.28	Total Emerging Markets MSCI Emerging Markets	0.70 0.61	10.81 10.58	1.42 1.21	10.72 10.66	1.49 2.49	5.17 5.81
110.10	31.45	Total structured Fixed Income BBG BARC AGG (DLY)	3.10 3.08	6.21 6.11	7.99 7.87	2.20 2.31	3.20 2.95	5.11 3.90
2.40	0.69	Fire Officers' short term	0.59	1.20	2.27	n/a	n/a	n/a
-	-	Securities Lending	n/a	n/a	n/a	n/a	n/a	n/a
350.10	100.00	Total Portfolio Policy Benchmark	3.40 3.46	12.52 12.76	6.16 6.29	9.42 8.88	6.53 6.33	10.47 10.37

*Calculations on the rate of return for Investments were prepared using a time weighted rate of return, based on the market rate of return consistent with Global Investment Performance Standards (GIPS).

Investment Section

New York City Fire Pension Funds

List of Largest Bond Holding as of June 30, 2019

Schedule 2A

<u>Cusip Number</u>	<u>Security Description</u>	<u>Maturity Date</u>	<u>Interest Rate</u>	<u>Par Value</u>	<u>Fair Value</u>
912810RH3	US TREASURY N/B	8/15/2044	3.0%	53,950,000	60,189,857
912810SD1	US TREASURY N/B	8/15/2048	3.0%	53,225,000	58,372,922
9128285N6	US TREASURY N/B	11/30/2025	2.8%	51,250,000	54,431,088
912810RG5	US TREASURY N/B	5/15/2044	3.4%	44,375,000	51,565,081
9128283V0	US TREASURY N/B	1/31/2025	2.5%	48,000,000	49,777,440
912828V98	US TREASURY N/B	2/15/2027	2.3%	47,125,000	48,292,286
9128284V9	US TREASURY N/B	8/15/2028	2.9%	44,750,000	48,088,798
9128285J5	US TREASURY N/B	10/31/2025	3.0%	42,000,000	44,895,900
912828R36	US TREASURY N/B	5/15/2026	1.6%	43,000,000	42,321,460
912810QU5	US TREASURY N/B	2/15/2042	3.1%	36,550,000	40,873,134
01F032674	FNMA TBA 30 YR	7/15/2049	3.5%	37,377,000	38,213,497
912810QW1	US TREASURY N/B	5/15/2042	3.0%	31,550,000	34,547,250
9128286T2	US TREASURY N/B	5/15/2029	2.4%	33,000,000	34,102,200
912828J27	US TREASURY N/B	2/15/2025	2.0%	33,540,000	33,880,766
912810RD2	US TREASURY N/B	11/15/2043	3.8%	22,650,000	27,882,603
9128282U3	US TREASURY N/B	8/31/2024	1.9%	23,650,000	23,768,250
912810SE9	US TREASURY N/B	11/15/2048	3.4%	16,000,000	18,834,400
912810SF6	US TREASURY N/B	2/15/2049	3.0%	16,700,000	18,341,276
912828X39	TSY INFL IX N/B	4/15/2022	0.1%	17,430,671	17,294,014
9128284H0	TSY INFL IX N/B	4/15/2023	0.6%	17,069,086	17,270,160
912828B25	TSY INFL IX N/B	1/15/2024	0.6%	16,924,784	17,219,444
9128285M8	US TREASURY N/B	11/15/2028	3.1%	15,600,000	17,110,704
912828VM9	TSY INFL IX N/B	7/15/2023	0.4%	16,972,591	17,109,390
912828UH1	TSY INFL IX N/B	1/15/2023	0.1%	17,109,817	17,012,975
912810RT7	US TREASURY N/B	8/15/2046	2.3%	18,000,000	17,005,860
912828TE0	TSY INFL IX N/B	7/15/2022	0.1%	17,031,439	16,980,004
912810RE0	US TREASURY N/B	2/15/2044	3.6%	13,980,000	16,892,873
912828XL9	TSY INFL IX N/B	7/15/2025	0.4%	16,657,991	16,839,896
912828H45	TSY INFL IX N/B	1/15/2025	0.3%	16,678,399	16,696,745
912810SG4	TSY INFL IX N/B	2/15/2049	1.0%	15,738,235	16,646,331
912828WU0	TSY INFL IX N/B	7/15/2024	0.1%	16,638,961	16,610,009
912810RG5	US TREASURY N/B	5/15/2044	3.4%	14,150,000	16,442,725
912810RP5	US TREASURY N/B	11/15/2045	3.0%	15,000,000	16,415,700
912828SA9	TSY INFL IX N/B	1/15/2022	0.1%	16,513,110	16,409,243
912810SD1	US TREASURY N/B	8/15/2048	3.0%	14,800,000	16,231,456
912828Q60	TSY INFL IX N/B	4/15/2021	0.1%	16,379,474	16,227,145
912810RM2	US TREASURY N/B	5/15/2045	3.0%	14,800,000	16,184,688
912810SC3	US TREASURY N/B	5/15/2048	3.1%	14,400,000	16,158,384
912810RY6	US TREASURY N/B	8/15/2047	2.8%	15,000,000	15,655,050
912810RD2	US TREASURY N/B	11/15/2043	3.8%	12,700,000	15,633,954
912810RJ9	US TREASURY N/B	11/15/2044	3.0%	14,300,000	15,622,750
912810RH3	US TREASURY N/B	8/15/2044	3.1%	13,800,000	15,396,108
912828N71	TSY INFL IX N/B	1/15/2026	0.6%	14,985,381	15,345,180
912810RB6	US TREASURY	5/15/2043	2.9%	14,300,000	15,294,279
912828QV5	TSY INFL IX N/B	7/15/2021	0.6%	14,960,647	15,052,805
912810RV2	US TREASURY N/B	2/15/2047	3.0%	13,585,000	14,898,398
912828P46	US TREASURY N/B	2/15/2026	1.6%	15,000,000	14,780,850
912810RC4	US TREASURY N/B	8/15/2043	3.6%	12,100,000	14,605,547
912810RX8	US TREASURY N/B	5/15/2047	3.0%	13,250,000	14,511,400
912810RZ3	US TREASURY N/B	11/15/2047	2.8%	13,875,000	14,482,586

A complete listing of our portfolio holdings is available from our office upon request

Investment Section

New York City Fire Pension Funds

List of Largest Stocks Holding as of June 30, 2019

Schedule 3A

Cusip Number	Security Name	Share/Par Value	Fair Value
594918104	MICROSOFT CORP COMMON STOCK USD.00000625	631,209	84,556,758
37833100	APPLE INC COMMON STOCK USD.00001	384,323	76,065,208
23135106	AMAZON.COM INC COMMON STOCK USD.01	34,516	65,360,533
30303M102	FACEBOOK INC CLASS A COMMON STOCK USD.000006	199,471	38,497,903
84670702	BERKSHIRE HATHAWAY INC CL B COMMON STOCK USD.0033	163,255	34,801,068
594918104	MICROSOFT CORP COMMON STOCK USD.00000625	256,986	34,425,845
37833100	APPLE INC COMMON STOCK USD.00001	156,445	30,963,594
478160104	JOHNSON + JOHNSON COMMON STOCK USD1.0	221,732	30,882,833
46625H100	JPMORGAN CHASE + CO COMMON STOCK USD1.0	269,086	30,083,815
02079K107	ALPHABET INC CL C COMMON STOCK USD.001	25,408	27,463,761
30231G102	EXXON MOBIL CORP COMMON STOCK	353,528	27,090,851
02079K305	ALPHABET INC CL A COMMON STOCK USD.001	24,929	26,993,121
23135106	AMAZON.COM INC COMMON STOCK USD.01	14,056	26,616,863
92826C839	VISA INC CLASS A SHARES COMMON STOCK USD.0001	145,301	25,216,989
742718109	PROCTER + GAMBLE CO/THE COMMON STOCK	206,187	22,608,405
60505104	BANK OF AMERICA CORP COMMON STOCK USD.01	717,701	20,813,329
00206R102	AT+T INC COMMON STOCK USD1.0	608,157	20,379,341
254687106	WALT DISNEY CO/THE COMMON STOCK USD.01	145,510	20,319,016
17275R102	CISCO SYSTEMS INC COMMON STOCK USD.001	368,006	20,140,968
717081103	PFIZER INC COMMON STOCK USD.05	464,431	20,119,151
57636Q104	MASTERCARD INC A COMMON STOCK USD.0001	75,021	19,845,305
166764100	CHEVRON CORP COMMON STOCK USD.75	158,949	19,779,614
92343V104	VERIZON COMMUNICATIONS INC COMMON STOCK USD.1	345,191	19,720,762
91324P102	UNITEDHEALTH GROUP INC COMMON STOCK USD.01	78,952	19,265,078
437076102	HOME DEPOT INC COMMON STOCK USD.05	91,839	19,099,757
58933Y105	MERCK + CO. INC. COMMON STOCK USD.5	215,082	18,034,626
458140100	INTEL CORP COMMON STOCK USD.001	373,957	17,901,322
191216100	COCA COLA CO/THE COMMON STOCK USD.25	319,193	16,253,308
97023105	BOEING CO/THE COMMON STOCK USD5.0	44,158	16,073,954
949746101	WELLS FARGO + CO COMMON STOCK USD1.666	337,800	15,984,696
20030N101	COMCAST CORP CLASS A COMMON STOCK USD.01	376,120	15,902,354
30303M102	FACEBOOK INC CLASS A COMMON STOCK USD.000006	81,221	15,675,653
713448108	PEPSICO INC COMMON STOCK USD.017	116,936	15,333,818
37833100	APPLE INC COMMON STOCK USD.00001	71,784	14,207,489
84670702	BERKSHIRE HATHAWAY INC CL B COMMON STOCK USD.0033	66,413	14,157,259
172967424	CITIGROUP INC COMMON STOCK USD.01	192,769	13,499,613
580135101	MCDONALD S CORP COMMON STOCK USD.01	64,041	13,298,754
931142103	WALMART INC COMMON STOCK USD.1	117,146	12,943,462
64110L106	NETFLIX INC COMMON STOCK USD.001	35,154	12,912,767
478160104	JOHNSON + JOHNSON COMMON STOCK USD1.0	90,274	12,573,363
46625H100	JPMORGAN CHASE + CO COMMON STOCK USD1.0	109,556	12,248,361
2824100	ABBOTT LABORATORIES COMMON STOCK	143,956	12,106,700
00724F101	ADOBE INC COMMON STOCK USD.0001	40,691	11,989,603
70450Y103	PAYPAL HOLDINGS INC COMMON STOCK USD.0001	97,940	11,210,212
02079K107	ALPHABET INC CL C COMMON STOCK USD.001	10,293	11,125,807
02079K305	ALPHABET INC CL A COMMON STOCK USD.001	10,197	11,041,312
30231G102	EXXON MOBIL CORP COMMON STOCK	143,801	11,019,471
68389X105	ORACLE CORP COMMON STOCK USD.01	191,599	10,915,395
G5960L103	MEDTRONIC PLC COMMON STOCK USD.1	112,041	10,911,673
464287622	ISHARES RUSSELL 1000 ETF ISHARES RUSSELL 1000 ETF	66,603	10,842,302

A complete listing of our portfolio holdings is available from our office upon request

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
ABEL NOSER CORP	82,529.00	\$ 3,982.00	\$ 0.05
ACTINVER CASA DE BOLSA SA DE CV	63,400.00	161.11	0.00
ALLEN & COMPANY LLC	11,664.00	281.62	0.02
ARQAAM CAPITAL SOUTH AFRICA (PTY)	38,123.00	982.24	0.03
B.RILEY & CO., LLC	22,615.05	622.97	0.03
BANCO BICE	54,154.00	245.89	0.00
BANCO ITAU SA	55,100.00	1,532.09	0.03
BANCO SANTANDER (BRASIL) S.A.	900.00	33.15	0.04
BANK OF AMERICA CORPORATION	44,759.00	1,202.08	0.03
BANK OF AMERICA MERRILL LYNCH SECUR INC	344,654.04	1,614.88	0.00
BANQUE PARIBAS	5,110.00	103.88	0.02
BARCLAYS CAPITAL INC./LE	347,273.36	2,977.25	0.01
BARCLAYS CAPITAL LE	407,074.02	10,017.43	0.02
BATLIVALA+KARANI SECS INDIA PVT. LTD	426.00	14.41	0.03
BLOOMBERG TRADEBOOK LLC	6,588.00	192.63	0.03
BMO CAPITAL MARKETS	38,926.83	705.44	0.02
BNP PARIBAS SECURITIES SERVICES	712,448.11	3,000.65	0.00
BNP PARIBAS SECURITIES SERVICES SA	4,381,445.68	5,153.33	0.00
BOFA SECURITIES, INC.	9,243,785.63	62,234.61	0.01
BRADESCO S.A. CTVM	102,470.25	420.62	0.00
BROADCORT CAPITAL (THRU ML)	1,034.00	18.10	0.02
BTIG, LLC	168,604.92	2,536.20	0.02
BUCKINGHAM RESEARCH GROUP INC	49,822.00	2,393.14	0.05
CABRERA CAPITAL MARKETS LLC	69,240.00	218.10	0.00
CANACCORD GENUITY INC.	32,341.00	1,183.49	0.04
CANTOR FITZGERALD + CO.	32,583.90	696.46	0.02
CAPITAL INSTITUTIONAL SVCS INC EQUITIES	140.00	2.80	0.02
CASTLEOAK SECURITIES	3,000.00	35.05	0.01
CHINA INTERNATIONAL CAPITAL CO	93,000.00	156.58	0.00
CIBC WORLD MKTS INC	101.00	2.29	0.02
CITIBANK N.A. SPAIN	2,286.00	26.01	0.01
CITIBANK NA LIMA	34,723.00	160.58	0.00
CITIBANK OF COLOMBIA	4,256.38	44.56	0.01
CITIGROUP GLOBAL MARKETS INC	327,910.31	10,796.50	0.03
CITIGROUP GLOBAL MARKETS LIMITED	3,859,799.36	22,562.98	0.01
CJS SECURITIES INC	14,020.00	519.55	0.04
CL SECURITIES TAIWAN COMPANY LIMITED	244,819.42	1,663.40	0.01
CLSA AMERICAS	2,260.00	19.65	0.01
CLSA AUSTRALIA PTY LTD	1,223,313.04	1,036.43	0.00
CLSA SECURITIES KOREA LTD.	64,390.79	1,913.10	0.03
CLSA SINGAPORE PTE LTD.	634,985.44	8,881.44	0.01
COL FINANCIAL GROUP, INC.	811,000.00	110.56	0.00
COMMERCIAL BANK OF QATAR, LTD.	68,701.00	514.49	0.01
CONCEPT CAPITAL MARKETS,LLC	7,581.00	255.65	0.03
CONVERGEX LLC	5,723.00	85.93	0.02

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
CORNERSTONE MACRO LLC	3,455.00	\$ 172.75	\$ 0.05
COWEN AND COMPANY, LLC	833,280.93	29,777.60	0.04
COWEN EXECUTION SERVICES LLC	4,308,329.55	16,378.77	0.00
CRAIG - HALLUM	13,814.00	620.91	0.04
CREDIT AGRICOLE CIB	1,162.00	10.61	0.01
CREDIT LYONNAIS SECURITIES INDIA	1,513,462.58	12,523.65	0.01
CREDIT LYONNAIS SECURITIES(ASIA)	17,982,602.94	11,889.73	0.00
CREDIT SUISSE SECURITIES (EUROPE) LTD	5,832,773.95	14,796.66	0.00
CREDIT SUISSE SECURITIES (USA) LLC	7,069,741.15	28,976.09	0.00
CREDIT SUISSE SECURITIES CANADA INC	738.00	22.14	0.03
CS FIRST BOSTON (HONG KONG) LIMITED	232,506.87	1,117.79	0.00
CUTTONE & CO. INC.	1,825.00	18.25	0.01
DANARESKA SECURITIES, PT	194,800.00	364.84	0.00
DAVIDSON D.A. + COMPANY INC.	12,310.00	479.80	0.04
DEUTSCHE BANK SECURITIES INC	928,521.19	10,693.18	0.01
DEUTSCHE EQ IN PRVT LIM DB	871.00	29.18	0.03
DEUTSCHE SECURITIES ASIA LIMITED	213,834.52	296.94	0.00
DOLAT CAPITAL MARKETS LTD	214.00	7.75	0.04
DOUGHERTY & COMPANY LLC	8,675.00	288.09	0.03
DSP MERRILL LYNCH LTD	95,811.16	530.10	0.01
ERSTE BANK BEFEKTETESI RT.	11,842.00	636.03	0.05
EXANE S.A.	197,116.41	8,527.83	0.04
FBR CAPITAL MARKETS & CO.	812.00	16.24	0.02
FIDELITY CAPITAL MARKETS	1,226.00	31.78	0.03
FIDELITY CLEARING CANADA ULC	88,248.17	1,764.95	0.02
GOLDMAN SACHS (ASIA) LLC	55,537.65	468.33	0.01
GOLDMAN SACHS (INDIA)	71,468.98	204.15	0.00
GOLDMAN SACHS + CO INTL.	27,000.00	101.55	0.00
GOLDMAN SACHS + CO LLC	10,500,629.81	53,317.03	0.01
GOLDMAN SACHS INTERNATIONAL	1,474,061.30	2,708.02	0.00
GREEN STREET TRADING, LLC	102,883.42	3,946.92	0.04
GUGGENHEIM CAPITAL MARKETS LLC	14,126.00	362.65	0.03
GUZMAN AND COMPANY	82,856.00	580.61	0.01
HEIGHT SECURITIES, LLC	4,048.00	80.96	0.02
HIBERNIA SOUTHCOAST CAPITAL INC	9,553.00	368.47	0.04
HILLTOP SECURITIES INC	45,631.00	2,266.04	0.05
HSBC BANK PLC	4,009,213.56	12,128.22	0.00
HSBC BROKERAGE (USA) INC.	6,669.00	116.71	0.02
ICBC STANDARD BANK PLC	1,779.00	309.25	0.17
ICBCFS LLC	6,926.26	142.43	0.02
IMPERIAL CAPITAL LLC	12,132.00	1,516.50	0.13
INDUSTRIAL&COMMERCIAL BNK OF CHNA FS LLC	58,406.00	1,168.12	0.02
INSTINET	484,977.82	11,587.49	0.02
INSTINET AUSTRALIA CLEARING SRVC PTY LTD	1,187,110.24	1,120.15	0.00
INSTINET LLC	4,746,192.43	7,824.77	0.00

