

**CITY OF PHILADELPHIA
MUNICIPAL PENSION FUND**

**FINANCIAL STATEMENTS AND
SUPPLEMENTARY INFORMATION**

YEAR ENDED JUNE 30, 2018

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
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INDEPENDENT AUDITORS' REPORT

Board of Pensions and Retirement
City of Philadelphia Municipal Pension Fund
Philadelphia, Pennsylvania

Report on the Financial Statements

We have audited the accompanying financial statements of the City of Philadelphia Municipal Pension Fund (the Fund), which comprise the statement of fiduciary net position as of June 30, 2018 and the statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Fund as of June 30, 2018, and the respective changes in fiduciary net position for the year 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 schedules of investment returns, changes in net pension liability and related ratios and employer contributions and related notes, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the 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 Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 27, 2018 on our consideration of the Fund's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Fund's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Fund's internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland
December 27, 2018

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2018**

Our discussion and analysis of the City of Philadelphia Municipal Pension Fund's (the Fund) financial performance provides an overview of the Fund's financial activities for the year ended June 30, 2018 and 2017. Please read it in conjunction with the Fund's financial statements, which begin on page 7.

USING THIS ANNUAL REPORT

The discussion and analysis herein are intended to serve as an introduction to the Fund's financial statements. In addition to management's discussion and analysis, the annual report includes:

The Statement of Fiduciary Net Position, which reports the Fund's assets, liabilities, and resultant net position where $\text{Assets} - \text{Liabilities} = \text{Net Position}$ available at the end of the plan year.

The Statement of Changes in Fiduciary Net Position, which reports Fund transactions that occurred during the fiscal year, where $\text{Additions} - \text{Deductions} = \text{Change in Net Position}$.

The Notes to the Financial Statements are an integral part of the financial statements and include additional information not readily evident in the statements themselves. The required supplementary information following the notes to the financial statements provides information on (a) the annual money-weighted rate of returns, net of investment expenses, (b) changes in net pension liability and related ratios, and (c) employer contributions in relation to the actuarially determined contribution.

BRIEF DESCRIPTION

The City of Philadelphia (the City) maintains two defined benefit plans for its employees, and employees of its component units. The two plans maintained by the City are the Municipal Pension Fund and the Gas Works Plan, both are single employer plans. Each plan issues separate stand-alone financial statements. The financial statements presented here are only for the Municipal Pension Fund.

The City is required by the Philadelphia Home Rule Charter to maintain an actuarially sound pension and retirement system. The Fund covers all officers and employees of the City and the officers and employees of certain other governmental and quasi-governmental organizations. In addition to the City, the three other quasi-governmental units that participate in the Fund are the Philadelphia Parking Authority, the Philadelphia Municipal Authority, and the Philadelphia Housing Development Corporation.

The Fund has four basic plans, the 1967 Plan (Plan 67), the 1987 Plan (Plan 87), Plan 10, and Plan 16.

1967 Plan

Participation is limited to employees hired before January 8, 1987. District Council 33 and 47 union members hired between January 8, 1987 and October 1, 1992 were switched from the 1987 Plan to the 1967 Plan effective on their hire dates, provided such employees contributed the difference between the two plans.

1987 Plan

Participation is limited to municipal employees hired on or after January 8, 1987. For uniformed employees, participation is the same as municipal employees. Any elected employee elected on or after January 8, 1987 participates in this plan.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2018**

Except for elected officials, the 1987 Plan provides for less costly benefits and reduced employee contributions than the 1967 Plan. For elected officials, the 1987 Plan provides for enhanced benefits, with participating elected officials required to pay for the additional normal cost.

Plan 10

Municipal employees of the Register of Wills, and employees of the Sheriff's Office represented by Lodge 5 of the FOP hired on or after January 1, 2012 are members in Plan 10. Employees of the Sheriff's office have the option within 30 days to elect to participate in 1987 Plan. For uniformed employees, Police hired on or after January 1, 2010 and Fire hired on or after October 15, 2010 are members in Plan 10, and have the option within 30 days to elect to participate in the 1987 Plan. Represented employees of AFSCME District Council 47 hired on or after March 5, 2014, municipal employees in civil service not represented by a union hired on or after May 14, 2014, and represented employees of AFSCME District Council 33, other than guards represented by District Council 33 or OHCD employees, hired on or after September 9, 2014 are members in Plan 10. Also, guards represented by District Council 33, Municipal employees not in civil service and not represented by a union, elected officials and OHCD employees hired on or after November 14, 2014 are members in Plan 10.

Plan 10 combines both a defined contribution plan with the traditional defined benefit plan. All employees except those of the Register of Wills and guards represented by DC33 have the option to opt out of Plan 10 within 30 days and participate in 1987 Plan.

Plan 16

All Employees represented by the AFSCME District Council 33 hired or rehired on or after August 20, 2016 are members in the new Stacked Hybrid Plan – Plan 16. Employees of the Register of Wills and the Sheriff's Office represented by Lodge 5 of the FOP hired or rehired on or after June 21, 2018 are members in Plan 16. Represented employees of AFSCME District Council 47, municipal employees in civil service not represented by a union, and municipal employees not in civil service and not represented by a union hired or rehired on or after January 1, 2019 will be required to participate in Plan 16.

Plan 16 benefits are similar to Plan 87 except that compensation used in calculating benefits is capped at \$65,000 annually on a calendar year basis. Member contributions for Plan 16 members will also be based on the capped pay.

Member contributions for all current and future employees except for Police and Fire will increase based on the level of pay and will be paid in addition to base member contributions rates. The table below shows the tiers used in determining the additional member tier contributions.

Annual salary	Base member rate plus
\$45,000 or less	0.00%
\$45,001 - \$55,000	0.50%
\$55,001 - \$75,000	1.50%
\$75,001 - \$100,000	2.00%
More than \$100,000	2.75%

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2018**

The City, under the Home Rule Charter requirement, must make contributions to the pension system sufficient to fund the accrued normal costs, the amortization in level installments (which include interest) over a period of 40 years of certain unfunded prior service costs, and interest on the remaining unfunded accrued liability of the Fund.

Employee contributions are required by City ordinance, and the City is required to contribute the remaining amounts necessary to fund the Fund using an acceptable actuarial basis as specified by the Home Rule Charter, City Ordinance, and State Statutes. For Fund members, employee contribution rates are fixed on a per-employee basis by Council ordinance.

FINANCIAL HIGHLIGHTS

- The net position of the Fund increased by \$467.2 million, and employee and employer contributions exceeded benefit payments and refunds by \$37.0 million.
- The plan fiduciary net position as a percentage of the total pension liability increased by 2.9% from 43.5% at June 30, 2017 to 46.4% at June 30, 2018, mainly due to underlying growth in assets and slower liability growth. While this ratio may appear to show slow progress in funding, the decrease in the assumed rate of return from 7.70% to 7.60% represents improvement of the Fund's risk profile improving the likelihood of achieving this assumption in the future.
- The Fund's money weighted rate of return on investments was 8.83%.
- The total Fund's policy benchmark was 8.78%

The following are summary comparative statements of the Fund:

**Summary Comparative Statements of Fiduciary Net Position
(in thousands)**

	June 30, 2018	Increase/ (Decrease)	June 30, 2017
ASSETS			
Cash and Cash Equivalents	\$ 105,847	\$ (58,297)	\$ 164,144
Receivable	248,105	45,791	202,314
Investments	5,117,023	453,323	4,663,700
Securities Lending	411,319	42,095	369,224
Total Assets	5,882,294	482,912	5,399,382
LIABILITIES			
Accrued Expenses and Other Liabilities	129,721	(26,405)	156,126
Securities Lending	411,287	42,106	369,181
Total Liabilities	541,008	15,701	525,307
NET POSITION	\$ 5,341,286	\$ 467,211	\$ 4,874,075