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
INSTINET PACIFIC LIMITED	21,896,420.32	\$ 8,155.81	\$ 0.00
INSTINET SINGAPORE SERVICES PT	514,878.21	624.91	0.00
INSTINET U.K. LTD	5,149,809.72	29,021.58	0.01
INTERFUND TRANSFER	1,960.00	16.26	0.01
INVESTEC BANK PLC	82,442.58	221.88	0.00
INVESTMENT TECHNOLOGY GROUP INC.	200,191.51	4,003.47	0.02
INVESTMENT TECHNOLOGY GROUP LTD	1,735,613.58	10,291.30	0.01
IPOPEMA SECURITIES S.A.	2,207.00	84.98	0.04
IS YATIRIM MENKUL DEGERLER AS	355,297.00	763.24	0.00
ISI GROUP INC	1,825,201.34	33,118.97	0.02
ITG AUSTRALIA LTD.	8,886,989.14	4,182.39	0.00
ITG CANADA	47,762.86	348.67	0.01
ITG INC.	22,329.58	390.49	0.02
IVY SECURITIES, INC.	472,429.00	17,080.26	0.04
IXE CASA DE BOLSA SA DE CV	71,100.00	190.28	0.00
J.P. MORGAN CLEARING CORP.	143,452.15	2,469.06	0.02
J.P. MORGAN SECURITIES LIMITED	5,541.90	109.96	0.02
J.P. MORGAN SECURITIES LLC	374,693.11	9,256.02	0.02
J.P. MORGAN SECURITIES PLC	887,033.58	22,601.24	0.03
JANNEY MONTGOMERY, SCOTT INC	5,422.00	191.49	0.04
JEFFERIES + COMPANY INC	1,105,551.96	16,990.64	0.02
JEFFERIES INTERNATIONAL LTD	9,028,046.63	4,356.53	0.00
JMP SECURITIES	7,280.00	247.18	0.03
JNK SECURITIES INC	7,090.00	224.70	0.03
JOH. BERENBERG, GOSSLER & CO. KG	301,357.54	2,942.82	0.01
JOHNSON RICE & COMPANY LLC	4,361.00	174.44	0.04
JONESTRADING INSTITUTIONAL SERVICES LLC	242,265.00	6,688.48	0.03
JONESTRADING INSTITUTIONAL SERVICES, LLC	98,523.00	484.82	0.00
JP MORGAN SECURITIES AUSTRALIA LTD	237,172.62	457.67	0.00
JPMORGAN SECURITIES(ASIA PACIFIC)LTD	10,289,842.39	4,023.56	0.00
KEEFE BRUYETTE + WOODS INC	20,256.00	796.90	0.04
KEPLER EQUITIES PARIS	8,383.30	164.95	0.02
KEYBANC CAPITAL MARKETS INC	68,164.81	2,768.27	0.04
KGI SECURITIES CO. LTD	80,000.00	321.29	0.00
KING, CL, & ASSOCIATES, INC	90,620.00	4,163.38	0.05
LEERINK PARTNERS LLC	2,097.00	79.24	0.04
LIQUIDNET INC	1,527,408.92	34,060.48	0.02
LOOP CAPITAL MARKETS	3,286,238.26	46,245.86	0.01
LUMINEX TRADING AND ANALYTICS LLC	190,730.72	1,494.72	0.01
MACQUARIE BANK LIMITED	7,433,380.03	15,463.50	0.00
MACQUARIE CAPITAL (USA) INC.	16,041.14	500.09	0.03
MACQUARIE SECURITIES (USA) INC	265.00	7.95	0.03
MEDIOBANCA SPA	27,226.63	359.50	0.01
MERRILL LYNCH	4,970.00	248.50	0.05
MERRILL LYNCH EQUITIES (AUSTRALIA)	500.00	1.92	0.00

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
MERRILL LYNCH FAR EAST LTD	4,200.00	\$ 8.75	\$ 0.00
MERRILL LYNCH INTERNATIONAL	8,050,459.68	23,815.82	0.00
MERRILL LYNCH INTL LONDON	5,400.00	12.14	0.00
MERRILL LYNCH PIERCE FENNER AND S	486,404.68	2,736.19	0.01
MERRILL LYNCH PROFESSIONAL CLEARING CORP	26,358.00	1,113.67	0.04
MERRILL LYNCH, PIERCE FENNER SMITH	29,575.00	1,478.75	0.05
MIRABAUD SECURITIES LLP	9,470.00	365.30	0.04
MIRAE ASSET SEC USA	269,498.00	12,033.19	0.04
MITSUBISHI UFJ SECURITIES (USA)	2,001.00	74.21	0.04
MIZUHO INTERNATIONAL PLC	23,502.57	436.62	0.02
MIZUHO SECURITIES USA INC	32,341.46	1,919.07	0.06
MIZUHO SECURITIES USA INC.	7,973.06	211.58	0.03
MKM PARTNERS LLC	94,949.00	3,788.65	0.04
MONNESS, CRESPI, HARDT & CO. INC	43,227.00	2,138.71	0.05
MORGAN STANLEY AND CO. INTERNATIONAL	6,042,983.64	15,102.53	0.00
MORGAN STANLEY CO INCORPORATED	8,032,611.66	28,677.66	0.00
MOTILAL OSWAL SECURITIES LIMITED	6,893.00	238.36	0.03
NATIONAL FINANCIAL SERVICES CORPORATION	376,501.90	1,377.57	0.00
NEEDHAM AND COMPANY LLC	43,913.00	1,884.25	0.04
NESBITT BURNS	12,411.00	376.33	0.03
NOMURA FINANCIAL ADVISORY + SEC INDIA	527,333.60	1,530.56	0.00
NORDEA BANK SWEDEN AB (PUBL)	-	-	-
NORTH SOUTH CAPITAL LLC	12,800.00	250.99	0.02
NORTHCOAST RESEARCH PARTNERS LLC	12,415.00	437.84	0.04
NORTHLAND SECURITIES INC.	12,525.00	516.60	0.04
O NEIL, WILLIAM AND CO. INC/BCC CLRG	2,303.00	46.06	0.02
OPPENHEIMER + CO. INC.	52,425.00	2,169.56	0.04
PAREL	17,464.23	485.42	0.03
PAVILION GLOBAL MARKETS LTD	150,455.94	1,155.15	0.01
PENSERRA SECURITIES	850,545.00	22,881.26	0.03
PENSERRA SECURITIES LLC	780,170.76	2,443.18	0.00
PERSHING LLC	120,928,954.10	54,083.13	0.00
PERSHING SECURITIES LIMITED	73,715.39	763.81	0.01
PICKERING ENERGY PARTNERS, INC	6,574.00	131.48	0.02
PICTET AND CIE	13,841.00	202.05	0.01
PIPER JAFFRAY & CO.	51,810.00	2,094.84	0.04
R.B.C. DOMINION SECURITIES CORPORATION	111,005.00	2,236.07	0.02
RAYMOND JAMES AND ASSOCIATES	21,070.00	1,137.88	0.05
RAYMOND JAMES AND ASSOCIATES INC	204,872.00	8,369.80	0.04
RAYMOND JAMES LTD	13,111.00	402.33	0.03
RBC CAPITAL MARKETS, LLC	1,493,538.76	17,233.90	0.01
RBC DOMINION SECURITIES INC.	178,982.07	1,796.64	0.01
REDBURN (EUROPE) LIMITED	298,562.58	4,507.15	0.02
ROBERT W. BAIRD CO.INCORPORATED	319,925.14	9,964.09	0.03
ROYAL BANK OF CANADA EUROPE LTD	596,760.12	2,991.60	0.01

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
SANDLER ONEILL AND PARTNERS L.P.	26,869.00	\$ 1,086.31	\$ 0.04
SANFORD C BERNSTEIN CO LLC	948,238.00	12,058.05	0.01
SANFORD C. BERNSTEIN LTD	649,471.69	11,317.69	0.02
SBICAP SECURITIES LIMITED	17,641.00	568.47	0.03
SEAPORT GROUP SECURITIES, LLC	43,455.00	934.39	0.02
SECURITY CAPITAL BROKERAGE INC	3,642.00	63.74	0.02
SHENYIN WANGUO SECURITIES (HK) LTD	1,037,095.00	746.45	0.00
SIDOTI + COMPANY LLC	1,459.00	43.77	0.03
SMBC SECURITIES INC	200.00	4.05	0.02
SOCIETE GENERALE LONDON BRANCH	1,413,454.33	7,975.41	0.01
SPARK CAPITAL ADVISORS (INDIA) PRIV LTD	732.00	26.15	0.04
STATE STREET BANK AND TRUST COMPANY	3,771.00	97.68	0.03
STEPHENS, INC.	72,499.00	2,968.33	0.04
STIFEL NICOLAUS + CO INC	82,643.94	2,836.89	0.03
STIFEL NICOLAUS EUROPE LIMITED	1,122.00	10.27	0.01
STUART FRANKEL + CO INC	29,222.00	1,168.88	0.04
SUNTRUST CAPITAL MARKETS, INC.	35,804.30	1,389.39	0.04
TELSEY ADVISORY GROUP LLC	14,651.00	663.29	0.05
THE FIG GROUP, LLC	1,400.00	165.06	0.12
TULLET & TOKYO SECS	2,358.00	47.16	0.02
UBS AG	7,111,488.01	13,842.18	0.00
UBS AG LONDON BRANCH	44,060.07	728.17	0.02
UBS LIMITED	2,263,563.37	15,783.07	0.01
UBS SECURITIES ASIA LTD	2,111,123.21	3,387.52	0.00
UBS SECURITIES LLC	383,080.30	2,921.47	0.01
VIRTU AMERICAS LLC	88,307.15	2,344.35	0.03
WALL STREET ACCESS	21,351.00	133.61	0.01
WEDBUSH MORGAN SECURITIES INC	6,838.00	305.00	0.04
WEEDEN + CO.	2,988,255.53	45,715.96	0.02
WELLS FARGO SECURITIES LLC	17,958.80	449.45	0.03
WELLS FARGO SECURITIES, LLC	1,643,482.40	19,217.00	0.01
WILLIAM BLAIR & COMPANY L.L.C	95,507.00	4,469.62	0.05
WILLIAMS CAPITAL GROUP LP (THE)	1,166,110.11	17,985.95	0.02
WOLFE TRAHAN SECURITIES	41,304.00	1,696.13	0.04
ABG SECURITIES AS (STOCKHOLM)	4,956.73	52.85	0.01
ABG SECURITIES LIMITED	2,138.52	14.14	0.01
AQEEL KARIM DHEDHI	1,146,581.20	996.50	0.00
ARQAAM CAPITAL LIMITED	24,317.79	77.65	0.00
ATTIJARIWafa BANK	175.42	166.29	0.95
AUTONOMOUS RESEARCH LLP	12,198.12	542.11	0.04
AUTREPAT-DIV RE	1,747.95	59.61	0.03
BAADER BANK AG	4,187.94	104.66	0.02
BANCO SANTANDER CENTRAL HISPANO	18,120.13	244.03	0.01
BANCO SANTANDER CHILE	6,877.63	26.15	0.00
BANK J.VONTOBEL UND CO. AG	9,860.01	1,527.43	0.15

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
BARCLAYS CAPITAL	554,086.65	\$ 5,493.00	\$ 0.01
BARCLAYS CAPITAL INC	4,233.35	116.54	0.03
BARCLAYS CAPITAL SECURITIES LIMITED	464.18	14.08	0.03
BNP PARIBAS SECURITIES (ASIA) LTD.	314.98	4.48	0.01
BNP PARIBAS SECURITIES SERVICES AUSTR BR	3,004.04	12.12	0.00
BTG PACTUAL CHILE S.A. CORREDORES DE BOL	20,076.90	1.79	0.00
CANACCORD GENUITY LIMITED	4,359.84	0.69	0.00
CANADIAN IMPERIAL BANK OF COMMERCE	47,285.17	1,115.46	0.02
CANTOR FITZGERALD EUROPE	190.64	2.26	0.01
CAPITAL MARKETS BROKERS LIMITED	59,056.48	181.04	0.00
CARNEGIE A S	18,667.31	945.40	0.05
CARNEGIE INVESTMENT BANK AB	7,366.15	79.23	0.01
CARNEGIE SECURITIES FINLAND	15,890.34	700.91	0.04
CHINA FORTUNE SECURITIES.,LTD	51,208.45	27.05	0.00
CHINA INTERNATIONAL CAPITAL CORPORATION	230,234.52	1,110.47	0.00
CIMB-GK SECURITIES PTE.LTD.	3,033.72	27.21	0.01
CITIBANK BERHAD	22,090.23	19.38	0.00
CITIBANK N.A. ISTANBUL	2,386.12	17.07	0.01
CITIGROUP GLBL MARKET KOERA SECS LTD	77,205.99	1,496.31	0.02
CITIGROUP GLOBAL MARKETS AUSTRALIA PTY	36,710.97	182.51	0.00
CITIGROUP GLOBAL MARKETS INC.	764,369.23	2,551.39	0.00
CITIGROUP GLOBAL MARKETS INDIA	63,682.19	103.62	0.00
CITIGROUP GLOBAL MARKETS TAIWAN	1,917,106.51	759.99	0.00
CLSA SECURITIES MALAYSIA SDN BHD	641,816.14	124.04	0.00
COMMERCE INTL MERCHANT BANKERS	12,418.40	7.07	0.00
CONVENCAO S/A CORRETORA DE VALORES	-	-	-
CREDIBOLSA SOCIEDAD AGENTE	147.04	3.85	0.03
CREDICORP CAPITAL COLOMBIA S.A.	55,209.15	210.69	0.00
CREDIT SUISSE FIRST BOSTON	1,822,012.96	1,022.04	0.00
CREDIT SUISSE FIRST BOSTON (EUROPE)	69,333.21	2,452.51	0.04
CREDIT SUISSE FIRST BOSTON SA CTVM	77.06	0.02	0.00
CREDIT SUISSE SECS INDIA PRIVATE LTD	61,473.28	739.04	0.01
CSFB AUSTRALIA EQUITIES LTD	49,383.95	119.15	0.00
CSL STOCKBROKERS LIMITED	62,045.96	160.59	0.00
DAIWA SBCM EUROPE	81,228.89	3,240.23	0.04
DAIWA SECURITIES (HK) LTD.	24,999.15	96.15	0.00
DAIWA SECURITIES AMERICA INC	86,224.14	6,005.91	0.07
DAIWA SECURITIES COMPANY LTD	2,575.59	320.58	0.12
DAIWA SECURITIES SMBC CATHY CO	99,044.51	30.96	0.00
DANSKE BANK A.S.	4,525.71	29.28	0.01
DAVY STOCKBROKERS	51,645.54	751.39	0.01
DBS VICKERS (HONG KONG) LIMITED	7,859.42	138.92	0.02
DBS VICKERS SECURITIES (SINGAPORE)	106,357.40	757.53	0.01
DEN NORSKE BANK	4,409.66	17.19	0.00
DEUTSCHE BANK AG	1,097,961.45	696.01	0.00

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

<u>Broker Name</u>	<u>Number of Shares Traded</u>	<u>Commission paid</u>	<u>Average cost Per Share</u>
DEUTSCHE MORGAN GRENFELL SECS	78,661.33	\$ 330.96	\$ 0.00
DEUTSCHE SECURITIES ASIA LTD	7,142.26	78.27	0.01
EDELWEISS SECURITIES PVT. LTD	164.30	2.20	0.01
EUROCLEAR BANK S.A / N.V	6,909.66	15.73	0.00
EVERCORE GROUP L.L.C.	11,344.04	259.34	0.02
FIDELITY CLEARING CANADA	424.17	2.35	0.01
FINANCIAL BROKERAGE GROUP (FBG)	507,183.38	4,839.69	0.01
FIRST NATIONAL BANK OF BOTSWANA	72,401.72	349.97	0.00
FLOW CORRETORA DE MERCADORIAS LTDA.	530,799.88	1,907.87	0.00
FOKUS BANK ASA	7,062.10	46.13	0.01
GOLDMAN SACHS (ASIA) L.L.C.	1,211,907.93	309.78	0.00
GOLDMAN SACHS AUSTRALIA PTY LTD	68,167.63	318.85	0.00
GOLDMAN SACHS DO BRASIL CORRETORA	136,109.47	261.72	0.00
GOLDMAN SACHS(ASIA)L.L.C.	2,088,744.57	400.36	0.00
GOODBODY STOCKBROKERS	70,444.34	201.66	0.00
HAITONG SECURITIES	21,934.34	7.63	0.00
HANWHA SECURITIES SEOUL	896.52	4.42	0.00
HONGKONG AND SHANGHAI BANKING CORPORAT	221,555.00	235.82	0.00
HSBC BANK BRASIL SA BANCO MULTIPLO	-	-	-
HSBC BANK USA	19,921.79	106.37	0.01
HSBC SECURITIES (USA) INC.	10,174,285.62	6,053.93	0.00
HSBC SECURITIES (USA), INC.	6,825.06	34.13	0.01
HSBC SECURITIES INDIA HOLDINGS	99,348.77	605.98	0.01
ICICI BROKERAGE SERVICES	1,238,777.71	3,501.61	0.00
IM TRUST S.A. CORREDORES DE BOLSA	88,560.76	142.49	0.00
INDIA INFOLINE LTD	476.57	6.16	0.01
INTERCAPITAL SECURITIES LTD.	658.25	233.69	0.36
INVESTEC SECURITIES LTD	25,201.76	73.03	0.00
ITG INC	941,289.38	514.78	0.00
J P MORGAN INDIA PRIVATE LTD	76,892.76	203.00	0.00
J P MORGAN SECURITIES INC	714,364.88	1,618.84	0.00
J.P. MORGAN SECURITIES (TAIWAN) LTD	1,870,861.41	789.67	0.00
J.P.MORGAN SECURITIES(FAR EAST)LTD SEOUL	38,702.67	833.58	0.02
JEFFERIES HONG KONG LIMITED	3,817.56	0.66	0.00
JEFFERIES INDIA PRIVATE LIMITED	352,997.96	1,658.60	0.00
JM FINANCIAL INSTITUTIONAL SECURITIES PR	238,834.67	2,104.53	0.01
JP MORGAN SECURITIES ASIA PTE LIMITED	-	-	-
JP MORGAN SECURITIES SINGAPORE	514,058.73	40.35	0.00
KEMPEN + CO N.V.	1,254.43	16.77	0.01
KOREA INVESTMENT AND SECURITIES CO., LTD	53,257.96	318.79	0.01
KOTAK SECURITIES LTD	291,559.48	1,481.89	0.01
LARRAIN VIAL	47,746.24	190.44	0.00
LIBERUM CAPITAL LIMITED	2,254.56	44.52	0.02
LIQUIDNET EUROPE LIMITED	4,977.36	323.20	0.06
LOOP CAPITAL MARKETS LLC	132,448.01	517.56	0.00

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
MACQUARIE CAPITAL (USA) INC	2,986.82	\$ 16.90	\$ 0.01
MACQUARIE SECURITIES (INDIA) PVT LTD	4,431.73	7.98	0.00
MACQUARIE SECURITIES KOREA LIMITED	24,066.22	509.17	0.02
MAINFIRST BANK DE	16,983.15	629.24	0.04
MAYBANK KIM ENG SECURITIES PTE LTD	142,982.63	71.52	0.00
MIRAE ASSET DAEWOO CO., LTD.	4,399.54	44.77	0.01
MITSUBISHI UFJ SECURITIES INT PLC	2,968.76	178.30	0.06
MIZUHO SECURITIES ASIA LIMITED	547.06	33.41	0.06
MORGAN STANLEY AND CO INTERNATIONAL	46,842.32	1,558.29	0.03
MORGAN STANLEY ASIA LTD	79,819.97	67.73	0.00
MORGAN STANLEY DEAN WITTER AUSTRALIA	33,069.87	109.25	0.00
MORGAN STANLEY INDIA COMPANY PVT LTD	239,367.88	785.54	0.00
MORGAN STANLEY TAIWAN LIMITED	24,162.74	43.71	0.00
NATIONAL FINANCIAL SERVICES LLC	1,587.75	36.38	0.02
NH INVESTMENT AND SECURITIES CO.,LTD.	1,248.31	92.44	0.07
NIGERIAN STOCK EXCHANGE,THE	1,015,110.31	950.17	0.00
NORDEA BANK AB (PUBL), FINNISH BRANCH	21,619.96	120.46	0.01
NUMIS SECURITIES LIMITED	21,264.21	86.57	0.00
ODDO ET CIE	1,939.59	21.74	0.01
PEEL HUNT LLP	467,349.82	87.37	0.00
RAIFFEISEN ZENTRALBANK OESTERREICH AG	23,939.58	217.90	0.01
RENAISSANCE CAPITAL (KENYA) LIMITED	442,740.24	1,003.89	0.00
SAMSUNG SECURITIES CO LTD	16,564.07	1,236.30	0.07
SANFORD C. BERNSTEIN AND CO. LLC	301,149.74	1,687.90	0.01
SCOTIA CAPITAL (USA) INC	71,169.52	141.53	0.00
SCOTIA CAPITAL INC	17,684.82	102.44	0.01
SG AMERICAS SECURITIES LLC	1,232,331.85	1,514.25	0.00
SG ASIA SECURITIES (INOIA) PVT LTD	329,970.48	745.06	0.00
SG SECURITIES (LONDON) LTD.	1,742,553.62	574.48	0.00
SG SECURITIES HK	10,595,501.43	2,774.12	0.00
SKANDINAVISKA ENSKILDA BANKEN	265.24	0.61	0.00
SMBC NIKKO CAPITAL MARKETS LIMITED	62,096.76	3,560.57	0.06
SMBC NIKKO SECURITIES (HONK KONG) LTD	18,514.14	197.33	0.01
SOCIETE GENERALE	106,102.97	497.95	0.00
TAIWAN DEPOSITORY CLEARING CORPORATION	42,059.46	411.59	0.01
THE HONGKONG AND SHANGHAI BANK	111,622.41	773.43	0.01
TORONTO DOMINION SECURITIES INC	58,604.05	332.44	0.01
TUNISIE VALEURS	22,258.41	703.93	0.03
UBS SECURITIES CANADA INC	269,371.61	1,978.08	0.01
UBS SECURITIES INDIA PRIVATE LTD	40,051.52	139.82	0.00
UBS SECURITIES PTE.LTD	237,543.03	79.01	0.00
UBS SECURITIES PTE.LTD., SEOUL	31,115.73	1,117.67	0.04
UBS WARBURG AUSTRALIA EQUITIES	375,434.88	571.16	0.00
UBS WARBURG LLC	4,778.95	42.04	0.01
UNITED FINANCIAL INVESTMENTS PLC	4,939.42	165.27	0.03

**Schedule of Broker's Commissions QPP
For Fiscal Year Ended June 30, 2019**

Schedule 4A

Broker Name	Number of Shares Traded	Commission paid	Average cost Per Share
US BANCORP INVESTMENTS INC	-	\$ -	\$ -
VIRTU FINANCIAL IRELAND LIMITED	7,284.09	14.60	0.00
WINTERFLOOD SECURITIES LTD	8,736.44	20.80	0.00
WOOD AND COMPANY	840,948.42	415.96	0.00
XP INVESTIMENTOS CCTVM SA	97,843.76	159.81	0.00
ZANNEX SECURITIES	116,093.60	102.00	0.00
GRAND TOTAL	386,464,972.38	\$ 1,180,179.42	\$ 0.00

Investment Summary

Fire Combined Funds

Year Ended June 30, 2019

(Dollar amount in thousands)

	<u>Market Value</u>	<u>Percent of Total Market Value</u>
Type of Investment:		
Short Term Investments:		
Commercial paper	\$ 264,720	1.64%
Short Term Investments	72,169	0.45%
U.S. Treasury Bills	7,208	0.04%
Discount notes	109,380	0.68%
Total Short-Term	453,477	2.81%
Debt securities:		
U.S. Govt Securities and Agency	1,537,673	9.53%
Corporate and Other	2,352,482	14.59%
Total debt securities	3,890,155	24.12%
Equities Securities:	4,725,953	29.30%
International equity	154,311	0.96%
Alternative investments:		
Infrastructure	125,285	0.78%
Opportunistic fixed income	405,346	2.51%
Private equity	939,362	5.82%
Private real estate	609,421	3.78%
Hedge Funds	868,419	5.38%
Total Alternative investments	2,947,833	18.28%
Collective trust funds:		
Bank Loans	105,615	0.65%
Corporate and other	113,086	0.70%
International equity	2,309,409	14.32%
Domestic equity	180,210	1.12%
Mortgage debt security	130,502	0.81%
Opportunistic Fixed income	48,113	0.30%
Treasury Inflation -protected securities	158,200	0.98%
U.S. Government and agency	118,289	0.73%
Total collective trust funds:	3,163,424	19.62%
Collateral from Securities Lending	792,150	4.91%
Total Market Value	\$ 16,127,303	100%

New York City Fire Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Actuarial Section

Part IV

Fiscal Year Ended June 30, 2019

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OFFICE OF THE ACTUARY

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SHERRY S. CHAN
CHIEF ACTUARY

December 6, 2019

Board of Trustees
New York City Fire Pension Fund
1 Battery Park Plaza 9th Floor
New York, NY 10004

Re: Actuarial Information for the Comprehensive Annual Financial Report (CAFR) for the Fiscal Year Ended June 30, 2019

Dear Members of the Board of Trustees:

The financial objective of the New York City Fire Pension Fund (FIRE 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. June 30, 2017 (Lag) actuarial valuation to determine Fiscal Year 2019 Employer Contributions (the 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 2019, the Actuarial Contributions to FIRE, 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 27, 2019, the Actuary published the "Fiscal Year 2019 GASB67/68 Report for the City of New York and the New York City Retirement Systems" (the Fiscal Year 2019 GASB67/68 Report). Appendix E of the Fiscal Year 2019 GASB67/68 Report contains information developed in accordance with the GASB67 for FIRE.

Actuarial Assumptions and Methods

The Actuary issued a Report entitled, “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 Fire Pension Fund,” dated January 23, 2019. The actuarial assumptions and methods described in that report were adopted by the Board of Trustees at the February 27, 2019 Board meeting and are referred to as the “2019 A&M.” These new actuarial assumptions and methods are effective beginning with Fiscal Year 2019.

These actuarial assumptions and methods used for funding purposes meet the parameters set forth by the Actuarial Standards of Practice (ASOPs).

Benefits and Census Data

A summary of the benefits applicable to Plan members included in the June 30, 2017 (Lag) actuarial valuation is shown in the Introductory Section of this CAFR. There are no changes in any of the plan provisions since the prior year.

Census data is submitted by the Plan’s administrative staff and by the employer’s payroll facilities and is reviewed by the Office of the Actuary (OA) for consistency and reasonability.

A summary of the census data used in the June 30, 2017 (Lag) actuarial valuation is included in this CAFR. A summary of the census data used in the June 30, 2016 (Lag) actuarial valuation of the Plan is available in the Fiscal Year 2018 CAFR.

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 CAFR is a schedule of funded status based on the Entry Age Normal cost method (Table 13).

Also included in the Actuarial Section of the CAFR is a Solvency Test (i.e. Comparative Summary of Accrued Liabilities Funded by Actuarial Value of Assets) (Table 14), 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 CAFR were prepared by the OA:

- Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2017 (Lag) Actuarial Valuation.
- Active Member Valuation Data.
- Summary of Plan Membership.
- Retirees and Beneficiaries Added to and Removed from Rolls.
- Statutory vs. Actuarial Contributions.
- 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 CAFR 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.

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

Board of Trustees
New York City Fire Pension Fund
December 6, 2019
Page 4

Acknowledgment 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: Mr. Craig Chu - New York City Office of the Actuary
Mr. Albert Connolly - New York City Fire Pension Fund
Ms. Maureen Dale - New York City Fire Pension Fund
Mr. Patrick Dunn - New York City Fire Pension Fund
Mr. Edward Hue - New York City Office of the Actuary
Mr. Anderson Huynh - New York City Office of the Actuary
Mr. Michael Samet - New York City Office of the Actuary
Keith Snow, Esq. - New York City Office of the Actuary
Ms. Lei Tian - New York City Fire Pension Fund

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (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.

Based on the most recent actuarial experience study and recommendations prepared by Bolton, Inc. in their 10-year experience study ending on June 30, 2017, the Actuary issued a Report entitled, "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 Fire Pension Fund," dated January 23, 2019. The actuarial assumptions and methods described in that report were adopted by the Board of Trustees at the February 27, 2019 Board meeting and are referred to as the "2019 A&M." These new actuarial assumptions and methods are effective beginning with Fiscal Year 2019.

2. The Actuarial Interest Rate (AIR) assumption is 7.0% per annum, net of investment expenses.
3. Active service tables are used to estimate various withdrawals from active service. Probabilities are shown in Tables 1 and 2 for members withdrawing from active service for service retirement, Table 3 for members terminating from active service without employer-provided benefits or with vested benefits, and in Tables 4 and 5 for members withdrawing from active service due to disability or death, respectively.
4. The service retiree mortality, disabled retiree mortality, and beneficiary mortality base tables are projected from 2012 using mortality improvement scale MP-2018. The base tables are also multiplied by adjustment factors to convert them 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 6a and 6b, respectively, and for beneficiaries in Table 6c.

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

5. A salary scale is used to estimate salaries at termination, retirement, or death. Percentage increases are shown in Table 7. The salary scale includes a General Wage Increase (GWI) assumption of 3.0% per annum.
6. The salary data was adjusted to reflect overtime earnings. A Baseline Overtime assumption is applied to most years and a separate overtime assumption, known as a Dual Overtime assumption, is applied to the years included in the calculation of Final Salary or Final Average Salary. Baseline Overtime and Dual Overtime percentages are shown in Table 8.
7. 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.
8. The valuation assumes a closed group of members.
9. The Entry Age Normal (EAN) cost method of funding is used by the Actuary to calculate the Employer Contribution.

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 Actuarial Value of Assets (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 FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

10. 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 Fiscal Year XX employer contributions.

- a. Normal Cost: The normal cost as of June 30, XX-2 is rolled forward with the AIR of 7.0% to derive the mid-year normal cost for Fiscal Year XX.
- 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 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.

11. The Actuarial Asset Valuation Method (AAVM) recognizes investment returns greater or less than expected over a period of six years.

In accordance with this AAVM, actual Unexpected Investment Returns (UIR) are phased into the AVA at rates of 15%, 15%, 15%, 15%, 20%, and 20% per year (i.e. cumulative rates of 15%, 30%, 45%, 60%, 80%, and 100% over a period of six years).

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

12. The obligations of FIRE to the Firefighters' Variable Supplements Fund (FFVSF) and the Fire Officers' Variable Supplements Fund (FOVSF) are recognized through a methodology where the PV of future VSF transfers from FIRE to the FFVSF and FOVSF is included directly as an actuarial liability of FIRE. This amount is computed as the excess, if any, of the PV of benefits of the FFVSF and FOVSF over the AVA of the FFVSF and FOVSF, respectively. Under EAN, a portion of the PV of future VSF transfers is reflected in the PV of future normal costs and a portion is reflected in the UAL.

13. Obligations attributable to the WTC Disability Law and to the WTC Death Benefits Law are determined through the use of explicit assumptions in the 2019 A&M, and through estimation techniques for post-retirement reclassifications.