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2018**

***Summary Statements of Changes in Fiduciary Net Position
(in thousands)***

	Year Ended June 30, 2018	Increase/ (Decrease)	Year Ended June 30, 2017
ADDITIONS			
Employers' Contributions	\$ 781,984	\$ 75,747	\$ 706,237
Members' Contributions	83,289	9,682	73,607
Interest and Dividends	127,785	19,322	108,463
Net Appreciation/(Depreciation) in Fair Value of Investments	318,230	(144,704)	462,934
Net Securities Lending Income	1,561	63	1,498
Less: Investment Expenses	(7,500)	525	(8,025)
Miscellaneous Operating Revenue	251	(1,504)	1,755
Total Additions	1,305,600	(40,869)	1,346,469
DEDUCTIONS			
Benefit Payments	819,767	6,474	813,293
Refund of Members' Contributions	8,499	297	8,202
Administrative Expenses	10,123	1,249	8,874
Total Deductions	838,389	8,020	830,369
CHANGE IN NET POSITION	\$ 467,211	\$ (48,889)	\$ 516,100

Net position for the fiscal year ended June 30, 2018, increased by \$467.2 million. The increase in the net position is due to the higher than required employer contributions and the higher investment returns. There was an increase in benefit payments due to the variable nature of the distributions; however, the increase in contributions had offset the increased benefit payments. The increase in administrative expenses reflects higher salary and fringe benefit costs and ongoing technology upgrades.

Securities Lending

At June 30, 2018, the Fund had a cumulative unrealized gain of approximately \$31,843 on securities purchased with the cash collateral received through the security lending program.

Contacting the City of Philadelphia Municipal Pension Fund

If you have any questions about this report or need additional information, please contact us by telephone at 215-496-7400 or you may mail your questions to:

Philadelphia Municipal Pension Fund
2 Penn Plaza
Philadelphia, PA 19102

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
STATEMENT OF FIDUCIARY NET POSITION
JUNE 30, 2018
(IN THOUSANDS)

ASSETS

Cash and Cash Equivalents		\$ 105,847
Contributions Receivable from Plan Members		110,996
Accrued Interest and Other Receivables		137,109
Investments, at Fair Value		
Equity	\$ 3,157,750	
Fixed Income	946,152	
Private Market	487,071	
Real Estate	491,004	
Hedge Funds	35,046	
Total Investments		5,117,023
Collateral on Loaned Securities	411,287	
Add: Allowance on Loaned Securities	32	
Total Collateral on Loaned Securities		411,319
 Total Assets		 5,882,294

LIABILITIES

Accrued Expenses and Other Liabilities		129,721
Due on Return of Securities Loaned		411,287
 Total Liabilities		 541,008
 FIDUCIARY NET POSITION RESTRICTED FOR PENSIONS		 \$ 5,341,286

See accompanying Notes to Financial Statements.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED JUNE 30, 2018
(IN THOUSANDS)

ADDITIONS

Contributions:		
Employer	\$ 781,984	
Plan Members	83,289	
Total Contributions	<u>865,273</u>	\$ 865,273
Investment Income:		
Interest and Dividends Income	127,785	
Net Appreciation in Fair Value of Investments	318,230	
Less: Investment Expenses	<u>(7,500)</u>	
Net Investment Income		438,515
Securities Lending Income	1,836	
Less: Securities Lending Expense	<u>(275)</u>	
Net Income from Securities Lending Activities		1,561
Miscellaneous Operating Revenue		<u>251</u>
Total Additions		<u>1,305,600</u>

DEDUCTIONS

Benefit Payments	819,767	
Refund of Contributions	8,499	
Administrative Expenses	<u>10,123</u>	
Total Deductions		<u>838,389</u>

INCREASE IN FIDUCIARY NET POSITION

467,211

FIDUCIARY NET POSITION HELD IN TRUST FOR PENSION BENEFITS

Beginning of Year		<u>4,874,075</u>
End of Year		<u>\$ 5,341,286</u>

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 1 PENSION FUND DESCRIPTION

Plan Administration

The Philadelphia Board of Pensions (the Pension Board) administers the City of Philadelphia Municipal Pension Fund (the Fund), a single-employer defined benefit pension plan with a small but increasing defined contribution component, which provides pensions for all officers and employees of the City of Philadelphia (the City), as well as those of three quasi-governmental agencies (per applicable enabling legislation and contractual agreements). The Board was established by section 2- 308 of the 1952 Philadelphia Home Rule Charter. Its actions in administering the Retirement System are governed by Title 22 of the Philadelphia Code.

The Board consists of nine voting members – four elected by the active members within the civil service, and the City’s Controller, Solicitor, Managing Director, Personnel Director, and Director of Finance, who serves as the chair.

Plan Membership

At July 1, 2017, the date of the most recent actuarial valuation, pension plan membership consisted of the following:

Actives	28,615
Terminated Vested	1,157
Disabled	3,942
Retirees	22,288
Beneficiaries	8,552
DROP	1,767
Total City Members	66,321
Annual Salaries	\$ 1,744,728,288
Average Salary per Active Member	\$ 60,973
Annual Retirement Allowances	\$ 750,204,529
Average Retirement Allowance	\$ 21,569

Contributions

Per Title 22 of the Philadelphia Code, members contribute to the Fund at various rates based on bargaining unit, uniform/non-uniform/elected/exempt status, and entry date into the Fund. Beginning July 1, 2017, members contributed at one of the following rates:

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 1 PENSION FUND DESCRIPTION (CONTINUED)

Contributions (Continued)

Employee Contribution Rates
For the Period of July 1, 2017 to June 30, 2018

	Municipal (1)	Elected	Police	Fire
Plan 67	7.00%	N/A	6.00%	6.00%
Plan 67 - 50% of Aggregate Normal Cost (3)	6.11%	N/A	N/A	N/A
Plan 87	3.14%	9.46%	5.92%	5.92%
Plan 87 - 50% of Aggregate Normal Cost (4)	3.46%	N/A	N/A	N/A
Plan 87 - Accelerated Vesting (5)	4.60%	12.38%	N/A	N/A
Plan 87 Prime (6)	4.14%	10.46%	6.92%/8.50%(7)	6.92%/8.50%(7)
Plan 87 Prime - Accelerated Vesting	5.60%	13.38%	N/A	N/A
Plan 10	3.10%	N/A	5.50%	5.50%
Plan 10 - Accelerated Vesting	3.28%	N/A	N/A	N/A
Plan 16	4.14%	N/A	N/A	N/A

- 1- For the Municipal Plan 67 members who participate in the Social Security System, employee contributions are 4.75% of compensation up to the social security wage base and 6% above it.
- 2- The employee contribution rate is based upon the normal cost of \$483,475 under plan 87 Elected, normal cost or \$261,961 under Plan 87 Municipal and current annual payroll of \$3,548,609.
- 3- Effective November 2014 guards represented by DC 33 contributions at 50% of the aggregate Normal Cost of all members in Plan J.
- 4- This represents 50% of aggregate Normal Cost for all members in Plan Y.
- 5- Member rates for Municipal Plan 87 (Y5) members eligible to vest in five years and Elected Officials (L8) eligible to be vested in eight years instead of 10.
- 6- Plan 87 Prime refers to new hires who have the option to elect Plan 10 but have elected to stay in Plan 87.
- 7- Police and Fire members hired after 7/1/2017 will pay at the higher rate of 8.50%

Employer contributions are made by the City throughout each fiscal year (which ends June 30) and by three (3) quasi-governmental agencies on a quarterly basis. These contributions, determined by an annual actuarial valuation report (AVR), when combined with plan member contributions, are expected to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability.