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 1		
PROBABILITIES OF SERVICE RETIREMENT RETIREMENT WITH FULL COLA/ESCALATION FOR THOSE ELIGIBLE FOR UNREDUCED		
Age	Years of Service Since First Eligible	
	Year 1	Ultimate
19	0.00%	0.00%
20	0.00%	0.00%
21	0.00%	0.00%
22	0.00%	0.00%
23	0.00%	0.00%
24	0.00%	0.00%
25	0.00%	0.00%
26	0.00%	0.00%
27	0.00%	0.00%
28	0.00%	0.00%
29	0.00%	0.00%
30	0.00%	0.00%
31	0.00%	0.00%
32	0.00%	0.00%
33	0.00%	0.00%
34	0.00%	0.00%
35	0.00%	0.00%
36	5.00%	0.00%
37	5.00%	0.00%
38	5.00%	1.50%
39	5.00%	1.50%
40	5.00%	1.50%
41	5.00%	1.50%
42	5.00%	1.50%
43	5.00%	1.50%
44	5.00%	1.50%
45	5.00%	1.50%
46	5.50%	1.50%
47	6.00%	1.50%
48	6.50%	1.50%
49	7.00%	1.50%
50	7.50%	1.50%
51	8.00%	1.50%
52	8.50%	2.25%
53	9.00%	3.00%
54	9.50%	3.75%
55	10.00%	4.50%
56	10.00%	5.25%
57	10.00%	6.00%
58	10.00%	6.75%
59	10.00%	7.50%
60	10.00%	9.00%
61	15.00%	11.25%
62	20.00%*	15.00%*
63	25.00%*	25.00%*
64	25.00%*	25.00%*
65	100.00%	100.00%

*100% for Tier 3, Tier 3 Modified, and Tier 3 Enhanced members.

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 2 PROBABILITIES OF EARLY SERVICE RETIREMENT FOR TIER 3, TIER 3 MODIFIED, AND TIER 3 ENHANCED MEMBERS		
Years of Service	Reduced Service Retirement	Unreduced Before Full Escalation
20	5.00%	N/A
21	2.00%	N/A
22	N/A	5.00%
23	N/A	2.00%
24	N/A	2.00%

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 3	
PROBABILITIES OF TERMINATION	
Years Of Service	Probability of Termination
0	2.00%
1	0.80%
2	0.40%
3	0.40%
4	0.40%
5	0.40%
6	0.36%
7	0.32%
8	0.28%
9	0.24%
10	0.20%
11	0.18%
12	0.16%
13	0.14%
14	0.12%
15	0.10%
16	0.10%
17	0.10%
18	0.10%
19	0.10%
20	N/A

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 4 PROBABILITIES OF DISABILITY RETIREMENT				
		Accidental Disability		
Age	Ordinary Disability	Tier 1 & Tier 2 Eligible for WTC Benefits	Tier 1 & Tier 2 Not Eligible for WTC AND Tier 3 Enhanced Plan	Tier 3 & Tier 3 Modified Non- Enhanced Plan
15	0.0025%	0.050%	0.035%	0.030%
16	0.0025%	0.050%	0.035%	0.030%
17	0.0025%	0.050%	0.035%	0.030%
18	0.0025%	0.050%	0.035%	0.030%
19	0.0025%	0.050%	0.035%	0.030%
20	0.0025%	0.050%	0.035%	0.030%
21	0.0025%	0.050%	0.035%	0.030%
22	0.0025%	0.050%	0.035%	0.030%
23	0.0025%	0.050%	0.035%	0.030%
24	0.0025%	0.050%	0.035%	0.030%
25	0.0025%	0.050%	0.035%	0.030%
26	0.0025%	0.090%	0.045%	0.040%
27	0.0050%	0.130%	0.055%	0.050%
28	0.0075%	0.170%	0.075%	0.070%
29	0.0100%	0.210%	0.115%	0.100%
30	0.0125%	0.250%	0.175%	0.150%
31	0.0150%	0.400%	0.275%	0.240%
32	0.0175%	0.550%	0.375%	0.330%
33	0.0200%	0.700%	0.475%	0.420%
34	0.0225%	0.850%	0.575%	0.510%
35	0.0250%	1.000%	0.700%	0.600%
36	0.0275%	1.200%	0.850%	0.720%
37	0.0300%	1.400%	1.000%	0.840%
38	0.0325%	1.600%	1.150%	0.960%
39	0.0350%	1.800%	1.300%	1.080%
40	0.0375%	2.000%	1.500%	1.200%
41	0.0400%	2.200%	1.650%	1.320%
42	0.0425%	2.400%	1.800%	1.440%
43	0.0450%	2.600%	1.950%	1.560%
44	0.0475%	2.800%	2.100%	1.680%
45	0.0500%	3.000%	2.300%	1.800%
46	0.0550%	3.400%	2.650%	1.920%
47	0.0600%	3.800%	3.000%	2.040%
48	0.0650%	4.200%	3.350%	2.160%
49	0.0700%	4.600%	3.700%	2.280%
50	0.0750%	5.000%	4.050%	2.400%
51	0.1100%	5.600%	4.400%	2.520%
52	0.1450%	6.200%	4.750%	2.640%
53	0.1800%	6.800%	5.100%	2.760%
54	0.2150%	7.400%	5.450%	2.880%
55	0.2500%	8.000%	5.800%	3.000%
56	0.5000%	10.000%	8.000%	4.000%
57	0.7500%	12.000%	10.000%	5.000%
58	1.0000%	15.000%	12.500%	6.000%
59	1.2500%	18.000%	15.000%	7.000%
60	1.5000%	21.000%	17.500%	8.000%
61	2.0000%	25.000%	20.000%	9.000%
62	2.5000%*	30.000%	22.000%*	N/A
63	2.5000%*	30.000%	22.000%*	N/A
64	2.5000%*	30.000%	22.000%*	N/A
65	N/A	N/A	N/A	N/A

*N/A for Tier 3, Tier 3 Modified, and Tier 3 Enhanced members.

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 5			
PROBABILITIES OF ACTIVE MEMBER MORTALITY			
Age	Ordinary Death		Accidental Death
	Males	Females	All
15	0.020%	0.015%	0.010%
16	0.020%	0.015%	0.010%
17	0.020%	0.015%	0.010%
18	0.020%	0.015%	0.010%
19	0.020%	0.015%	0.010%
20	0.020%	0.015%	0.010%
21	0.020%	0.015%	0.010%
22	0.020%	0.015%	0.010%
23	0.020%	0.015%	0.010%
24	0.020%	0.015%	0.010%
25	0.020%	0.015%	0.010%
26	0.020%	0.015%	0.010%
27	0.020%	0.015%	0.010%
28	0.020%	0.015%	0.010%
29	0.020%	0.015%	0.010%
30	0.020%	0.015%	0.010%
31	0.020%	0.015%	0.010%
32	0.020%	0.015%	0.010%
33	0.020%	0.015%	0.010%
34	0.020%	0.015%	0.010%
35	0.020%	0.015%	0.010%
36	0.021%	0.016%	0.010%
37	0.022%	0.017%	0.010%
38	0.023%	0.018%	0.010%
39	0.024%	0.019%	0.010%
40	0.025%	0.020%	0.010%
41	0.030%	0.023%	0.013%
42	0.035%	0.026%	0.016%
43	0.040%	0.029%	0.019%
44	0.045%	0.032%	0.022%
45	0.050%	0.035%	0.025%
46	0.055%	0.038%	0.030%
47	0.060%	0.041%	0.035%
48	0.065%	0.044%	0.040%
49	0.070%	0.047%	0.045%
50	0.075%	0.050%	0.050%
51	0.080%	0.055%	0.060%
52	0.085%	0.060%	0.070%
53	0.090%	0.065%	0.080%
54	0.095%	0.070%	0.090%
55	0.100%	0.075%	0.100%
56	0.110%	0.080%	0.110%
57	0.120%	0.085%	0.120%
58	0.130%	0.090%	0.130%
59	0.140%	0.095%	0.140%
60	0.150%	0.100%	0.150%
61	0.160%	0.110%	0.200%
62	0.170%*	0.120%*	0.250%*
63	0.180%*	0.130%*	0.300%*
64	0.190%*	0.140%*	0.350%*
65	N/A	N/A	N/A

*Probabilities are N/A for Tier 3, Tier 3 Modified, and Tier 3 Enhanced members.

NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 6a					
PROBABILITIES OF MORTALITY FOR SERVICE RETIREES					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0100%	0.0084%	68	1.2063%	0.7604%
16	0.0135%	0.0103%	69	1.2653%	0.8243%
17	0.0181%	0.0112%	70	1.4084%	0.9061%
18	0.0217%	0.0131%	71	1.5806%	0.9954%
19	0.0240%	0.0140%	72	1.7538%	1.0940%
20	0.0251%	0.0142%	73	1.9842%	1.2060%
21	0.0268%	0.0150%	74	2.2163%	1.3283%
22	0.0284%	0.0158%	75	2.4510%	1.4362%
23	0.0301%	0.0168%	76	2.6879%	1.6455%
24	0.0315%	0.0179%	77	2.9280%	1.8563%
25	0.0327%	0.0191%	78	3.3690%	2.0670%
26	0.0342%	0.0204%	79	3.8155%	2.3446%
27	0.0354%	0.0217%	80	4.2660%	2.6218%
28	0.0371%	0.0231%	81	4.7728%	2.8997%
29	0.0394%	0.0247%	82	5.2958%	3.1772%
30	0.0427%	0.0265%	83	6.2483%	3.4554%
31	0.0503%	0.0323%	84	7.2266%	3.9664%
32	0.0581%	0.0372%	85	8.2335%	4.4805%
33	0.0655%	0.0415%	86	9.2715%	4.9967%
34	0.0725%	0.0448%	87	10.3365%	5.5147%
35	0.0799%	0.0478%	88	11.2397%	6.0388%
36	0.0851%	0.0505%	89	12.1663%	7.0317%
37	0.0901%	0.0532%	90	13.1242%	8.0312%
38	0.0961%	0.0561%	91	14.6163%	9.4265%
39	0.1037%	0.0595%	92	16.2757%	10.8698%
40	0.1138%	0.0634%	93	18.9667%	12.3822%
41	0.1230%	0.0688%	94	21.5036%	13.7895%
42	0.1327%	0.0725%	95	23.9289%	15.2575%
43	0.1430%	0.0775%	96	25.8261%	16.7330%
44	0.1542%	0.0843%	97	27.5777%	18.2626%
45	0.1666%	0.0931%	98	29.2887%	19.6947%
46	0.1798%	0.1041%	99	30.8020%	21.1460%
47	0.1941%	0.1166%	100	32.1584%	22.1859%
48	0.2093%	0.1295%	101	33.7521%	23.0680%
49	0.2250%	0.1425%	102	35.1259%	24.0803%
50	0.2412%	0.1555%	103	36.3671%	25.2770%
51	0.2975%	0.1681%	104	37.3834%	26.6309%
52	0.3514%	0.1797%	105	38.1051%	28.0912%
53	0.4018%	0.1902%	106	38.4698%	29.6244%
54	0.4483%	0.1996%	107	38.6325%	31.1943%
55	0.4895%	0.2075%	108	38.8076%	32.7579%
56	0.5352%	0.2144%	109	38.9794%	34.2712%
57	0.5757%	0.2629%	110	50.0000%	50.0000%
58	0.6104%	0.3090%	111	50.0000%	50.0000%
59	0.6391%	0.3530%	112	50.0000%	50.0000%
60	0.6625%	0.3957%	113	50.0000%	50.0000%
61	0.7126%	0.4377%	114	50.0000%	50.0000%
62	0.7621%	0.4800%	115	50.0000%	50.0000%
63	0.8255%	0.5231%	116	50.0000%	50.0000%
64	0.9079%	0.5675%	117	50.0000%	50.0000%
65	0.9997%	0.6138%	118	50.0000%	50.0000%
66	1.0607%	0.6613%	119	50.0000%	50.0000%
67	1.1308%	0.7103%	120	100.0000%	100.0000%

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 6b					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0238%	0.0098%	68	1.5909%	1.2517%
16	0.0321%	0.0120%	69	1.7622%	1.4342%
17	0.0433%	0.0131%	70	1.9120%	1.6327%
18	0.0517%	0.0153%	71	2.1153%	1.8400%
19	0.0573%	0.0164%	72	2.3101%	2.0561%
20	0.0608%	0.0173%	73	2.4968%	2.2946%
21	0.0660%	0.0191%	74	2.6752%	2.5649%
22	0.0716%	0.0211%	75	2.8786%	2.8625%
23	0.0772%	0.0234%	76	3.2717%	3.1737%
24	0.0831%	0.0259%	77	3.6597%	3.4562%
25	0.0886%	0.0282%	78	4.0420%	3.7889%
26	0.0936%	0.0307%	79	4.4200%	4.3087%
27	0.1008%	0.0332%	80	4.8490%	4.8485%
28	0.1089%	0.0359%	81	5.6563%	5.4107%
29	0.1170%	0.0386%	82	6.4729%	5.8954%
30	0.1254%	0.0412%	83	7.2988%	6.3864%
31	0.1342%	0.0438%	84	8.1300%	7.2278%
32	0.1426%	0.0464%	85	8.9696%	8.0743%
33	0.1544%	0.0491%	86	9.7646%	8.8707%
34	0.1602%	0.0506%	87	10.5803%	9.6600%
35	0.1670%	0.0528%	88	11.4245%	10.5768%
36	0.1696%	0.0551%	89	12.3269%	11.9527%
37	0.1721%	0.0580%	90	13.2834%	13.2782%
38	0.1754%	0.0608%	91	15.7515%	14.7506%
39	0.1792%	0.0648%	92	18.1410%	15.8458%
40	0.1836%	0.0709%	93	20.4240%	16.9974%
41	0.1891%	0.0790%	94	22.5700%	18.2075%
42	0.1957%	0.0892%	95	24.6643%	19.3408%
43	0.2038%	0.1023%	96	26.5127%	20.3502%
44	0.2134%	0.1184%	97	28.2029%	21.2709%
45	0.2247%	0.1371%	98	29.5441%	21.9254%
46	0.2374%	0.1586%	99	30.9728%	22.3227%
47	0.2518%	0.1824%	100	32.1584%	22.4341%
48	0.2672%	0.2079%	101	33.7521%	23.0680%
49	0.2837%	0.2388%	102	35.1259%	24.0803%
50	0.3022%	0.2719%	103	36.3671%	25.2770%
51	0.3597%	0.2959%	104	37.3834%	26.6309%
52	0.4188%	0.3426%	105	38.1051%	28.0912%
53	0.4788%	0.3791%	106	38.4698%	29.6244%
54	0.5392%	0.4326%	107	38.6325%	31.1943%
55	0.5986%	0.4868%	108	38.8076%	32.7579%
56	0.6556%	0.5294%	109	38.9794%	34.2712%
57	0.7090%	0.5421%	110	50.0000%	50.0000%
58	0.7577%	0.5621%	111	50.0000%	50.0000%
59	0.8017%	0.6003%	112	50.0000%	50.0000%
60	0.8498%	0.6343%	113	50.0000%	50.0000%
61	0.9095%	0.6687%	114	50.0000%	50.0000%
62	0.9862%	0.7391%	115	50.0000%	50.0000%
63	1.0698%	0.8094%	116	50.0000%	50.0000%
64	1.1631%	0.8897%	117	50.0000%	50.0000%
65	1.2477%	0.9710%	118	50.0000%	50.0000%
66	1.3403%	1.0569%	119	50.0000%	50.0000%
67	1.4168%	1.1551%	120	100.0000%	100.0000%

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 6c					
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 FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 7		
ANNUAL RATES OF MERIT AND SALARY INCREASE		
Years of Service	Merit Increase	Salary Increase*
0	20.00%	23.00%
1	12.00%	15.00%
2	12.00%	15.00%
3	12.00%	15.00%
4	27.00%	30.00%
5	16.00%	19.00%
6	1.65%	4.65%
7	1.80%	4.80%
8	1.95%	4.95%
9	4.05%	7.05%
10	2.25%	5.25%
11	2.40%	5.40%
12	2.55%	5.55%
13	2.70%	5.70%
14	4.65%	7.65%
15	3.00%	6.00%
16	2.85%	5.85%
17	2.70%	5.70%
18	2.55%	5.55%
19	4.20%	7.20%
20	2.25%	5.25%
21	2.10%	5.10%
22	1.95%	4.95%
23	1.80%	4.80%
24	1.65%	4.65%
25	1.50%	4.50%
26	1.35%	4.35%
27	1.20%	4.20%
28	1.05%	4.05%
29	0.90%	3.90%
30+	0.75%	3.75%