Within the AVR, three contribution amounts are determined based upon three different sets of rules for determining the way the unfunded actuarial liability is funded.

The first method is defined in accordance with Act 205 and defines the Minimum Municipal Obligation (MMO), which is the City's minimum required contribution under Pennsylvania state law.

The second method is in accordance with the City's Funding Policy, which predates the Act 205 rules and calls for contributions that are greater than the MMO until the initial unfunded liability determined in 1984 is fully funded.

The third method currently followed by the City, the Revenue Recognition Policy (RRP), calls for additional revenue to be contributed each year to the fund in excess of the MMO. There are three sources of additional revenue that will be received by the Fund: 1) a portion of the sales tax according to the State Legislation, 2) additional tiered member contributions based on salary level for all municipal employees, and 3) additional member contributions from the current and future uniform members in Plan 87.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 1 PENSION FUND DESCRIPTION (CONTINUED)

Contributions (Continued)

Under all funding methods there are two components: the normal cost and the amortized unfunded actuarial liability. The actuarial unfunded liability is the amount of the unfunded actuarial liability that is paid each year based upon the given or defined amortization periods. The amortization periods are the same under the MMO and RRP, but different under City's Funding Policy.

City's Funding Policy

The initial July 1, 1985 unfunded actuarial liability (UAL) is amortized over 34 years ending June 30, 2019 with payments increasing at 3.3% per year, the assumed payroll growth. Other changes in the actuarial liability are amortized in level-dollar payments as follows:

- Actuarial gains and losses – 20 years beginning July 1, 2009. Prior gains and losses were amortized over 15 years.
- Assumption changes – 15 years beginning July 1, 2010. Prior to July 1, 2010, assumption changes were amortized over 20 years.
- Plan changes for active members – 10 years.
- Plan changes for inactive members – 1 year.
- Plan changes mandated by the State – 20 years.

In fiscal year 2018, the City and other employers' contributions of \$782.0 million was less than the actuarially determined employer contribution (ADEC) of \$871.8 million. In the event that the City contributes less than the funding policy, an experience loss will be created which will be amortized in accordance with funding policy over a closed 20-year period.

The Schedule of Employer Contributions (based on the City's Funding Policy) is included as Required Supplementary Information (page 32) and provides a 10-year presentation of the employer contributions.

Minimum Municipal Obligation (MMO)

For the purposes of the MMO under Act 205 reflecting the fresh start amortization schedule, the July 1, 2009 UAL was "fresh started" to be amortized over 30 years ending June 30, 2039. This is a level dollar amortization of the UAL. All future amortization periods will follow the City's Funding Policies as outlined above.

In fiscal year 2018, the City and other employers' contributions of \$782.0 million exceeded the Minimum Municipal Obligation of \$661.3 million.

The Schedule of Employer contributions (based on the MMO Funding Policy) is included as Required Supplementary Information (page 32) and provides a 10-year presentation of the employer contributions.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 1 PENSION FUND DESCRIPTION (CONTINUED)

Revenue Recognition Policy (RRP)

Revenue Recognition Policy is similar to the MMO except that the assets used to determine the unfunded liability do not include the portion of sales tax revenue, tiered member contributions from the municipal employees, and additional uniform members' contributions. These sources of income are contributed over and above the City's contribution of the MMO and will be in addition to the MMO. Therefore, under this funding method the additional revenue amounts are separately tracked and accumulated in a notional account which is then subtracted from the assets before calculating the contribution amounts due under the MMO methodology. The Fund accumulates these amounts in a notional account and deducts them from the Actuarial Asset Value before the MMO is determined. These amounts are accumulated at the Actuarial Asset Value return rates to preserve the new funding methodology objective.

In fiscal year 2018, the City and other employers' contributions of \$782.0 million exceeded the contribution under Revenue Recognition Policy of \$662.1.

The Schedule of Employer Contributions (based on the RRP Funding Policy) is included as Required Supplementary Information (page 32) and provides a 10-year presentation of the employer contributions.

Benefits

The Fund provides retirement, disability, and death benefits according to the provisions of Title 22 of the Philadelphia Code. These provisions prescribe retirement benefit calculations, vesting thresholds, and minimum retirement ages that vary based on bargaining unit, uniform/nonuniform status, and entry date into the System.

Nonuniform employees may retire at either age 55 with up to 80% of average final compensation (AFC) or age 60 with up to either 100% or 25% of AFC, depending on entry date into the Fund. Uniformed employees may retire at either age 45 with up to 100% of AFC or age 50 with up to either 100% or 35% of AFC, depending on entry date into the Fund. Survivorship selections may result in an actuarial reduction to the calculated benefit.

Members may qualify for service-connected disability benefits regardless of length of service. Service connected disability benefits are equal to 70% of a member's final rate of pay, and are payable immediately without an actuarial reduction. These applications require approval by the Board. Eligibility to apply for nonservice-connected disability benefits varies by bargaining unit and uniform/nonuniform status. Non-service-connected disability benefits are determined in the same manner as retirement benefits, and are payable immediately.

Service-connected death benefits are payable to:

- 1) surviving spouse/life partner at 60% of final rate of pay plus up to two children under age 18 at 10% each of final rate of pay (maximum payout: 80%);
- 2) if no surviving spouse/life partner, up to 3 children under age 18 at 25% each of final rate of pay (maximum payout 75%); or
- 3) if no surviving spouse/life partner or children under age 18, up to two surviving parents at 15% each of final rate of pay (maximum payout 30%).

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 1 PENSION FUND DESCRIPTION (CONTINUED)

Benefits (Continued)

Nonservice-connected deaths are payable as a lump sum payment, unless the deceased was either vested or had reached minimum retirement age for their plan, in which case the beneficiary(ies) may instead select a lifetime monthly benefit, payable immediately with an actuarial reduction.

A Pension Adjustment Fund (PAF) is funded with 50% of the excess earnings that are between 1% and 6% above the actuarial assumed earnings rate. Each year within 60 days of the end of the fiscal year, by majority vote of its members, the Board of Directors of the Fund (the Board) shall consider whether sufficient funds have accumulated in the PAF to support an enhanced benefit distribution (which may include, but is not limited to, a lump sum bonus payment, monthly pension payment increases, ad-hoc cost of living adjustments, continuous cost-of-living adjustments, or some other form of increase in benefits as determined by the Board) to retirees, their beneficiaries and their survivors. As of July 1, 2017, the date of the most recent actuarial valuation, there was \$1,097,499 in the PAF and the Board voted to make PAF distributions of \$34,604 during the fiscal year ended June 30, 2018.

The Fund includes a Deferred Retirement Option Plan (DROP Plan). The DROP Plan allows a participant to declare that they will retire within 4 years. During the four-year period, the City will make no further contributions for the participant. The participant would continue to work and to receive their salary; however, any increases would not be counted towards their pension benefit. During the four-year period the individual participates in the DROP Plan, their pension benefits will be paid into an escrow account in the participant's name. After the four-year period, the participant would begin to receive their pension benefits and the amount that has been accumulated in the escrow account in a lump sum payment. The balance in the DROP Plan as of June 30, 2018 is \$138.9 million.

Investments

The Pension Board's Investment Policy Statement provides, in part:

The overall investment objectives and goals should be achieved by use of a diversified portfolio, with safety of principal a primary emphasis. The portfolio policy should employ flexibility by prudent diversification into various asset classes based upon the relative expected risk-reward relationship of the asset classes and the expected correlation of their returns.

The Fund seeks an annual total rate of return of not less than 7.60% over a full market cycle. It is anticipated that this return standard should enable the Fund to meet its actuarially assumed earnings projection (currently 7.60%) over a market cycle. The investment return assumption was reduced by the Board from 7.70% to 7.60%. The Fund's investment program will pursue its aforesaid total rate of return by a combination of income and appreciation, relying upon neither exclusively in evaluating a prospective investment for the Fund.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 1 PENSION FUND DESCRIPTION (CONTINUED)

Investments (Continued)

All investments are made only upon recommendation of the Fund's Investment Committee and approval by a majority of the Pension Board. In order to document and communicate the objectives, restrictions, and guidelines for the Fund's investment staff and investments, a continuously updated Investment Policy Statement is maintained. The Investment Policy Statement is updated (and re-affirmed) each year at the January Board meeting. The following was the Board's approved asset allocation policy as of June 30, 2018:

<u>Asset Class</u>	<u>Target Allocation</u>
Broad Fixed Income	10.0 %
Global Fixed Income	2.0 %
Emerging Market Debt	2.0 %
U.S. Large - Cap Core	22.0 %
U.S. Mid-Cap Core	3.0 %
U.S. Small - Cap Core	5.0 %
ACWI Ex-U.S	15.0 %
Non-U.S Small Cap	6.0 %
Emerging Markets	4.0 %
Public REITs	1.0 %
Real Estate Core	11.0 %
Real Estate – Mezzanine	1.0 %
Real Estate – Opportunistic	1.0 %
Infrastructure	5.0 %
Private Equity	10.0 %
Private Debt	2.0 %
Total	<u>100.0 %</u>

Money-Weighted Rate of Return

For the year ended June 30, 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 8.83%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

Financial statements of the Fund are prepared using the accrual basis of accounting. Member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds of contributions are recognized when due and payable in accordance with the terms of the Fund.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Method Used to Value Investments

The Fund's investments are reported at fair value. Fair value is the amount that the Fund can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale. Fixed income securities and common and preferred stocks are generally valued based on published market prices and quotations from national security exchanges or securities pricing services. Securities which are not traded on a national security exchange are valued by the respective fund manager or other third parties based on similar sales.

For private market investments which include private equity, private debt, venture capital, hedge funds, and equity real estate investments where no readily ascertainable market value exists, management, in consultation with the general partner and investment advisors, has determined the fair values for the individual investments based upon the partnership's most recent available financial information. Some of the investment values provided in the report are estimates due to a lag in reporting for private market investments.

Futures contracts, foreign exchange contracts, and options are marked-to-market daily with changes in market value recognized as part of net appreciation/depreciation in the fair value of investments. Initial margin requirements for such financial instruments are provided by investment securities pledged as collateral or by cash.

Investment expenses consist of investment manager fees and investment consultant fees related to the traditional investments only, and not those fees related to the alternative investments. Unsettled investment sales are reported as Accrued Interest and Other Receivable, and unsettled investment purchases are included in Accrued Expenses and Other Liabilities.

Dividend income is recorded on the ex-dividend date. Interest income is recorded as earned on an accrual basis.

Income Taxes

The Fund qualifies under Section 401(a) of the Internal Revenue Code (IRC) and is exempt from income taxation as allowed by Section 501(a) of the IRC.

Related Parties

The City's Department of Finance provides cash receipt and cash disbursement services to the Fund. The City's Solicitor's office provides legal services to the Fund. Other administrative services are also provided by the City.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Use of Estimates in Preparing Financial Statements

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, liabilities, and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Risks and Uncertainties

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

Contributions are calculated based on certain assumptions pertaining to interest rates, inflation rates, and employee demographics, all of which are subject to change. Due to uncertainties inherent in the estimation and assumption process, it is at least reasonably possible that changes in these statements and assumptions in the near term would be material to the financial statements.

Administrative Expenses

Administrative expenses of the Fund are paid for by the Fund.

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING

Legal Provisions

The Fund is authorized to invest in "prudent investments," including obligations of the U.S. Treasury, agencies, and instrumentalities of the United States, investment grade corporate bonds, common stock, real estate, private market, etc. City ordinances contain provisions which preclude the Fund from investing in organizations that conduct business in certain countries and impose limitations on the amounts invested in certain types of securities.

Interest Rate Risk

Interest rate risk is the largest risk faced by an investor in the fixed income market. The price of a fixed income security generally moves in the opposite direction of the change in interest rates. Securities with long maturities are highly sensitive to interest rate changes.

Duration is a measure of the approximate sensitivity of a bond's value to interest rate changes. The higher the duration, the greater the changes in fair value when interest rates change. The Fund measures interest rate risk using option-adjusted duration, which recognizes the fact that yield changes may change the expected cash flows due to embedded options.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Interest Rate Risk (Continued)

The table below details the exposure to interest rate changes based upon maturity dates of the fixed income securities at June 30, 2018:

2018 (in Thousands)	Total Fair Value	Less Than 1 Year	1-5 Years	6-10 Years	More than 10 Years
Asset Backed Securities	\$ 19,263	\$ 1,168	\$ 6,810	\$ 2,557	\$ 8,728
CMO/REMIC	7,827	3,488	-	152	4,187
Commercial Mortgage Backed Securities	20,057	7,936	382	176	11,563
Corporate Bonds	307,972	104,587	84,580	79,855	38,950
Government Bonds	379,809	100,974	125,121	90,887	62,827
Mortgage Backed Securities	77,759	759	-	9,820	67,180
Municipal Bonds	12,136	-	-	4,521	7,615
Total Credit Risk of Debt Securities	<u>\$ 824,823</u>	<u>\$ 218,912</u>	<u>\$ 216,893</u>	<u>\$ 187,968</u>	<u>\$ 201,050</u>

Custodial Credit Risk

In the event of counter-party failure, the Fund may not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities held by the counterparty or counterparty's trust department are uninsured and are not registered in the name of the Fund. The Fund requires that all investments be clearly marked as to ownership, and to the extent possible, be registered in the name of the Fund. Certain investments may be held by the managers in the Fund's name.

Concentration of Credit Risk

Concentration of credit risk is the risk of substantial loss if investments are concentrated in one issuer. As of June 30, 2018, the Fund has no single issuer that exceeds 5% of total investments. Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments are excluded.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Credit Risk

Credit Risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. The fund is subject to credit risk on \$824.8 million of directly owned fixed income. The Fund's directly owned rated debt investments as of June 30, 2018 were rated by Standard & Poor's, a nationally recognized statistical rating agency and are presented below using Standard and Poor's rating scale:

2018 (in Thousands)	Credit Rating									
	Total Fair Value	AAA	AA	A	BBB	BB	B	CCC	D	NR
Asset Backed Securities	\$ 19,263	\$ 6,579	\$ 1,475	\$ 3,147	\$ 2,996	\$ -	\$ -	\$ -	\$ -	\$ 5,066
CMO/REMIC	7,827	760	5,489	14	333	199	336	-	-	696
Commercial Mortgage Backed Securities	20,057	5,518	10,896	1,002	6	246	6	-	-	2,383
Corporate Bonds	307,972	812	14,116	84,089	84,359	39,069	49,474	22,295	-	13,758
Government Bonds	379,809	11,504	258,672	48,770	16,816	26,657	12,125	2,907	758	1,600
Mortgage Backed Securities	77,759	-	77,759	-	-	-	-	-	-	-
Municipal Bonds	12,136	-	8,722	2,788	626	-	-	-	-	-
Total Credit Risk of Debt Securities	<u>\$ 824,823</u>	<u>\$ 25,173</u>	<u>\$ 377,129</u>	<u>\$ 139,810</u>	<u>\$ 105,136</u>	<u>\$ 66,171</u>	<u>\$ 61,941</u>	<u>\$ 25,202</u>	<u>\$ 758</u>	<u>\$ 23,503</u>

Foreign Currency Risk

The Fund's exposure to foreign currency risk derives from its position in foreign currency-denominated cash and investments in fixed income, equities, and derivatives. The foreign currency investment in equity securities is 41% of the total investment in equities.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Foreign Currency Risk (Continued)