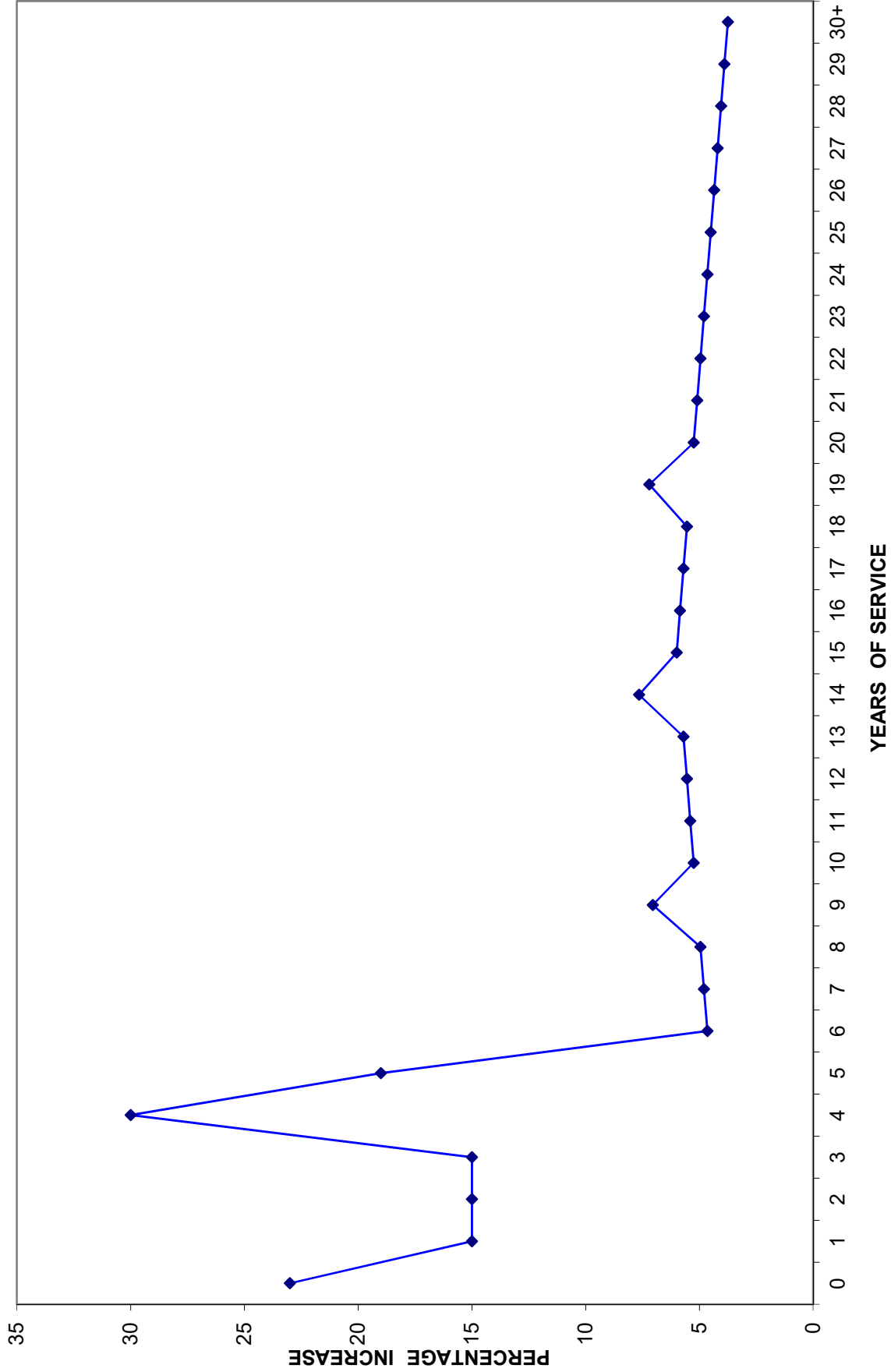
*Salary Increase is the General Wage Increase of 3.00% plus the Merit Increase.

Actuarial Section

New York City Fire Pension Fund

SALARY SCALE

(From Table 7 Data)



NEW YORK CITY FIRE PENSION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 8				
OVERTIME ASSUMPTION				
Years of Service	All Tiers Baseline	Tier 1 & Tier 2 Dual Service	Tier 3, Tier 3 Modified, & Enhanced Dual Service	All Tiers Dual Disability
0-13	20.00%	21.00%	21.00%	20.00%
14	20.00%	22.00%	21.00%	20.00%
15	20.00%	24.00%	21.00%	20.00%
16	20.00%	25.00%	22.00%	21.00%
17	20.00%	26.00%	24.00%	22.00%
18	21.00%	28.00%	25.00%	24.00%
19	22.00%	29.00%	26.00%	25.00%
20	24.00%	30.00%	28.00%	26.00%
21	22.00%	29.00%	26.00%	25.00%
22	21.00%	28.00%	25.00%	24.00%
23	20.00%	26.00%	24.00%	22.00%
24	19.00%	25.00%	22.00%	21.00%
25	17.00%	24.00%	21.00%	20.00%
26	16.00%	21.00%	19.00%	17.00%
27	15.00%	19.00%	18.00%	15.00%
28	13.00%	16.00%	15.00%	13.00%
29	12.00%	15.00%	13.00%	12.00%
30	11.00%	13.00%	12.00%	11.00%
31	9.00%	12.00%	11.00%	10.00%
32	8.00%	11.00%	9.00%	8.00%
33	7.00%	9.00%	8.00%	7.00%
34+	7.00%	8.00%	8.00%	7.00%

NEW YORK CITY FIRE PENSION FUND

Table 9				
ACTIVE MEMBER VALUATION DATA				
June 30 (Lag) Actuarial Valuation	Number	Annual Salary	Average Annual Salary	Percentage Increase/ (Decrease) In Avg. Salary
2008	11,574	1,051,591,517	90,858	4.7%
2009	11,460	1,079,682,340	94,213	3.7%
2010	11,080	1,138,187,795	102,725	9.0%
2011	10,650	1,125,459,668	105,677	2.9%
2012	10,267	1,106,113,386	107,735	1.9%
2013	10,182	1,129,706,314	110,951	3.0%
2014	10,319	1,150,389,645	111,483	0.5%
2015	10,780	1,164,994,036	108,070	(3.1%)
2016	10,951	1,180,226,281	107,773	(0.3%)
2017	11,091	1,256,001,332	113,245	5.1%

Salaries shown are base salaries plus assumed overtime paid and reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

NEW YORK CITY FIRE PENSION FUND

As of the June 30, 2017 (Lag) and June 30, 2016 (Lag) actuarial valuations, the Plan's membership consisted of:

Table 10		
SUMMARY OF PLAN MEMBERSHIP		
Group	June 30, 2017 (Lag)	June 30, 2016 (Lag)
Active members	11,091	10,951
Active off payroll ¹	15	21
Terminated vested members not yet receiving benefits	58	58
Retirees and beneficiaries currently receiving benefits	<u>16,636</u>	<u>16,647</u>
Total	27,800	27,677

¹Represents members who are no longer on payroll but not otherwise classified.

NEW YORK CITY FIRE PENSION FUND

Table 11

RETIRES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS

June 30 (Lag) Actuarial Valuation	Added to Rolls		Removed from Rolls		End of Year Rolls		% Increase In Annual Allowances	Average Annual Allowances
	Number	Annual Allowances ¹	Number	Annual Allowances	Number	Annual Allowances ²		
2008	616	62,100,681	691	23,260,349	17,404	833,347,159	4.9%	47,883
2009	476	49,098,185	617	20,247,862	17,263	862,197,482	3.5%	49,945
2010	556	54,883,701	679	25,161,316	17,140	891,919,867	3.4%	52,037
2011	653	64,843,804	776	35,553,289	17,017	921,210,382	3.3%	54,135
2012	538	58,288,645	638	26,379,782	16,917	953,119,245	3.5%	56,341
2013	453	54,522,199	563	23,448,369	16,807	984,193,075	3.3%	58,559
2014	490	54,256,974	534	23,299,539	16,763	1,015,150,510	3.1%	60,559
2015	500	59,578,951	553	22,526,507	16,710	1,052,202,954	3.6%	62,968
2016	498	110,481,515	561	22,667,718	16,647	1,140,016,751	8.3%	68,482
2017	497	77,245,492	508	21,127,518	16,636	1,196,134,725	4.9%	71,900

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

²Allowances 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 FIRE PENSION FUND

Table 12			
STATUTORY VS ACTUARIAL CONTRIBUTIONS			
Fiscal Year Ended June 30	Statutory Contribution¹	Actuarial Contribution	Employer Rate of Contribution²
2010	\$ 874,331,450	\$ 874,331,450	82.5%
2011	890,706,067	890,706,067	82.2%
2012	976,895,415	976,895,415	85.0%
2013	962,173,241	962,173,241	85.2%
2014	969,955,923	969,955,923	88.0%
2015	988,783,932	988,783,932	88.9%
2016	1,054,477,631	1,054,477,631	93.4%
2017	1,061,169,993	1,061,169,993	92.6%
2018	1,200,417,052	1,200,417,052	103.1%
2019	1,398,565,399	1,398,565,399	109.9%

¹ Represents total employer contributions accrued for fiscal year.

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

NEW YORK CITY FIRE PENSION FUND

FUNDED STATUS BASED ON ENTRY AGE NORMAL COST METHOD

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

The funding status and funding progress information provided in the schedule below has been prepared using the Entry Age Normal (EAN) cost method where the Present Value (PV) of any obligations of the Plan not provided by the PV of Future Contributions (Employer and Employee), as determined under the EAN cost method, equals the Accrued Liability (AL). Under, the EAN cost method, the UAL equals the AL minus the Actuarial Value of Assets.

Table 13						
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)¹	(3) Unfunded AL (UAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAL as a % of Covered Payroll (3) / (5)
2008	6,942,992	12,313,206	5,370,214	56.4%	1,051,592	510.7%
2009	7,304,758	12,864,974	5,560,216	56.8%	1,079,682	515.0%
2010	7,392,656	15,349,598	7,956,942	48.2%	1,138,188	699.1%
2011	7,955,668	15,808,930	7,853,262	50.3%	1,125,460	697.8%
2012	8,520,769	16,358,108	7,837,339	52.1%	1,106,113	708.5%
2013	9,144,587	17,003,722	7,859,135	53.8%	1,129,706	695.7%
2014	9,808,854	18,028,695	8,219,841	54.4%	1,150,390	714.5%
2015	10,504,728	18,688,642	8,183,914	56.2%	1,164,994	702.5%
2016	11,082,451	20,125,429	9,042,978	55.1%	1,180,226	766.2%
2017	11,814,576	20,942,655	9,128,079	56.4%	1,256,001	726.8%

¹ AL includes the accrued liabilities attributable to the Variable Supplements Funds, net of their Actuarial Asset Values, if any.

NEW YORK CITY FIRE PENSION FUND
COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED
BY ACTUARIAL VALUE OF ASSETS

Table 14
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 Contribution	Current Retirees and Beneficiaries	Active Members' Employer-Financed Portion				
2008	784,897	7,961,318	3,352,573	6,942,992	100%	77%	0%
2009	864,004	8,188,720	3,525,921	7,304,758	100	79	0
2010	948,223	9,695,971	4,831,637	7,392,656	100	66	0
2011	1,037,070	9,949,809	4,872,536	7,955,668	100	70	0
2012	1,106,357	10,270,585	4,972,364	8,520,769	100	72	0
2013	1,182,541	10,535,634	5,180,594	9,144,587	100	76	0
2014	1,281,357	11,147,573	5,486,998	9,808,854	100	76	0
2015	1,555,635	11,602,492	5,385,217	10,504,728	100	77	0
2016	1,609,720	12,822,895	5,560,855	11,082,451	100	74	0
2017	1,732,512	13,442,139	8,324,377	11,814,576	100	75	0

See following "SOLVENCY TEST - NOTES."

NEW YORK CITY FIRE PENSION FUND

COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS

SOLVENCY TEST - NOTES

The ultimate test of financial soundness in a pension fund 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.

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

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

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. Beginning with the June 30, 2010 (Lag) actuarial valuation, the Actuarial Interest Rate assumption equals 7.0% per annum, net of investment expenses, and the General Wage Increase assumption equals 3.0% per annum. Prior to the June 30, 2010 (Lag) actuarial valuation, the Actuarial Interest Rate assumption was 8.0% per annum, gross of expenses. The two most recent changes in assumptions and methods occurred in the June 30, 2017 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2019 and in the June 30, 2014 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2016.

NEW YORK CITY FIRE PENSION FUND

CONTRIBUTIONS

The benefits of the Fund are financed by the employee and employer contributions and from investment earnings of the Fund.

A. MEMBER CONTRIBUTIONS

For Tier 1 and Tier 2 members, member contributions are made on the basis of a normal rate of contribution that is assigned by the Plan at the time of membership. The normal rate, which is dependent upon the member's age and the Plan at the time of membership, as well as the tables in effect for such purpose, is determined to provide an annuity of approximately one-fourth of the service retirement allowance at the earliest date for service retirement. Members may voluntarily increase their rates of contribution by 50% for the purpose of purchasing an additional annuity.

Tier 3, Tier 3 Modified, and Tier 3 Enhanced Plan members contribute 3.0% of annual wages for a maximum of 25 years.

Tier 3 Enhanced Plan members are required to contribute an additional 2.1% of salary for a maximum of 25 years.

Contributions from members are recorded when the employer makes payroll deductions from Plan members. Tier 1 and Tier 2 members are permitted to borrow up to 90% of their own contributions including accumulated interest. These loans are accounted for as reductions in such member's contribution accounts.

Loans are not permitted for Tier 3, Tier 3 Modified, and Tier 3 Enhanced Plan members.

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 employer.

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

NEW YORK CITY FIRE PENSION FUND

Table 15
AVERAGE ANNUAL BENEFIT PAYMENT AMOUNTS

June 30 (Lag) Valuation Date	Service Retirement Benefits		Accidental (Line-of-Duty) Disability Benefits		Ordinary (Non-Line-of-Duty) Disability Benefits		Survivor Benefits	
	Number	Average Annual Allowance	Number	Average Annual Allowance	Number	Average Annual Allowance	Number	Average Annual Allowance
	2008	6,353	39,078	8,149	60,825	1,284	46,484	1,618
2009	6,194	39,908	8,331	63,286	1,217	47,398	1,521	19,782
2010	5,957	40,347	8,593	65,741	1,167	48,219	1,423	21,354
2011	5,830	41,390	8,740	68,105	1,110	48,767	1,337	22,844
2012	5,646	42,116	8,943	70,653	1,057	49,511	1,271	24,505
2013	5,487	43,289	9,094	73,041	1,012	49,840	1,214	26,354
2014	5,427	44,659	9,223	75,043	959	50,722	1,154	27,752
2015	5,305	45,932	9,390	77,701	904	51,059	1,111	29,485
2016	5,174	47,341	9,560	81,136	853	52,007	1,060	70,802
2017	5,086	49,543	9,738	84,713	787	52,899	1,025	75,701

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New York City Fire Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Appendix A

Census Data for Active Members

As of June 30, 2019

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NEW YORK CITY FIRE PENSION FUND
 DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
 FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS

MALES

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	0	0	0	0	0	0	0	0	0	0
20 TO 24	150	0	0	0	0	0	0	0	0	150
25 TO 29	1,127	43	0	0	0	0	0	0	0	1,170
30 TO 34	1,044	360	554	0	0	0	0	0	0	1,958
35 TO 39	143	257	1,432	413	6	0	0	0	0	2,251
40 TO 44	5	61	955	827	194	3	0	0	0	2,045
45 TO 49	0	3	215	666	525	165	1	0	0	1,575
50 TO 54	0	0	3	245	402	314	146	1	0	1,111
55 TO 59	0	0	1	3	93	174	175	93	0	539
60 TO 64	0	0	0	1	1	26	61	102	8	199
65 TO 69	0	0	1	0	3	0	1	1	0	6
70 & UP	0	0	0	0	0	0	0	0	0	0
TOTAL	2,469	724	3,161	2,155	1,224	682	384	197	8	11,004

SALARIES (IN THOUSANDS):

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	8,726	0	0	0	0	0	0	0	0	8,726
25 TO 29	68,237	3,148	0	0	0	0	0	0	0	71,385
30 TO 34	64,757	37,140	65,337	0	0	0	0	0	0	167,234
35 TO 39	8,916	29,484	172,789	52,548	830	0	0	0	0	264,567
40 TO 44	392	7,174	115,873	107,471	27,081	357	0	0	0	258,349
45 TO 49	0	389	25,963	86,716	75,215	24,411	134	0	0	212,828
50 TO 54	0	0	394	31,588	56,381	45,320	22,082	133	0	155,898
55 TO 59	0	0	157	429	12,754	23,845	25,896	14,774	0	77,855
60 TO 64	0	0	0	169	159	3,437	8,615	16,026	1,366	29,773
65 TO 69	0	0	157	0	475	0	159	133	0	924
70 & UP	0	0	0	0	0	0	0	0	0	0
TOTAL *	151,027	77,335	380,669	278,920	172,896	97,371	56,887	31,067	1,366	1,247,539

AVERAGE SALARIES: **

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	58,172	0	0	0	0	0	0	0	0	58,172
25 TO 29	60,548	73,211	0	0	0	0	0	0	0	61,013
30 TO 34	62,028	103,167	117,937	0	0	0	0	0	0	85,411
35 TO 39	62,346	114,722	120,663	127,235	138,411	0	0	0	0	117,533
40 TO 44	78,342	117,614	121,333	129,953	139,595	119,144	0	0	0	126,332
45 TO 49	0	129,547	120,757	130,204	143,267	147,948	134,342	0	0	135,129
50 TO 54	0	0	131,194	128,929	140,251	144,332	151,249	132,995	0	140,322
55 TO 59	0	0	156,997	142,960	137,136	137,043	147,976	158,865	0	144,444
60 TO 64	0	0	0	169,210	159,090	132,183	141,231	157,118	170,801	149,611
65 TO 69	0	0	156,997	0	158,392	0	159,090	132,995	0	154,043
70 & UP	0	0	0	0	0	0	0	0	0	0
TOTAL	61,169	106,816	120,427	129,429	141,255	142,773	148,142	157,698	170,801	113,371

Note: Age is last birthday. Service is completed years.