The Fund's exposure to foreign currency risk at June 30, 2018 was as follows (expressed in thousands):

Currency	Cash	Fixed Income	Equities	Derivatives	Total
Euro (EUR)	\$ 1,683	\$ 1,960	\$ 320,471	\$ 2	\$ 324,116
Japanese Yen (JPY)	1,431	50	252,842	(232)	254,091
Pound Sterling (GBP)	595	11,034	189,706	(79)	201,256
Canadian Dollar (CAD)	233	903	111,165	(310)	111,991
Hong Kong Dollar (HKD)	264	-	106,481	-	106,745
Australian Dollar (AUD)	122	8,934	70,395	(92)	79,359
Swiss Franc (CHF)	377	-	70,578	-	70,955
South Korean Won (KRW)	-	-	43,143	-	43,143
Mexican Peso (MXN)	114	25,141	7,860	26	33,141
South African Rand (ZAR)	8	10,484	16,181	387	27,060
Swedish Krona (SEK)	84	-	25,498	(853)	24,729
Brazilian Real (BRL)	4	7,114	15,346	11	22,475
Malaysian Ringgit (MYR)	35	11,301	6,995	-	18,331
Danish Krone (DKK)	52	-	13,742	-	13,794
Indonesian Rupiah (IDR)	13	6,886	6,451	-	13,350
Polish Zloty (PLN)	2	9,954	3,139	49	13,144
Singapore Dollar (SGD)	65	-	11,100	-	11,165
Norwegian Krone (NOK)	31	-	8,000	(238)	7,793
Thai Baht (THB)	5	-	6,822	-	6,827
New Turkish Lira (TRY)	10	2,430	1,990	21	4,451
Chilean Peso (CLP)	30	977	3,329	(6)	4,330
Philippine Peso (PHP)	-	-	3,787	-	3,787
All Others	2,667	10,260	10,071	(468)	22,530
	<u>\$ 7,825</u>	<u>\$ 107,428</u>	<u>\$ 1,305,092</u>	<u>\$ (1,782)</u>	<u>\$ 1,418,563</u>

Derivatives

The Fund may invest in derivatives as permitted by guidelines established by the Pension Board. Pursuant to such authority, the Fund may invest in foreign currency forward contracts, options, futures (S&P Fund) and swaps. No derivatives were purchased with borrowed funds.

Derivatives are generally used to provide market exposure in the equity portfolio and to hedge against foreign currency risk and changes in interest rates, improve yield and adjust the duration of the Fund's fixed income portfolio. These securities are subject to changes in value due to changes in interest rates or currency valuations. Credit risk for derivatives results from the same considerations as other counterparty risk assumed by the Fund, which is the risk that the counterparty might be unable to meet its obligations.

Derivative instruments such as swaps, options, futures, and forwards are often complex financial arrangements used by governments to manage specific risks or to make investments. By entering into these arrangements, governments receive and make payments based on market prices without actually entering into the related financial or commodity transactions. Derivative instruments associated with changing financial and commodity prices result in changing cash flows and fair values that can be used as effective risk management or investment tools. Derivative instruments also can expose governments to significant risks and liabilities.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Derivatives (Continued)

The Fund enters into a variety of financial contracts, which include options, futures, forwards and swap agreements to gain exposure to certain sectors of the equity and fixed income markets; collateralized mortgage obligations (CMOs); other forward contracts, and U.S. treasury strips. The contracts are used primarily to enhance performance and reduce the volatility of the portfolio. The Fund is exposed to credit risk in the event of non-performance by counterparties to financial instruments. The Fund generally enters into transactions only with high quality institutions. Legal risk is mitigated through selection of executing brokers and review of all documentation. The Fund is exposed to market risk, the risk that future changes in market conditions may make an instrument less valuable. Exposure to market risk is managed in accordance with risk limits set by senior management, through buying or selling instruments or entering into offsetting positions. The notional or contractual amounts of derivatives indicate the extent of the Fund's involvement in the various types and uses of derivative financial instruments and do not measure the Fund's exposure to credit or market risks and do not necessarily represent amounts exchanged by the parties. The amounts exchanged are determined by reference to the notional amounts and the other terms of the derivatives.

Derivative Instruments

The following table summarizes aggregate notional or contractual amounts for the Fund's derivative financial instruments at June 30, 2018 in addition to the fair value and change in the fair value of derivatives.

List of Derivatives Aggregated by Investment Type					
Classification	Change in Fair Value	Fair Value at June 30, 2018		Notional	
Investment Derivatives					
Forwards Currency Contracts	Net Appreciation (Depreciation) in Investments	\$ (2,649,840)	Accrued Interest and Other Receivables	\$ (1,795,360)	\$ 220,322,282
Futures	Net Appreciation (Depreciation) in Investments	(82,352)	Accrued Expenses and Other Liabilities	(158,317)	158
Grand Totals		<u>\$ (2,732,192)</u>		<u>\$ (1,953,677)</u>	<u>\$ 220,322,440</u>

A Derivatives Policy Statement identifies and allows common derivative investments and strategies, which are consistent with the Investment Policy Statement of the City of Philadelphia Municipal Pension Fund. The guidelines identify transaction-level and portfolio-level risk control procedures and documentation requirements. Managers are required to measure and monitor exposure to counterparty credit risk. All counterparties must have credit ratings available from nationally recognized rating institutions such as Moody, Fitch, and S&P. The details of other risks and financial instruments in which the Fund involves are described below:

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Derivative Instruments (Continued)

Credit Risk

The Fund is exposed to credit risk on hedging derivative instruments that are in asset positions. To minimize its exposure to loss related to credit risk, it is the Fund's policy to require counterparty collateral posting provisions in its non-exchange-traded hedging derivative instruments. These terms require full collateralization of the fair value of hedging derivative instruments in asset positions (net of the effect of applicable netting arrangements) should the counterparty's credit rating fall below **AA** as issued by Fitch Ratings and Standard & Poor's or **Aa** as issued by Moody's Investors Service. Collateral posted is to be in the form of U.S. Treasury securities held by a third-party custodian. The city has never failed to access collateral when required.

It is the Fund's policy to enter into netting arrangements whenever it has entered into more than one derivative instrument transaction with a counterparty. Under the terms of these arrangements, should one party become insolvent or otherwise default on its obligations, close-out netting provisions permit the nondefaulting party to accelerate and terminate all outstanding transactions and net the transactions' fair values so that a single sum will be owed by, or owed to, the non-defaulting party.

Swap Agreements

These derivative instruments provide for periodic payments at predetermined future dates between parties based on the change in value of underlying securities, indexes, or interest rates. Under fixed interest rate type swap arrangements, the Fund receives the fixed interest rate on certain equity or debt securities or indexes in exchange for a fixed charge. There were no total receive fixed interest Swaps during 2018. On its pay-variable, received-fixed interest rate swap, as LIBOR increases, the Fund's net payment on the swap increases. Alternatively, on its pay-fixed, receive-variable interest rate swap, as LIBOR or the SIFMA swap index decreases, the Fund's net payment on the swap increases.

Futures Contracts

These derivative instruments are types of contracts in which the buyer agrees to purchase and the seller agrees to make delivery of a specific financial instrument at a predetermined date and price. Gains and losses on futures contracts are settled daily based on a notional (underlying) principal value and do not involve an actual transfer of the specific instrument. Futures contracts are standardized and are traded on exchanges. The exchange assumes the risk that the counterparty will not pay and generally requires margin payments to minimize such risk. In addition, the Fund enters into short sales, sales of securities it does not presently own, to neutralize the market risk of certain equity positions. Initial margin requirements on futures contracts and collateral for short sales are provided by investment securities pledged as collateral and by cash held by various brokers. Although the Fund has the right to access individual pledged securities, it must maintain the amount pledged by substituting other securities for those accessed. The realized gain from Futures contracts was \$375,351.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Derivative Instruments (Continued)

Forward Contracts

The Fund is exposed to basis risk on its forward contracts because the expected funds purchase being hedged is priced based on a pricing point different than the pricing point at which the forward contract is expected to settle. The realized gain from forward contracts was \$2,919,043.

Termination Risk

The Fund or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. In addition, the Fund is exposed to termination risk on its receive-fixed interest rate swap. The Fund is exposed to termination risk on its rate cap because the counterparty has the option to terminate the contract if the SIFMA swap index exceeds 12%. If at the time of termination, a hedging derivative instrument is in a liability position, the City would be liable to the counterparty for a payment equal to the liability, subject to netting arrangements.

Rollover Risk

The Fund is exposed to rollover risk on hedging derivative instruments that are hedges of debt that mature or may be terminated prior to the maturity of the hedged debt. When these hedging derivative instruments terminate, or in the case of a termination option, if the counterparty exercises its option, the Fund will be re-exposed to the risks being hedged by the hedging derivative instrument.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Fair Value Measurement

The Municipal Pension Fund has the following recurring fair value measurement as of June 30, 2018 (expressed in thousands):

	June 30, 2018	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level				
U.S. Treasury Securities	\$ 220,476	\$ -	\$ 220,476	\$ -
Agency Bonds	18,191	-	18,191	-
Asset Backed Securities	19,264	-	19,264	-
Corporate Bonds	307,972	-	307,971	1
Government Bonds	133,947	-	133,947	-
Mortgage Backed Securities	105,643	-	105,643	-
Municipal Bonds	12,136	-	12,136	-
Sovereign Debt	7,195	-	7,195	-
Mutual Funds	7,144	739	6,405	-
Equity	3,150,606	3,148,506	391	1,709
Total Investments by Fair Value Level	3,982,574	3,149,245	831,619	1,710
Investments Measured at the Net Asset Value (NAV)				
Credit Distressed Hedge Fund	\$ 3,833			
Equity Long/Short Hedge funds	31,213			
Real Estate	491,004			
Private Equity	487,071			
Fixed Income Funds	121,328			
Total Investments Measured at the NAV	1,134,449			
Total Investments Measured at Fair Value	\$ 5,117,023			
Investment Derivative Instruments				
Equity Index Futures (Assets)	\$ 15	\$ 15	\$ -	
Equity Index Futures (Liabilities)	(227)	(227)	-	
Currency Futures (Assets)	53	53	-	
Forward Currency Contracts (Assets)	1,179	-	1,179	
Forward Currency Contracts (Liabilities)	(2,974)	-	(2,974)	
Total Investment Derivative instruments	\$ (1,954)	\$ (159)	\$ (1,795)	

Equity securities classified in Level 1 of the fair value hierarchy are valued using quoted market prices. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Corporate bonds and equities in Level 3 are valued using discounted cash flow techniques.

Derivative instruments classified in Level 1 of the fair value hierarchy are valued using quoted market prices. Derivative instruments classified in Level 2 are valued using a market approach that considers benchmark for foreign exchange rates.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Fair Value Measurement (Continued)

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) is presented on the following table (expressed in thousands):

<u>Investment Measured at the Net Asset Value (NAV)</u>		<u>Unfunded Commitments</u>	<u>Redemption Frequency (If Currently Eligible)</u>	<u>Redemption Notice Period</u>
Credit Distressed Hedge Fund	\$ 3,833	\$ -	Quarterly	90 days
Equity Long/Short Hedge funds	31,213	-	Quarterly	90 days' notice
Real Estate	491,004	30,723	N/A	N/A
Private Equity	487,071	291,557	N/A	N/A
Fixed Income Funds	121,328	-	Quarterly	90-120 days
Total Investments Measured at the NAV	<u>\$ 1,134,449</u>			

1. Credit Distressed Hedge Funds

The Funds seek to identify and exploit event driven opportunities both on the long and short side in the stressed and distressed corporate debt markets. Investments are generally driven by fundamental, value-oriented analysis, and specific credit events. The Funds maintain the flexibility to invest globally and across capital structures of stressed and distressed companies. Investments generally target secondary U.S. credit opportunities across all tranches of a company's debt capital structure. The Funds may also invest opportunistically in certain equities, long and short. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. Investments can be redeemed with a 90 days' notice.

2. Equity Long/Short Hedge Funds

This Fund will typically hold 0-50 long positions and 10-15 short positions in U.S. common stocks. Management can shift investments from value to growth strategies, from small to large capitalization stocks, and from a net long position to a net short position. The Fund mitigates market risk by utilizing short positions. In periods of extreme volatility, the Fund may hold a significant portion of its assets in cash. The fair values of the investments in this type have been determined using the NAV per share of the investments. Investment can be redeemed with a 90 days' notice.

3. Real Estate Funds

This type includes funds that invest in U.S. and Non-U.S. commercial and residential real estate. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. However, the individual investments that will be sold have not yet been determined. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. Once it has been determined which investments will be sold and whether those investments will be sold individually or in a group, the investments will be sold in an auction process. The investee fund's management is required to approve of the buyer before the sale of the investments can be completed. It is expected that the underlying assets of the funds will be liquidated over the next seven to 10 years.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Fair Value Measurement (Continued)

4. Private Equity Funds

The primary goal of these Funds is to generate returns for investors that exceed private equity industry benchmarks and are commensurate with asset class risk through the construction of a portfolio of opportunistic, highly performing private equity investments. Investments that fund may undertake include early-stage venture capital, later-stage growth financings, leveraged buyouts of medium and large-sized companies, mezzanine investments, PIPES and investments in companies that are being taken private. These investments can never be redeemed with the funds. Instead, the nature of the investments in this type is that distributions are received through the liquidation of the underlying assets of the fund. If these investments were held, it is expected that the underlying assets of the fund would be liquidated over five to 10 years. The fair values of the investments in this type have been determined using recent observable transaction information for similar investments and nonbinding bids received from potential buyers of the investments. Once a buyer has been identified, the investee fund's management is required to approve of the buyer before the sale of the investments can be completed.

5. Fixed Income Funds

The primary goal of these Funds is to create alpha by sourcing proprietary opportunities, avoiding capital loss, buying securities below their intrinsic value and selling securities above their intrinsic value. Firms look for opportunities that are currently mispriced, based on fundamentals or potentially an event that may improve the price of the holding.

Securities Lending Program

The Fund, pursuant to a Securities Lending Authorization Agreement, has authorized J.P. Morgan Bank and Trust Company (J.P. Morgan) to act as the Fund's agent in lending the Fund's securities to approved borrowers. J.P. Morgan, as agent, enters into Securities Loan Agreements with borrowers.

During the fiscal year, J.P. Morgan lent, on behalf of the Fund, certain securities of the Fund held by J.P. Morgan Chase Bank, N.A. as custodian and received cash or other collateral including securities issued or guaranteed by the United States, U.K., and Eurozone governments. J.P. Morgan does not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to at least 102% or 105% of the market value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, J.P. Morgan had an obligation to indemnify the Fund in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration or notice of default of the borrower.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 3 CASH DEPOSITS, INVESTMENTS, AND SECURITIES LENDING (CONTINUED)

Securities Lending Program (Continued)

During the fiscal year, the Fund and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested in a separately managed account based upon the investment guidelines established by the Fund. As of June 30, 2018, the weighted average maturity was 48 days and the final maturity was 351 days. Because the securities lending transactions were terminable at will, their duration did not generally match the duration of the investments made with the cash collateral received from the borrower.

On June 30, 2018, the Fund had no credit risk exposure to borrowers.