* Total may not add up due to rounding.

** Average based on unrounded salary.

NEW YORK CITY FIRE PENSION FUND
DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS

FEMALES

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	0	0	0	0	0	0	0	0	0	0
20 TO 24	3	0	0	0	0	0	0	0	0	3
25 TO 29	14	0	0	0	0	0	0	0	0	14
30 TO 34	13	3	2	0	0	0	0	0	0	18
35 TO 39	7	3	8	4	0	0	0	0	0	22
40 TO 44	0	2	10	5	1	0	0	0	0	18
45 TO 49	1	0	2	3	0	0	0	0	0	6
50 TO 54	0	0	0	0	2	0	0	0	0	2
55 TO 59	0	1	0	0	0	1	0	0	0	2
60 TO 64	0	0	0	0	0	0	0	0	0	0
65 TO 69	0	0	0	0	0	0	0	1	0	1
70 & UP	0	0	0	1	0	0	0	0	0	1
TOTAL	38	9	22	13	3	1	0	1	0	87

SALARIES (IN THOUSANDS):

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	169	0	0	0	0	0	0	0	0	169
25 TO 29	831	0	0	0	0	0	0	0	0	831
30 TO 34	852	222	196	0	0	0	0	0	0	1,269
35 TO 39	428	311	916	474	0	0	0	0	0	2,128
40 TO 44	0	272	1,206	605	124	0	0	0	0	2,207
45 TO 49	136	0	237	447	0	0	0	0	0	821
50 TO 54	0	0	0	0	322	0	0	0	0	322
55 TO 59	0	156	0	0	0	184	0	0	0	340
60 TO 64	0	0	0	0	0	0	0	0	0	0
65 TO 69	0	0	0	0	0	0	0	218	0	218
70 & UP	0	0	0	158	0	0	0	0	0	158
TOTAL *	2,415	961	2,555	1,684	446	184	0	218	0	8,463

AVERAGE SALARIES: **

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	56,445	0	0	0	0	0	0	0	0	56,445
25 TO 29	59,329	0	0	0	0	0	0	0	0	59,329
30 TO 34	65,508	73,936	97,814	0	0	0	0	0	0	70,502
35 TO 39	61,082	103,761	114,505	118,377	0	0	0	0	0	96,746
40 TO 44	0	136,058	120,598	121,090	123,830	0	0	0	0	122,632
45 TO 49	136,183	0	118,687	149,008	0	0	0	0	0	136,763
50 TO 54	0	0	0	0	160,914	0	0	0	0	160,914
55 TO 59	0	155,951	0	0	0	183,621	0	0	0	169,786
60 TO 64	0	0	0	0	0	0	0	0	0	0
65 TO 69	0	0	0	0	0	0	0	217,723	0	217,723
70 & UP	0	0	0	158,045	0	0	0	0	0	158,045
TOTAL	63,560	106,795	116,137	129,541	148,553	183,621	0	217,723	0	97,270

Note: Age is last birthday. Service is completed years.

* Total may not add up due to rounding.

** Average based on unrounded salary.

NEW YORK CITY FIRE PENSION FUND
DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS

MALES AND FEMALES

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	0	0	0	0	0	0	0	0	0	0
20 TO 24	153	0	0	0	0	0	0	0	0	153
25 TO 29	1,141	43	0	0	0	0	0	0	0	1,184
30 TO 34	1,057	363	556	0	0	0	0	0	0	1,976
35 TO 39	150	260	1,440	417	6	0	0	0	0	2,273
40 TO 44	5	63	965	832	195	3	0	0	0	2,063
45 TO 49	1	3	217	669	525	165	1	0	0	1,581
50 TO 54	0	0	3	245	404	314	146	1	0	1,113
55 TO 59	0	1	1	3	93	175	175	93	0	541
60 TO 64	0	0	0	1	1	26	61	102	8	199
65 TO 69	0	0	1	0	3	0	1	2	0	7
70 & UP	0	0	0	1	0	0	0	0	0	1
TOTAL	2,507	733	3,183	2,168	1,227	683	384	198	8	11,091

SALARIES (IN THOUSANDS):

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	8,895	0	0	0	0	0	0	0	0	8,895
25 TO 29	69,068	3,148	0	0	0	0	0	0	0	72,216
30 TO 34	65,609	37,362	65,533	0	0	0	0	0	0	168,503
35 TO 39	9,343	29,795	173,705	53,022	830	0	0	0	0	266,695
40 TO 44	392	7,447	117,079	108,076	27,205	357	0	0	0	260,556
45 TO 49	136	389	26,200	87,163	75,215	24,411	134	0	0	213,649
50 TO 54	0	0	394	31,588	56,703	45,320	22,082	133	0	156,220
55 TO 59	0	156	157	429	12,754	24,029	25,896	14,774	0	78,195
60 TO 64	0	0	0	169	159	3,437	8,615	16,026	1,366	29,773
65 TO 69	0	0	157	0	475	0	159	351	0	1,142
70 & UP	0	0	0	158	0	0	0	0	0	158
TOTAL *	153,442	78,296	383,224	280,604	173,342	97,555	56,887	31,284	1,366	1,256,001

AVERAGE SALARIES: **

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	58,138	0	0	0	0	0	0	0	0	58,138
25 TO 29	60,533	73,211	0	0	0	0	0	0	0	60,993
30 TO 34	62,071	102,926	117,865	0	0	0	0	0	0	85,275
35 TO 39	62,287	114,595	120,629	127,150	138,411	0	0	0	0	117,332
40 TO 44	78,342	118,200	121,325	129,899	139,514	119,144	0	0	0	126,300
45 TO 49	136,183	129,547	120,738	130,288	143,267	147,948	134,342	0	0	135,135
50 TO 54	0	0	131,194	128,929	140,354	144,332	151,249	132,995	0	140,359
55 TO 59	0	155,951	156,997	142,960	137,136	137,309	147,976	158,865	0	144,538
60 TO 64	0	0	0	169,210	159,090	132,183	141,231	157,118	170,801	149,611
65 TO 69	0	0	156,997	0	158,392	0	159,090	175,359	0	163,140
70 & UP	0	0	0	158,045	0	0	0	0	0	158,045
TOTAL	61,206	106,816	120,397	129,430	141,273	142,833	148,142	158,001	170,801	113,245

Note: Age is last birthday. Service is completed years.

* Total may not add up due to rounding.

** Average based on unrounded salary.

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New York City Fire Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Appendix B
Census Data for Pensioners
As of June 30, 2019

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NEW YORK CITY FIRE PENSION FUND
 DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
 FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS
 SUMMARY OF PENSIONERS BY CAUSE AND GENDER

AGE	MALE			FEMALE			ALL FILES (ALL BENEFITS) TOTAL		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
SERVICE RETIREMENT:									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	0	0	0	0	0	0
40 TO 44	9	665,485	73,943	0	0	0	9	665,485	73,943
45 TO 49	64	4,461,488	69,711	1	83,543	83,543	65	4,545,031	69,924
50 TO 54	188	14,053,196	74,751	0	0	0	188	14,053,196	74,751
55 TO 59	493	33,381,585	67,711	0	0	0	493	33,381,585	67,711
60 TO 64	678	42,286,779	62,370	4	184,774	46,194	682	42,471,553	62,275
65 TO 69	574	32,065,934	55,864	2	67,283	33,642	576	32,133,217	55,787
70 TO 74	761	36,585,079	48,075	0	0	0	761	36,585,079	48,075
75 TO 79	927	38,696,912	41,744	1	34,940	34,940	928	38,731,852	41,737
80 TO 84	770	28,234,706	36,668	0	0	0	770	28,234,706	36,668
85 TO 89	400	14,023,777	35,059	0	0	0	400	14,023,777	35,059
90 & UP	214	7,150,148	33,412	0	0	0	214	7,150,148	33,412
TOTAL	5,078	251,605,089	49,548	8	370,540	46,318	5,086	251,975,629	49,543
ORDINARY DISABILITY:									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	0	0	0	0	0	0
40 TO 44	8	306,834	38,354	0	0	0	8	306,834	38,354
45 TO 49	5	165,022	33,004	0	0	0	5	165,022	33,004
50 TO 54	14	486,275	34,734	0	0	0	14	486,275	34,734
55 TO 59	30	827,938	27,598	0	0	0	30	827,938	27,598
60 TO 64	42	1,043,786	24,852	1	29,148	29,148	43	1,072,934	24,952
65 TO 69	46	1,993,916	43,346	0	0	0	46	1,993,916	43,346
70 TO 74	77	5,076,051	65,923	0	0	0	77	5,076,051	65,923
75 TO 79	180	11,155,041	61,972	0	0	0	180	11,155,041	61,972
80 TO 84	186	10,585,495	56,911	0	0	0	186	10,585,495	56,911
85 TO 89	133	6,735,583	50,643	0	0	0	133	6,735,583	50,643
90 & UP	65	3,226,779	49,643	0	0	0	65	3,226,779	49,643
TOTAL	786	41,602,720	52,930	1	29,148	29,148	787	41,631,868	52,899
ACCIDENTAL DISABILITY:									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	14	1,288,653	92,047	1	68,560	68,560	15	1,357,213	90,481
35 TO 39	136	12,835,729	94,380	1	136,174	136,174	137	12,971,903	94,685
40 TO 44	322	30,473,160	94,637	0	0	0	322	30,473,160	94,637
45 TO 49	722	69,861,155	96,761	2	165,855	82,928	724	70,027,010	96,722
50 TO 54	1,296	128,978,411	99,520	1	103,932	103,932	1,297	129,082,343	99,524
55 TO 59	1,732	173,699,542	100,288	4	397,984	99,496	1,736	174,097,526	100,287
60 TO 64	1,747	164,191,642	93,985	5	372,646	74,529	1,752	164,564,288	93,929
65 TO 69	942	79,508,667	84,404	7	641,117	91,588	949	80,149,784	84,457
70 TO 74	834	57,551,862	69,007	0	0	0	834	57,551,862	69,007
75 TO 79	886	51,882,967	58,559	0	0	0	886	51,882,967	58,559
80 TO 84	685	33,800,663	49,344	1	66,694	66,694	686	33,867,357	49,369
85 TO 89	267	12,707,292	47,593	0	0	0	267	12,707,292	47,593
90 & UP	133	6,200,620	46,621	0	0	0	133	6,200,620	46,621
TOTAL	9,716	822,980,363	84,704	22	1,952,962	88,771	9,738	824,933,325	84,713

NEW YORK CITY FIRE PENSION FUND
 DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
 FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS
 SUMMARY OF PENSIONERS BY CAUSE AND GENDER

AGE	MALE			FEMALE			ALL FILES (ALL BENEFITS) TOTAL		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
ACCIDENTAL DEATH:									
UNDER 30	1	79,742	79,742	3	198,069	66,023	4	277,811	69,453
30 TO 34	0	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	3	226,776	75,592	3	226,776	75,592
40 TO 44	0	0	0	37	3,208,444	86,715	37	3,208,444	86,715
45 TO 49	0	0	0	73	7,210,068	98,768	73	7,210,068	98,768
50 TO 54	0	0	0	95	10,737,729	113,029	95	10,737,729	113,029
55 TO 59	0	0	0	120	14,843,396	123,695	120	14,843,396	123,695
60 TO 64	0	0	0	84	10,454,312	124,456	84	10,454,312	124,456
65 TO 69	3	194,106	64,702	58	7,076,117	122,002	61	7,270,223	119,184
70 TO 74	0	0	0	47	5,324,384	113,285	47	5,324,384	113,285
75 TO 79	0	0	0	48	4,654,422	96,967	48	4,654,422	96,967
80 TO 84	1	73,315	73,315	38	3,230,644	85,017	39	3,303,959	84,717
85 TO 89	0	0	0	15	1,234,463	82,298	15	1,234,463	82,298
90 & UP	0	0	0	17	689,467	40,557	17	689,467	40,557
TOTAL	5	347,163	69,433	638	69,088,291	108,289	643	69,435,454	107,987
OTHER BENEFICIARIES:									
UNDER 30	0	0	0	3	183,099	61,033	3	183,099	61,033
30 TO 34	0	0	0	1	72,023	72,023	1	72,023	72,023
35 TO 39	0	0	0	3	163,932	54,644	3	163,932	54,644
40 TO 44	0	0	0	0	0	0	0	0	0
45 TO 49	0	0	0	1	96,406	96,406	1	96,406	96,406
50 TO 54	0	0	0	8	466,052	58,257	8	466,052	58,257
55 TO 59	1	23,535	23,535	17	752,812	44,283	18	776,347	43,130
60 TO 64	0	0	0	23	757,983	32,956	23	757,983	32,956
65 TO 69	0	0	0	16	592,008	37,001	16	592,008	37,001
70 TO 74	0	0	0	38	1,328,458	34,959	38	1,328,458	34,959
75 TO 79	0	0	0	39	1,076,079	27,592	39	1,076,079	27,592
80 TO 84	0	0	0	48	1,037,575	21,616	48	1,037,575	21,616
85 TO 89	0	0	0	39	585,544	15,014	39	585,544	15,014
90 & UP	0	0	0	145	1,022,943	7,055	145	1,022,943	7,055
TOTAL	1	23,535	23,535	381	8,134,914	21,351	382	8,158,449	21,357
ALL PENSIONERS AND BENEFICIARIES:									
UNDER 30	1	79,742	79,742	6	381,168	63,528	7	460,910	65,844
30 TO 34	14	1,288,653	92,047	2	140,583	70,292	16	1,429,236	89,327
35 TO 39	136	12,835,729	94,380	7	526,882	75,269	143	13,362,611	93,445
40 TO 44	339	31,445,479	92,760	37	3,208,444	86,715	376	34,653,923	92,165
45 TO 49	791	74,487,665	94,169	77	7,555,872	98,128	868	82,043,537	94,520
50 TO 54	1,498	143,517,882	95,806	104	11,307,713	108,728	1,602	154,825,595	96,645
55 TO 59	2,256	207,932,600	92,169	141	15,994,192	113,434	2,397	223,926,792	93,420
60 TO 64	2,467	207,522,207	84,119	117	11,798,863	100,845	2,584	219,321,070	84,877
65 TO 69	1,565	113,762,623	72,692	83	8,376,525	100,922	1,648	122,139,148	74,114
70 TO 74	1,672	99,212,992	59,338	85	6,652,842	78,269	1,757	105,865,834	60,254
75 TO 79	1,993	101,734,920	51,046	88	5,765,441	65,516	2,081	107,500,361	51,658
80 TO 84	1,642	72,694,179	44,272	87	4,334,913	49,827	1,729	77,029,092	44,551
85 TO 89	800	33,466,652	41,833	54	1,820,007	33,704	854	35,286,659	41,319
90 & UP	412	16,577,547	40,237	162	1,712,410	10,570	574	18,289,957	31,864
TOTAL	15,586	1,116,558,870	71,639	1,050	79,575,855	75,787	16,636	1,196,134,725	71,900

NEW YORK CITY FIREFIGHTERS' VARIABLE SUPPLEMENTS FUND
DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS
SUMMARY OF PENSIONERS BY GENDER