As of June 30, 2018, the fair value of securities on loan was \$401.0 million. Associated collateral totaling \$411.3 million was comprised of cash which was invested in a separately managed account based upon the investment guidelines established by the Pension Fund. As of June 30, 2018, the invested cash collateral was \$411.3 million and is valued at amortized cost.

NOTE 4 INVESTMENT ADVISORS

The Fund utilizes investment advisors to manage long-term debt, real estate, private market, and equity portfolios. To be eligible for consideration, investments must meet criteria set forth in governing laws and regulations.

NOTE 5 NET PENSION LIABILITY

The components of the net pension liability as of June 30, 2018 were as follows:

Total Pension Liability	\$ 11,510,667,823
Plan Fiduciary Net Position	5,341,285,527
Net Pension Liability	<u>\$ 6,169,382,296</u>

Plan Fiduciary Net Position as a Percentage of the Total Pension Liability: 46.4%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2017 and was rolled forward to June 30, 2018. The June 30, 2017 actuarial valuation used the following actuarial assumptions, applied to all periods including the measurement period:

Actuarial Cost Method:	Entry Age Normal
Investment Rate of Return:	7.60% compounded annually, net of expenses
Salary Increases:	Age based table

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 5 NET PENSION LIABILITY (CONTINUED)

Actuarial Assumptions (Continued)

- The investment return assumption was changed from 7.70% from the prior year valuation to 7.60% for the current year valuation.
- To recognize the expense of the benefits payable under the Pension Adjustment Fund, the actuarial liabilities have been increased by 0.54%. This estimate is based on the statistical average expected value of the benefits.
- The mortality rates were based on the RP 2000 Healthy Annuitant Mortality Table for males and females with adjustments for mortality improvements using Scale AA with a five-year setback for Municipal males and females and a two-year setback for Police and Fire males and females.

The measurement date for the net pension liability (NPL) is June 30, 2018. Measurements are based on the fair value of assets as of June 30, 2018 and the total pension liability (TPL) as of the valuation date, July 1, 2017, updated to June 30, 2018. The roll-forward procedure included the addition of service cost and interest cost offset by actual benefit payments. During the measurement year, the collective NPL decreased by approximately \$149 million. The service cost and interest cost increased the collective NPL by approximately \$1,007 million while contributions plus investment income offset by administrative expenses decreased the collective NPL by approximately \$1,295 million.

There was a benefit change to provide a minimum benefit of \$1,000 per month for Police and Fire retirees which increased the TPL by approximately \$4 million. There were actuarial experience losses during the year of approximately \$29 million which includes the loss due to the Pension Adjustment Fund payment of \$7 million for the previous year.

In addition, the Board adopted proposed assumption changes following the Experience Study completed March 2018, including:

- 1) Decrease the expected long-term return on assets from 7.70% to 7.60% and
- 2) Demographic assumption changes, including updates to the mortality rates, retirement rates, termination rates, disability rates, salary scale for Municipal, service-connected disability rates, and percent married for non-active members.

The combined effect of these assumption changes increased the TPL by approximately \$106 million.

Long-Term Expected Rate of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense 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 future real rates of return by the target asset allocation percentage and by adding expected inflation.

CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018

NOTE 5 NET PENSION LIABILITY (CONTINUED)

Long-Term Expected Rate of Return (Continued)

Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2018 are summarized in the following table: (see pension plan's investment policy: <http://www.phila.gov/pensions/PDF/ips.pdf>)

Fixed Income	Long-Term Expected Real Rate of Return	Benchmark Index
Broad Fixed Income	2.80 %	Bloomberg Barclays U.S. Aggregate TR
Int. Government	2.20 %	Bloomberg Barclays U.S. Govt TR
High Yield	4.50 %	Bloomberg Barclays U.S. High Yield TR
Global Aggregate	1.70 %	Bloomberg Barclays U.S. Global Aggregate TR
Bank Loans	4.90 %	Credit Suisse Leveraged Loans
Emerging Market Debt	6.30 %	JP Morgan EMBI Global TR
Equities		
Broad U.S. Equity	7.30 %	Russell 3000
Global Equity	7.40 %	MSCI ACWI
Broad Non-U.S. Equity	7.60 %	MSCI EAFE
Emerging Market	8.60 %	MSCI Emerging Markets
Hedge Fund		
Hedge Funds	5.00 %	HFRI Fund of Funds Composite Index
Real Estate		
Real Estate – Core	7.60 %	NCREIF Fund Index
Public REITs	7.10 %	NAREIT
Opportunistic Real Estate	11.70 %	NCREIF Property Index
Real Asset		
MLPs	7.60 %	Alerian MLP Index
Global Infrastructure	7.50 %	Dow Jones Brookfield Global Infrastructure Index
Private Equity		
Private Equity	11.10 %	Cambridge Associates
Private Debt	10.00 %	Cambridge Associates
Cash		
TIPS	3.80 %	Bloomberg Barclays US TIPS TR
91 Day T-Bills	1.20 %	

The above table reflects the expected real rate of return for each major asset class. The expected inflation rate is projected at 2.5% for the same period.

Discount Rate

The discount rate used to measure the total pension liability was 7.60%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and the participating governmental entity contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long term expected rate of return on pension plan investments was applied to all periods on projected benefit payment to determine the total pension liability.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2018**

NOTE 5 NET PENSION LIABILITY (CONTINUED)

Sensitivity of the Net Pension Liability

The following presents the net pension liability of the Fund, calculated using the discount rate of 7.60%, as well as what the Fund's net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

	1% Decrease 6.60%	Discount Rate 7.60%	1% Increase 8.60%
Total Pension Liability	\$ 12,692,479,606	\$ 11,510,667,823	\$ 10,504,052,174
Plan Fiduciary Net Position	5,341,285,527	5,341,285,527	5,341,285,527
Net Pension Liability	<u>\$ 7,351,194,079</u>	<u>\$ 6,169,382,296</u>	<u>\$ 5,162,766,647</u>
 Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	 42.1%	 46.4%	 50.8%

NOTE 6 GUARANTEE OF BENEFITS

Benefits under the Fund are guaranteed by statute. In the event that employee contributions do not equal required benefits, the City's General Fund must provide any shortfall.

NOTE 7 PARTICIPATION IN THE PENSION FUND

The trustees for the Fund are also members of the Fund and as such, are subject to the provisions of the Fund as described in the notes to these financial statements.

REQUIRED SUPPLEMENTARY INFORMATION

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
REQUIRED SUPPLEMENTARY INFORMATION
JUNE 30, 2018**

SCHEDULE OF INVESTMENT RETURNS

Schedule of Investment Returns					
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014
Annual Money-Weighted Rate of Return, Net Investment Expenses	8.83%	13.68%	-3.20%	0.93%	15.77%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014
<u>Total Pension Liability</u>					
Service Cost (MOY)	\$ 164,137,303	\$ 157,607,110	\$ 148,370,075	\$ 143,556,347	\$ 136,986,515
Interest (Includes Interest on Service Cost)	843,171,926	823,959,345	802,450,569	791,298,503	774,518,750
Changes of Benefit Terms	4,064,886	-	-	-	-
Differences Between Expected and Actual Experience	28,937,167	103,878,650	151,918,733	34,909,464	-
Changes of Assumptions	106,021,273	51,441,475	85,147,737	48,146,352	213,156,725
Benefit Payments, Including Refunds of Member Contributions	(828,266,043)	(821,495,227)	(889,343,124)	(881,464,964)	(808,597,357)
Net Change in Total Pension Liability	318,066,512	315,391,353	298,543,990	136,445,702	316,064,633
Total Pension Liability - Beginning of Year	11,192,601,311	10,877,209,958	10,578,665,968	10,442,220,266	10,126,155,633
Total Pension Liability - End of Year	\$ 11,510,667,823	\$ 11,192,601,311	\$ 10,877,209,958	\$ 10,578,665,968	\$ 10,442,220,266
<u>Plan Fiduciary Net Position</u>					
Contributions - Employer	\$ 781,984,326	\$ 706,236,698	\$ 660,246,511	\$ 577,195,412	\$ 553,178,927
Contributions - Member	83,288,635	73,607,359	67,055,003	58,657,817	53,722,275
Net Investment Income	440,326,787	566,624,580	(145,681,480)	13,838,367	681,469,584
Benefit Payments, Including Refunds of Member Contributions	(828,266,043)	(821,495,227)	(889,343,124)	(881,666,036)	(808,597,357)
Administrative Expense	(10,123,004)	(8,873,657)	(8,553,837)	(10,478,541)	(8,291,820)
Net Change in Plan Fiduciary Net Position	467,210,701	516,099,753	(316,276,927)	(242,452,981)	471,481,608
Total Fiduciary Net Position - Beginning of Year	4,874,074,826	4,357,975,073	4,674,252,416	4,916,705,397	4,445,223,788
Total Fiduciary Net Position - End of Year	\$ 5,341,285,527	\$ 4,874,074,826	\$ 4,357,975,073	\$ 4,674,252,416	\$ 4,916,705,397
Net Pension Liability - End of Year	\$ 6,169,382,296	\$ 6,318,526,485	\$ 6,519,234,885	\$ 5,904,413,552	\$ 5,525,514,870
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	46.40%	43.55%	40.07%	44.19%	47.08%
Covered Payroll	\$ 1,801,398,776	\$ 1,744,729,284	\$ 1,676,411,925	\$ 1,545,499,872	\$ 1,556,660,223
Net Pension Liability as a Percentage of Covered Payroll	342.48%	362.15%	388.88%	382.04%	354.96%

Note: The schedules of investment return and changes in net pension liability and related ratios are intended to show information for 10 years. Additional years will be displayed as they become available.

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
REQUIRED SUPPLEMENTARY INFORMATION
JUNE 30, 2018**

Schedule of Employer Contributions (Based on Minimum Municipal Obligation)

	Last 10 Fiscal Years Amount in Thousands									
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014	FYE 2013	FYE 2012	FYE 2011	FYE 2010	FYE 2009
Actuarially Determined Contribution	\$ 661,257	\$ 629,620	\$ 594,975	\$ 556,030	\$ 523,368	\$ 727,604	\$ 534,039	\$ 463,375	\$ 297,446	\$ 438,522
Contributions in Relation to the										
Actuarially Determined Contribution	\$ 781,984	\$ 706,237	\$ 660,247	\$ 577,195	\$ 553,179	\$ 781,823	\$ 555,690	\$ 470,155	\$ 312,556	\$ 455,389
Contribution Deficiency/(Excess)	\$ (120,727)	\$ (76,617)	\$ (65,271)	\$ (21,166)	\$ (29,811)	\$ (54,218)	\$ (21,651)	\$ (6,780)	\$ (15,110)	\$ (16,867)
Covered Payroll	\$ 1,801,399	\$ 1,744,729	\$ 1,676,412	\$ 1,597,849	\$ 1,495,421	\$ 1,429,723	\$ 1,372,174	\$ 1,371,274	\$ 1,421,151	\$ 1,463,260
Contributions as a Percentage of Covered Payroll	43.41%	40.48%	39.38%	36.12%	36.99%	54.68%	40.50%	34.29%	21.99%	31.12%

Schedule of Employer Contributions (Based on Revenue Recognition Policy)

	Last 10 Fiscal Years Amount in Thousands									
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014	FYE 2013	FYE 2012	FYE 2011	FYE 2010	FYE 2009
Actuarially Determined Contribution	\$ 662,139	\$ 629,620	\$ 594,975	\$ 556,030	\$ 523,368	\$ 727,604	\$ 534,039	\$ 463,375	\$ 297,446	\$ 438,522
Contributions in Relation to the										
Actuarially Determined Contribution	\$ 781,984	\$ 706,237	\$ 660,247	\$ 577,195	\$ 553,179	\$ 781,823	\$ 555,690	\$ 470,155	\$ 312,556	\$ 455,389
Contribution Deficiency/(Excess)	\$ (119,845)	\$ (76,617)	\$ (65,271)	\$ (21,166)	\$ (29,811)	\$ (54,218)	\$ (21,651)	\$ (6,780)	\$ (15,110)	\$ (16,867)
Covered Payroll	\$ 1,801,399	\$ 1,744,728	\$ 1,676,549	\$ 1,597,849	\$ 1,495,421	\$ 1,429,723	\$ 1,372,174	\$ 1,371,274	\$ 1,421,151	\$ 1,463,260
Contributions as a Percentage of Covered Payroll	43.41%	40.48%	39.38%	36.12%	36.99%	54.68%	40.50%	34.29%	21.99%	31.12%

Schedule of Employer Contributions (Based on Funding Policy)

	Last 10 Fiscal Years Amount in Thousands									
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014	FYE 2013	FYE 2012	FYE 2011	FYE 2010	FYE 2009
Actuarially Determined Contribution	\$ 871,802	\$ 881,356	\$ 846,283	\$ 798,043	\$ 823,885	\$ 738,010	\$ 722,491	\$ 715,544	\$ 581,123	\$ 539,464
Contributions in Relation to the										
Actuarially Determined Contribution	\$ 781,984	\$ 706,237	\$ 660,247	\$ 577,195	\$ 553,179	\$ 781,823	\$ 555,690	\$ 470,155	\$ 312,556	\$ 455,389
Contribution Deficiency/(Excess)	\$ 89,818	\$ 175,119	\$ 186,036	\$ 220,847	\$ 270,706	\$ (43,813)	\$ 166,801	\$ 245,389	\$ 268,567	\$ 84,075
Covered Payroll	\$ 1,801,399	\$ 1,744,729	\$ 1,676,412	\$ 1,597,849	\$ 1,495,421	\$ 1,429,723	\$ 1,372,174	\$ 1,371,274	\$ 1,421,151	\$ 1,463,260
Contributions as a Percentage of Covered Payroll	43.41%	40.48%	39.38%	36.12%	36.99%	54.68%	40.50%	34.29%	21.99%	31.12%

**CITY OF PHILADELPHIA MUNICIPAL PENSION FUND
REQUIRED SUPPLEMENTARY INFORMATION
JUNE 30, 2018**

Notes to Schedule

Valuation Date 7/1/2016
 Timing Actuarially determined contribution rates are calculated based on the actuarial valuation two years prior to the beginning of the plan year.

Key Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method Asset Valuation Method Amortization Method Discount Rate Amortization Growth Rate Salary Increases Mortality	Entry Age 10-year smoothed market Gain/Losses are amortized over closed 20-year periods, assumption changes over 15 years, benefit changes for actives over 10 year and benefit changes for inactive members over 1 year. Plan changes mandated by state over 20 years. Under the City's Funding Policy, the initial July 1, 1985 unfunded actuarial liability (UAL) is amortized over 34 years ending June 30, 2019 with payments increasing 3.3% per year, the assumed payroll growth. Under the MMO Funding Policy, the initial July 1, 2009 unfunded actuarial liability (UAL) was "fresh started" to be amortized over 30 years, ending June 30, 2039. This is a level dollar amortization of the UAL. Under the RRP Funding Policy, sales tax revenue and additional member contributions are dedicated to fund the unfunded liability over reducing the City's obligation such that this revenue is in addition to the MMO would be without these additional assets 7.70% 3.30% Age based salary scale Sex distinct RP-2000 Combined Mortality with adjustments and improvements using Scale AA
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A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2018 can be found in the July 1, 2016 actuarial valuation