AGE	MALE			FEMALE			BOTH MALE & FEMALE		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
SERVICE RETIREMENT:									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	0	0	0	0	0	0
40 TO 44	3	36,000	12,000	0	0	0	3	36,000	12,000
45 TO 49	21	252,000	12,000	0	0	0	21	252,000	12,000
50 TO 54	45	540,000	12,000	0	0	0	45	540,000	12,000
55 TO 59	166	1,992,000	12,000	1	12,000	12,000	167	2,004,000	12,000
60 TO 64	212	2,544,000	12,000	0	0	0	212	2,544,000	12,000
65 TO 69	191	2,292,000	12,000	0	0	0	191	2,292,000	12,000
70 TO 74	249	2,988,000	12,000	0	0	0	249	2,988,000	12,000
75 TO 79	275	3,300,000	12,000	0	0	0	275	3,300,000	12,000
80 TO 84	183	2,196,000	12,000	0	0	0	183	2,196,000	12,000
85 TO 89	117	1,404,000	12,000	0	0	0	117	1,404,000	12,000
90 & UP	72	864,000	12,000	0	0	0	72	864,000	12,000
TOTAL	1,534	18,408,000	12,000	1	12,000	12,000	1,535	18,420,000	12,000

NEW YORK CITY FIRE OFFICERS' VARIABLE SUPPLEMENTS FUND
DATA USED IN THE JUNE 30, 2017 (LAG) ACTUARIAL VALUATION
FOR DETERMINING FINAL FISCAL YEAR 2019 EMPLOYER CONTRIBUTIONS
SUMMARY OF PENSIONERS BY GENDER

AGE	MALE			FEMALE			BOTH MALE & FEMALE		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
SERVICE RETIREMENT:									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0	0
35 TO 39	1	12,000	12,000	0	0	0	1	12,000	12,000
40 TO 44	8	96,000	12,000	1	12,000	12,000	9	108,000	12,000
45 TO 49	54	648,000	12,000	0	0	0	54	648,000	12,000
50 TO 54	160	1,920,000	12,000	0	0	0	160	1,920,000	12,000
55 TO 59	429	5,148,000	12,000	0	0	0	429	5,148,000	12,000
60 TO 64	452	5,424,000	12,000	3	36,000	12,000	455	5,460,000	12,000
65 TO 69	416	4,992,000	12,000	2	24,000	12,000	418	5,016,000	12,000
70 TO 74	489	5,868,000	12,000	0	0	0	489	5,868,000	12,000
75 TO 79	642	7,704,000	12,000	1	12,000	12,000	643	7,716,000	12,000
80 TO 84	532	6,384,000	12,000	0	0	0	532	6,384,000	12,000
85 TO 89	214	2,568,000	12,000	0	0	0	214	2,568,000	12,000
90 & UP	70	840,000	12,000	0	0	0	70	840,000	12,000
TOTAL	3,467	41,604,000	12,000	7	84,000	12,000	3,474	41,688,000	12,000

New York City Fire Pension Funds
Comprehensive Annual Financial Report
A Pension Trust Fund of The City of New York



Statistical Section

Part V

Fiscal Year Ended June 30, 2019

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The Statistical Section Narrative

The Statistical section of the New York City Fire Pension Fund's Comprehensive Annual Financial Report presents detailed information related to the financial statements, as well as highlights of the actuarial valuations. The data provided is a useful source in determining the fund's economic condition. The schedules are organized into four categories: Operating information, Demographic and Economic information, Financial trends and Revenue capacity.

Operating information

The operating information gives users an indication of how the information in the financial statements relate to the activities of the fund. The schedules show data on benefit ranges, years of credited service, types of retirement and options selected and the amount of monthly, annual or average benefit paid to each group of retirees and beneficiaries. The data is presented for the fiscal period or over a ten year period.

Demographic and economic information

The demographic and economic categories present data to give users an understanding of the environment in which the pension plan operates. This is done mainly through the breakdown of the population groups in the plan membership. The schedules present the number of members and beneficiaries grouped according to several indicators including average monthly or annual salaries or age participating in the pension the plan, for the fiscal period or over a ten-year period.

Financial Trends

The schedules of trend data provide financial and actuarial data for the most current ten-year period. This data shows the changes in benefit types and changes in the plan's performance over time, as relates to revenues received benefits and expenses paid and net assets.

Revenue Capacity

Revenue capacity information helps users evaluate the different sources of revenues for the plan. The schedules show the sources and the changes in the level of revenues over time. The main sources of revenues for the plan are investment income and employer contributions.

TABLE OF BENEFIT EXPENSES BY TYPE

(In thousands)

FISCAL YEAR	Service Retirement Payments	Ordinary Disability Payments	Accidental Disability Payments	Payments for Death in Duty	Payments of Deceased		Death Benefits Lump Sum Payments	Other Benefits *	Total
					Service and Disability	Disability			
2010	244,502	56,905	552,814	54,069	14,426	3,454	28,603	954,773	
2011	240,312	55,019	587,885	55,488	13,723	1,279	29,768	983,474	
2012	239,786	53,002	621,698	57,614	13,923	1,353	50,213	1,037,589	
2013	237,294	51,273	659,243	59,888	14,646	1,371	112,289	1,136,004	
2014	239,234	49,456	681,196	61,951	5,592	11,354	122,546	1,171,329	
2015	241,393	47,378	709,488	63,918	5,652	12,038	140,023	1,219,890	
2016	244,561	44,938	764,129	66,417	5,384	14,301	218,701	1,358,431	
2017	251,909	43,145	825,388	68,766	5,812	12,550	127,237	1,334,807	
2018	254,855	40,537	848,665	72,357	5,831	13,267	143,575	1,379,087	
2019	260,359	38,378	880,075	75,533	6,142	14,415	170,667	1,445,569	

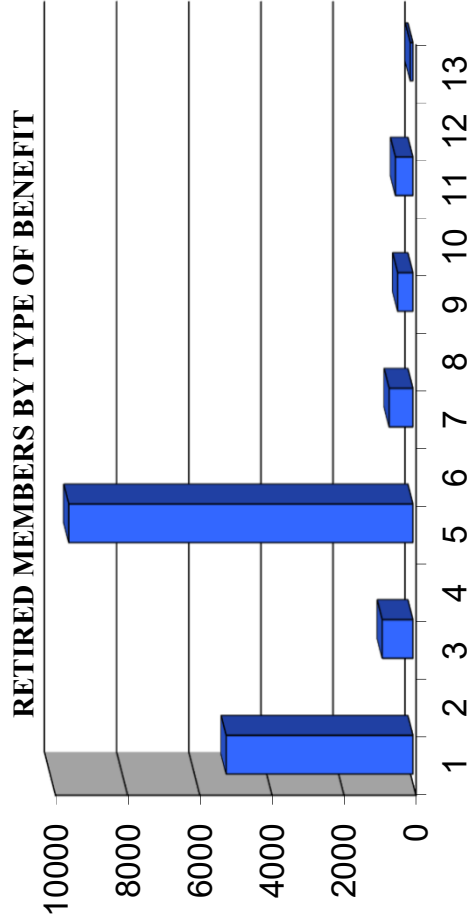
* This represents VSF payments to firefighters, fire officers and other payments.

TABLE OF RETIRED MEMBERS AND BENEFICIARIES BY TYPE OF BENEFIT

FISCAL YEAR 2019

TOTAL NUMBERS RETIRES AND BENEFICIARIES	SERVICE RETIRES (1)	ORDINARY DISABILITY RETIRES (1)	ACCIDENTAL DISABILITY RETIRES (1)	LINE OF DUTY BENEFITS	SERVICE BENEFICIARIES	ACCIDENTAL BENEFICIARIES	ORDINARY BENEFICIARIES	OTHER BENEFITS (2)
17,296	4,924	691	10,037	679	331	571	63	-
1,445,569	\$ 260,359	\$ 38,378	\$ 880,075	\$ 75,533	\$ 6,142	\$ 13,080	\$ 1,335	\$ 170,667

ANNUAL PAYROLL AMOUNT
(in thousands)



SEE RETIREMENT BENEFIT BELOW

Type of Retirement

- 1 - Service retirement (20 yrs or over)
- 2 - Ordinary Disability (Non - Line of Duty)
- 3 - Accidental Disability (Line of Duty)
- 4 - Line of Duty benefits for surviving spouse
- 5 - Survivors of Service Retirees
- 6 - Survivors of Accidental Disability retirees
- 7 - Survivors of Ordinary Disability retirees

(1) Includes Maximum Allowance and Options.

(2) Includes City Supplements, Return of Contributions Vouchers and payments to FF, FO Variable Supplements Funds.

TABLE OF RETIRED MEMBERS AND BENEFICIARIES BY TYPE OF OPTION SELECTED *
FISCAL YEAR 2019

TOTAL NUMBER OF RETIRES AND BENEFICIARIES	MAXIMUM ALLOWANCE (1)	OPTION ONE	OPTION TWO	OPTION THREE	OPTION FOUR	POP - UP OPTION	LINE OF DUTY BENEFICIARIES (1)	BENEFICIARIES	OTHER BENEFITS (2)
17,296	14,237	9	299	348	979	19	679	726	-

ANNUAL PAYROLL AMOUNT

\$ 1,445,569	\$ 1,057,328	\$ 387	\$ 19,067	\$ 24,817	\$ 83,969	\$ 1,298	\$ 75,533	\$ 12,503	\$ 170,667
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(1) Includes Subchapter I and II.

(2) Includes City Supplements, Return of Contributions Vouchers and payments to FF, FO Variable Supplement Funds.

Note: Option figures include Retirees and Beneficiaries.

Statistical Section

New York City Fire Pension Funds

New York Fire Department Pension Funds
Retired Members by Type of Benefit
As of June 30, 2019

Amount of Monthly Benefits	Number of Retired Members	Type of Retirement							Option Selected				POP - UPS		
		1	2	3	4	5	Unmodified	7	1	2	3	4			
\$ 38,409	7	-	-	-	-	4	-	-	-	-	-	-	-	-	-
119,103	16	-	-	15	-	-	-	1	16	-	-	-	-	-	-
1,113,551	143	-	-	137	3	3	-	3	143	-	-	-	409	-	-
2,887,827	376	9	8	322	37	-	-	-	376	3	89	124	37	6	-
6,836,961	868	65	5	724	109	1	-	1	868	-	3	34	256	8	-
12,902,133	1,642	188	14	1,297	95	8	-	8	1,602	6	3	47	3	1	-
18,660,566	2,397	493	30	2,035	120	18	-	18	2,397	-	39	15	13	4	-
18,276,756	2,884	682	43	1,752	84	23	-	23	1,590	-	41	19	8	-	-
10,178,262	1,648	576	46	949	61	16	-	16	1,648	-	2	79	227	-	-
8,822,153	1,757	599	77	834	47	38	-	38	1,757	-	17	29	19	-	-
8,958,363	2,081	928	84	886	48	39	-	39	2,081	-	76	1	7	-	-
6,419,091	1,729	770	186	686	39	48	-	48	1,729	-	24	-	-	-	-
2,940,555	854	400	133	267	15	39	-	39	854	-	4	-	-	-	-
1,524,163	894	214	65	133	17	728	-	728	574	-	1	-	-	-	-
Total	17,296	4,924	691	10,037	679	965	-	965	15,642	9	299	348	979	19	-

a Type of retirement:

- 1 - Service retirement
- 2 - Ordinary Disability
- 3 - Accidental Disability
- 4 - Line of Duty (Accidental Death)
- 5 - Beneficiaries (All)

b

Option selected:
The following options reduce the retired member's monthly benefits

- Option 1** - Provides a member with a retirement allowance payable for life which is less than the Maximum Allowance.
 - Option 2** - Provides a member with a reduced retirement allowance with the provision that upon his or her death the same allowance will continue to be paid to his or her beneficiary for life.
 - Option 3** - Provides a member with a retirement allowance reduce from the Maximum Allowance, with the provision that one half of the allowance will continue to be paid to the member's beneficiary for life.
 - Option 4** - This option provides, upon the member's death, payment of a specified benefit or benefits actuarially-sound and approved by the Actuary and the Board of Trustees.
- POP - UP** - (refer to Option 4-2 and Option 4-3) These are called the "POP - UPS" because they are variations of Option 2 and 3 and provide that if the beneficiary predeceases the retiree, then the retirement allowance will "Pop - Up" to the level of the Maximum Retirement Allowance.

Statistical Section

New York City Fire Pension Funds

New York Fire Department Pension Funds
Average Benefit Payments
Last Ten Years

Exhibit 5

Retirement Effective Dates	Age Credited Service													
	Under 30	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90 & Up
Period 7/1/09 to 6/30/10														
Average monthly benefit	3,843	3,606	4,527	5,144	5,257	5,231	4,985	4,633	4,005	3,500	3,179	2,786	2,166	1,272
Average final salary	46,116	43,273	54,323	61,725	63,079	62,774	59,823	55,591	48,061	42,002	38,143	33,432	25,993	15,262
Number of retired members	7	45	232	618	1,304	2,155	1,640	1,749	2,268	2,466	1,745	1,290	854	787
Period 7/1/10 to 6/30/11														
Average monthly benefit	3,570	4,613	4,923	5,415	5,764	5,663	5,576	4,958	4,355	3,754	3,316	3,003	2,562	1,424
Average final salary	42,838	55,350	59,071	64,974	69,172	67,956	66,907	59,497	52,262	45,042	39,791	36,036	30,744	17,090
Number of retired members	11	32	197	517	1,162	2,254	1,916	1,674	2,014	2,602	1,994	1,220	799	748
Period 7/1/11 to 6/30/12														
Average monthly benefit	3,570	4,613	4,923	5,415	5,764	5,663	5,576	4,958	4,355	3,754	3,316	3,003	2,562	1,424
Average final salary	42,838	55,350	59,071	64,974	69,172	67,956	66,907	59,497	52,262	45,042	39,791	36,036	30,744	17,090
Number of retired members	11	52	206	527	1,180	2,002	2,315	1,694	2,033	2,448	2,001	1,364	854	717
Period 7/1/12 to 6/30/13														
Average monthly benefit	3,880	5,217	5,070	5,597	5,949	5,922	5,798	5,120	4,547	3,868	3,393	3,136	2,677	1,554
Average final salary	46,557	62,607	60,835	67,165	71,384	71,061	69,575	61,443	54,564	46,410	40,720	37,635	32,129	18,647
Number of retired members	17	50	187	522	1,291	2,167	2,074	1,750	1,908	2,361	2,085	1,369	763	720
Period 7/1/13 to 6/30/14														
Average monthly benefit	4,339	5,345	5,390	5,891	6,164	6,247	5,985	5,389	4,707	4,047	3,477	2,504	2,848	1,665
Average final salary	52,071	64,141	64,676	70,690	73,963	74,966	71,820	64,663	56,485	48,563	41,721	30,051	34,179	19,983
Number of retired members	10	28	153	506	1,092	1,955	2,366	1,633	1,861	2,361	2,161	1,302	828	661
Period 7/1/14 to 6/30/15														
Average monthly benefit	3,784	6,265	5,642	6,154	6,412	6,483	6,250	5,630	4,934	4,160	3,647	3,319	2,909	1,796
Average final salary	45,403	75,176	67,703	73,851	76,940	77,791	75,001	67,562	59,212	49,922	43,759	39,829	34,909	21,546
Number of retired members	11	31	130	486	1,021	1,792	2,575	1,722	1,726	2,210	2,269	1,391	818	625
Period 7/1/15 to 6/30/16														
Average monthly benefit	3,697	6,148	6,172	6,280	6,525	6,707	6,446	5,919	5,120	4,306	3,764	3,386	3,022	1,958
Average final salary	44,368	73,776	74,066	75,361	78,296	80,481	77,355	71,026	61,435	51,672	45,170	40,633	36,269	23,493
Number of retired members	10	21	136	448	943	1,689	2,733	1,816	1,705	2,069	2,288	1,483	821	601
Period 7/1/16 to 6/30/17														
Average monthly benefit	3,426	6,515	6,518	6,366	6,716	6,959	6,677	6,295	5,302	4,491	3,873	3,440	3,099	2,206
Average final salary	41,117	78,179	78,217	76,386	80,588	83,508	80,121	75,542	63,626	53,892	46,477	41,275	37,193	26,466
Number of retired members	9	23	144	429	890	1,634	2,723	2,069	1,644	1,890	2,283	1,595	794	583
Period 7/1/17 to 6/30/18														
Average monthly benefit	5,538	6,546	7,086	7,219	7,396	7,724	7,319	6,782	5,745	4,849	4,101	3,613	3,323	2,407
Average final salary	66,458	78,548	85,031	86,630	88,757	92,688	87,832	81,378	68,943	58,190	49,206	43,355	39,876	28,879
Number of retired members	7	21	142	392	865	1,632	2,624	2,304	1,649	1,782	2,154	1,704	820	551
Period 7/1/18 to 6/30/19														
Average monthly benefit	5,487	7,444	7,787	7,680	7,877	8,054	7,785	7,073	6,176	5,021	4,305	3,713	3,443	2,655
Average final salary	65,844	89,327	93,445	92,165	94,520	96,645	93,420	84,877	74,114	60,254	51,658	44,551	41,319	31,864
Number of retired members	7	16	143	376	868	1,602	2,397	2,584	1,648	1,757	2,081	1,729	854	574

Source: Office of the Actuary City of New York.
Lag 2017 for determining Final Fiscal Year 2019 Employer Contributions

**New York Fire Department Pension Funds
Benefit and Refund Deductions from Net Position by Type
Last Ten Fiscal Years
(In thousands)**

Exhibit 6

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Type of Benefit:										
Age and service benefits:										
Retirees	244,502	240,312	239,786	308,667	239,234	241,393	244,561	251,909	254,855	260,359
Survivors	10,040	5,990	5,847	5,776	5,592	5,652	5,384	5,812	5,831	6,142
Death in service benefits	54,069	55,488	57,614	59,888	61,951	63,918	66,417	68,766	72,357	75,533
Disability benefits:										
Retirees - duty	552,814	587,885	621,698	659,243	681,196	709,488	764,129	825,388	848,665	880,075
Retirees - nonduty	56,905	55,019	53,002	51,273	49,456	47,378	44,938	43,145	40,537	38,378
Survivors	4,386	1,279	1,353	1,371	1,716	1,793	1,794	1,420	1,331	1,335
Total benefits	\$ 922,716	\$ 945,973	\$ 979,300	\$ 1,086,218	\$ 1,039,145	\$ 1,069,622	\$ 1,127,223	\$ 1,196,440	\$ 1,223,576	\$ 1,261,822
Type of Refunds										
Death	3,454	7,733	8,076	8,870	9,638	10,245	12,507	11,130	11,936	13,080
Other benefits	28,603	29,768	50,213	40,916	122,546	140,023	218,701	127,237	143,575	170,667
Total refunds	\$ 32,057	\$ 37,501	\$ 58,289	\$ 49,786	\$ 132,184	\$ 150,268	\$ 231,208	\$ 138,367	\$ 155,511	\$ 183,747
Total Benefits and Refunds	\$ 954,773	\$ 983,474	\$ 1,037,589	\$ 1,136,004	\$ 1,171,329	\$ 1,219,890	\$ 1,358,431	\$ 1,334,807	\$ 1,379,087	\$ 1,445,569

Source Fire Dept. Pension Fund

Statistical Section

New York City Fire Pension Funds

SCHEDULE OF AVERAGE ANNUAL BENEFIT PAYMENT AMOUNTS

Fiscal Year	Service Retirement Benefits		Accidental (Duty)		Ordinary (Non Duty)		Survivor's Benefits *	
	Numbers	Average Annual Allowance	Disability Benefits	Average Annual Allowance	Disability Benefits	Average Annual Allowance	Number	Average Annual Allowance
2010 (Lag)	5,957	40,447	8,593	65,741	1,167	48,219	1,423	21,354
2011	5,837	41,170	8,712	67,480	1,110	49,557	1,414	49,144
2012	5,667	41,080	8,912	69,760	1,058	50,096	1,767	41,251
2013	5,487	43,247	9,064	72,723	1,010	50,765	1,703	44,571
2014	5,433	44,033	9,194	63,215	958	51,624	1,695	46,370
2015	5,312	45,443	9,366	75,751	905	52,351	1,678	48,632
2016	5,188	44,659	9,548	75,043	853	50,722	1,641	53,748
2017	5,089	45,932	9,723	77,701	792	51,059	1,623	56,153
2018	5,001	47,341	9,860	81,136	735	52,007	1,630	125,148
2019	4,924	49,543	10,037	84,713	691	52,899	1,644	129,344

* Includes World Trade Center Benefits

NEW YORK CITY FIRE PENSION FUNDS QPP

Schedule of Changes in Net Positions

(In thousands)

Year Ended	Additions to Funds Net Position					Deductions from Funds Net Position					Change in Net Position
	Member Contributions	Employer Contributions	Net Investment Income/(Loss)	Other Income	Total Additions	Benefit Payments	Refunds	Administrative Expenses	City Supplement and Parity	Total Deductions	
2010	89,223	874,331	818,201	34,990	1,816,745	953,990	510	237	36	954,773	861,972
2011	94,893	890,706	1,472,892	41,887	2,500,378	982,962	276	236	-	983,474	1,516,904
2012	98,494	976,895	93,548	37,661	1,206,598	1,036,806	443	340	-	1,037,589	169,009
2013	104,816	962,173	961,192	38,965	2,067,146	1,063,349	816	445	21	1,064,631	1,002,515
2014	108,859	969,956	1,569,013	39,980	2,687,808	1,218,415	184	477	86	1,219,162	1,468,646
2015	108,582	988,784	271,430	41,201	1,409,997	1,189,926	186	313	80	1,190,505	219,492
2016	116,619	1,054,478	197,398	43,673	1,412,168	1,325,938	939	786	72	1,327,735	84,433
2017	108,368	1,061,170	1,284,871	47,284	2,501,693	1,309,624	1,190	685	61	1,311,560	1,190,133
2018	108,338	1,200,417	1,188,860	9,411	2,507,026	1,321,565	1,850	6,412	52	1,329,879	1,177,147
2019	108,015	1,398,565	933,889	16,057	2,456,526	1,374,365	1,680	9,861	45	1,385,951	1,070,575

FIRE FIGHTER'S VARIABLE SUPPLEMENTS FUND

Schedule of Changes in Net Positions

(In thousands)

Year Ended	Additions to Funds Net Position				Deductions from Funds Net Position			Change in Net Position
	Net Investment Income/(Loss)	Other Income	Transfer Skim Earning	Total Additions	Benefit Payments	Total Deductions		
2010	65,678	261		65,939	50,507	50,507	15,432	
2011	100,709	313		101,022	47,793	47,793	53,229	
2012	6,965	309		7,274	48,613	48,613	(41,339)	
2013	46,267	290		46,557	48,539	48,539	(1,982)	
2014	68,971	56	110,000	179,027	50,425	50,425	128,602	
2015	18,661	227	30,000	48,888	47,415	47,415	1,473	
2016	4,325	344	18,739	23,408	46,002	46,002	(22,594)	
2017	46,467	288	23,914	70,669	47,273	47,273	23,396	
2018	35,168	238	15,000	50,406	46,572	46,572	3,834	
2019	27,838	141	(14,000)	13,979	44,744	44,744	(30,765)	

Statistical Section

New York City Fire Pension Funds

FIRE OFFICERS' VARIABLE SUPPLEMENTS FUND

Schedule of Changes in Net Positions

(In thousands)

Year Ended	Additions to Funds Net Position				Deductions from Funds Net Position			Change in Net Position
	Net Investment Income/(Loss)	Other Income	Transfer Skim Earning	Total Additions	Benefit Payments	Total Deductions		
2009	(54,973)	367		(54,606)	22,525	22,525	(77,131)	
2010	35,286	132		35,418	22,897	22,897	12,521	
2011	58,800	180		58,980	21,014	21,014	37,966	
2012	4,723	193		4,916	21,986	21,986	(17,070)	
2013	34,492	190		34,682	22,834	22,834	11,848	
2014	51,265	180	10,000	61,445	21,742	21,742	39,703	
2015	12,056	193	10,000	22,249	21,970	21,970	279	
2016	758	279	18,134	19,171	21,567	21,567	(2,396)	
2017	39,855	240	21,829	61,924	21,717	21,717	40,207	
2018	25,303	162	-	25,465	24,048	24,048	1,417	
2019	20,381	99	-	20,480	24,735	24,735	(4,255)	

NEW YORK CITY FIRE PENSION FUNDS
SCHEDULE OF REVENUES BY SOURCE

(in thousands)

Fiscal Year Ended June 30	Member Contributions	Employer Contributions	Other Income/(Loss)	Interest and Dividends	Appreciation (Depreciation) In fair value of investments	Total	% of Annual Covered Payroll
2010	89,223	874,331	10,319	176,097	666,775	1,816,745	N/A
2011	94,893	890,706	17,668	192,667	1,304,444	2,500,378	N/A
2012	98,494	976,895	9,756	220,373	(98,920)	1,206,598	N/A
2013	104,816	962,173	6,469	255,805	819,122	2,148,385	N/A
2014	108,859	969,956	(3,557) *	277,940	1,455,082	2,808,280	N/A
2015	108,582	988,784	(21,420)	361,802	3,386	1,441,134	N/A
2016	116,619	1,054,478	3,768	302,881	(59,872)	1,417,874	N/A
2017	108,368	1,061,170	(31,590)	314,960	1,135,635	2,588,543	N/A
2018	108,338	1,200,417	(83,037)	349,627	992,552	2,567,897	N/A
2019	108,015	1,398,565	(83,217)	374,555	693,067	2,490,985	N/A

* Other Income/(loss) Included.

Source: Combined Statement of Changes in Fiduciary Net Position

NEW YORK CITY FIRE PENSION FUNDS

SCHEDULE OF EXPENSES BY TYPE

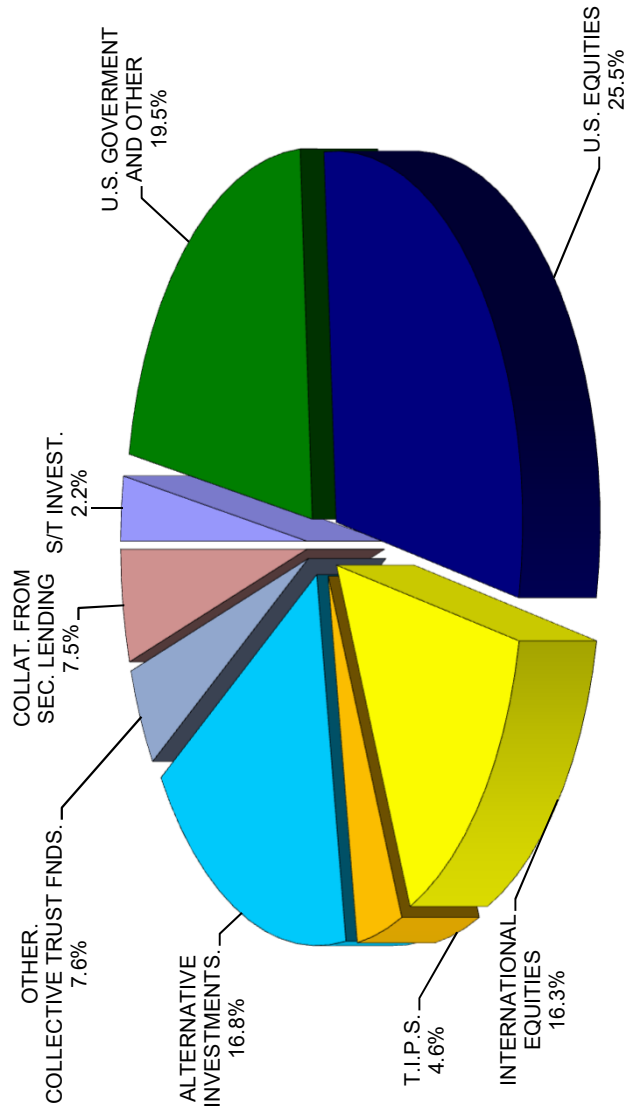
(in thousands)

Fiscal Year Ended June 30	Benefit		Refunds	Administrative		Other	Total
	Payments			Expenses	Payments		
2009	927,819		325	248	61	928,453	
2010	953,990		510	237	36	954,773	
2011	982,962		276	236	-	983,474	
2012	1,036,806		443	340	-	1,037,589	
2013	1,134,722		816	445	21	1,136,004	
2014	1,170,582		184	477	86	1,171,329	
2015	1,219,311		186	313	80	1,219,890	
2016	1,356,634		939	786	72	1,358,431	
2017	1,332,871		1,190	685	61	1,334,807	
2018	1,377,185		1,850	6,412	52	1,385,499	
2019	1,443,844	**	1,680	9,861	45	1,455,430	

** includes additional expenses related to Corpus funding effective September 2016

TOTAL INVESTMENTS FISCAL YEAR 2019 Fire Funds Combined

(At Market Value)



INVESTMENT INCOME

Fire Funds Combined

Fiscal Year 2019

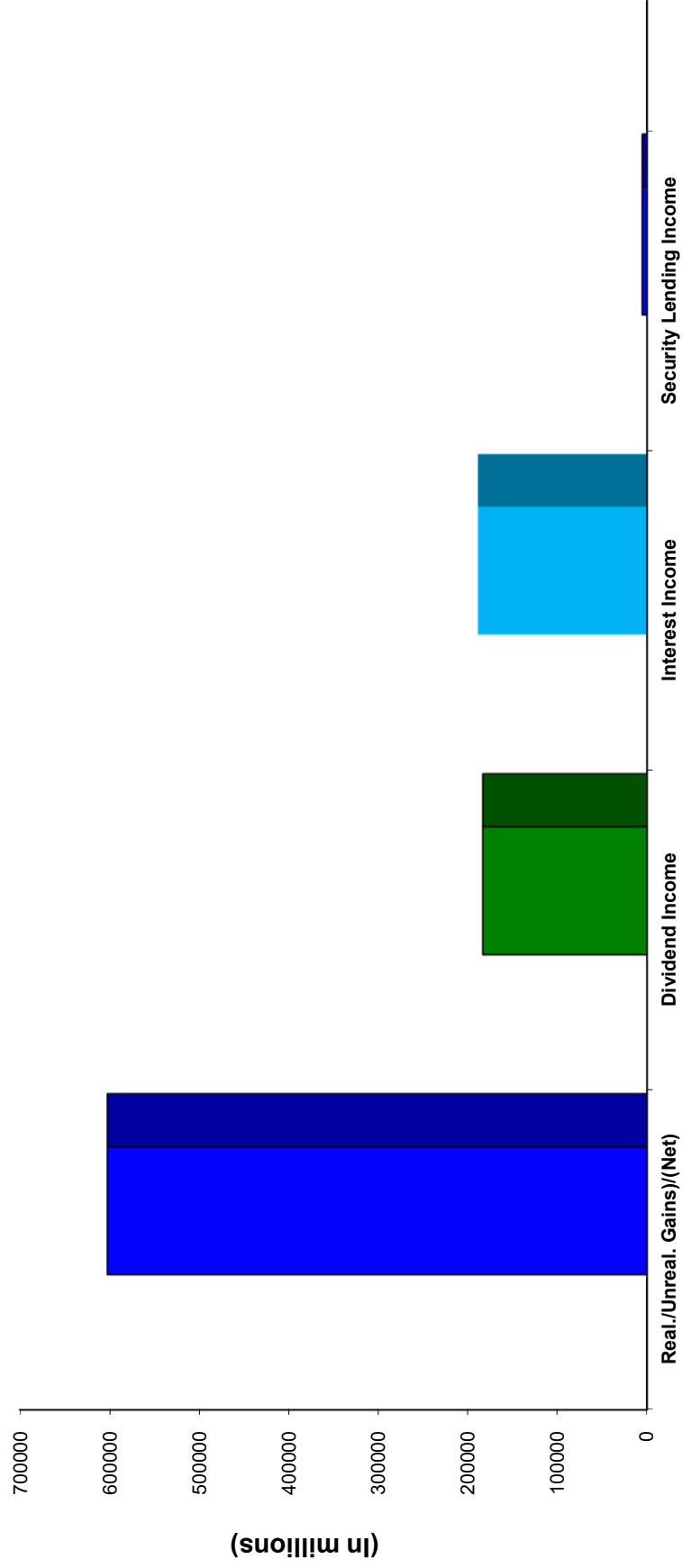


Table of Compensation to Administrative Officials & Commissions & Payments
 To Brokers and Consultants
 Fiscal Year ended June 30, 2019

<u>Official Plan Position</u>	<u>Salary or Allowance Paid</u>
Pension Fund Administrative Expenses	\$ 9,860,681 *
Comptroller's Office Executive Management Costs	16,025
First Deputy Personal Service Costs	87,218
Financial Information Service Agency (FISA)	609,057
Office of Payroll Administration (OPA)	48,835
Deputy Comptroller Asset Management (Personal Service Costs)	434,284
Deputy Comptroller Asset Management (Outside Service Costs)	1,054,020
Administrative Support Cost	4,779
Office of management and Budget	90,079
Legal Advisors	86,759
Investment Advisors	90,475,000 *
Securities Lending Fees	561,000 *
Total	\$ 103,327,737

*Except for Administrative Expenses, Investment advisors and Securities Lending fees these expenses were charged to other City Agencies on behalf of the New York City Fire Pension Funds