
Police and Fire Retirement System
of the City of Detroit

**Financial Report
with Supplemental Information
June 30, 2019**

Police and Fire Retirement System of the City of Detroit

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Independent Auditor's Report

To the Board of Trustees
Police and Fire Retirement System of the City of Detroit

Report on the Financial Statements

We have audited the accompanying financial statements of the Police and Fire Retirement System of the City of Detroit (the "System") as of and for the year ended June 30, 2019 and the related notes to the financial statements, which collectively comprise the Police and Fire Retirement System of the City of Detroit's basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the 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 Police and Fire Retirement System of the City of Detroit as of June 30, 2019 and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

To the Board of Trustees
Police and Fire Retirement System of the City of Detroit

Other Matter

Required Supplemental Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other required supplemental information, as identified 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, which 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 supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Report on Summarized Comparative Information

We have previously audited the Police and Fire Retirement System of the City of Detroit's June 30, 2018 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated November 26, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Plante & Moran, PLLC

November 18, 2019

Police and Fire Retirement System of the City of Detroit

Management's Discussion and Analysis

As management of the Police and Fire Retirement System of the City of Detroit (DPFRS or the "System"), we offer readers this narrative overview and analysis of the financial activities for the year ended June 30, 2019.

Using This Annual Report

This annual report consists of three parts: (1) management's discussion and analysis (this section), (2) the basic financial statements, and (3) the required supplemental information. The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. The financial statements are followed by sections of required supplemental information that further explain and support the information in the financial statements.

Financial Highlights

- U.S. economic data remained broadly positive during the fiscal year. Financial markets, however, experienced tremendous volatility as evolving trade policy disputes, a protracted government shutdown, and an apparent disconnect between the Federal Reserve Board and U.S. capital markets caused uncertainty and confusion. In light of this uncertainty, DPFRS has revised its asset allocation, and we are moving forward strategically to continue to protect the System's assets for the future benefit of our members.
- We are also utilizing technology to better our operations and improve customer service for our membership. We have contracted with UHY and Procentia to assist us with the implementation of a new pension ERP system designed to address our member services need. The new system will allow members access to numerous online self-service features, such as payroll deductions updates, direct deposit changes, address changes, annuity balance look-up, and pension benefit estimates. The ERP system will provide additional reporting features for our employees and also improve the accuracy of the information provided to our actuaries.

Condensed Financial Information

The table below compares key financial information in a condensed format between the current year and the prior year:

	2019	2018
Assets	\$ 3,148,476,159	\$ 3,344,199,389
Liabilities	313,903,928	345,285,735
Fiduciary Net Position Restricted for Pensions	\$ 2,834,572,231	\$ 2,998,913,654

Police and Fire Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

	2019	2018
Additions		
Net investment income	\$ 102,285,621	\$ 244,318,898
Securities lending income:		
Income	1,331,821	1,942,678
Net gain on collateral pool	141,749	397,791
Total securities lending income	1,473,570	2,340,469
Contributions:		
Employer	17,832,015	19,274,356
Employee	9,771,884	9,212,990
Foundation	18,300,000	18,300,000
Total contributions	45,903,899	46,787,346
Transfer from Component II to Component I	4,030,561	-
Other income	508,211	1,525,944
Total additions	154,201,862	294,972,657
Deductions		
Retirees' pension and annuity benefits	290,237,284	288,851,671
Member refunds and withdrawals	19,449,902	20,163,415
Transfer to Component I from Component II	4,030,561	-
Other expenses	4,825,538	6,862,540
Total deductions	318,543,285	315,877,626
Net Decrease in Fiduciary Net Position Restricted for Pensions	\$ (164,341,423)	\$ (20,904,969)

Fund Overview, Membership, and Governance

The Police and Fire Retirement System of the City of Detroit is a defined benefit pension plan with a defined contribution element, which, as discussed in greater detail below, was frozen by the City of Detroit, Michigan (the "City") at the conclusion of the 2014 fiscal year. This existing plan, the legacy plan (the "Legacy Plan"), is also referred to as Component II. A new pension plan (the "Hybrid Plan," also referred to as Component I) was created by the City for its uniformed employees on July 1, 2014. Both the Legacy Plan and Hybrid Plan are being reported in these financial statements.

DPFRS exists to pay benefits to its active members, retirees, and beneficiaries. Active members earn service credit that entitles them to receive benefits in the future. Both the employer and municipal plan sponsor for the System, the City, and active members have historically contributed to the System. Retirees, beneficiaries, and disabled members are those currently receiving benefits.

Component I of DPFRS is a newly created plan (effective July 1, 2014), with more active members earning service credit than members eligible to receive or receiving benefits. As of June 30, 2018, there were 2,687 active members, with 90 retirees and 471 terminated plan members entitled to but not yet receiving benefits.

Component II of DPFRS is a relatively mature plan in that there are more retirees and beneficiaries receiving current benefits than active members. Membership of the System at June 30, 2018 consisted of 2,446 active members, with 8,151 inactive members receiving benefits and 410 terminated plan members entitled to but not yet receiving benefits. On June 30, 2014, the emergency manager of the City of Detroit, Michigan issued Order No. 29, which froze the existing pension plan, the Legacy Plan. As of June 30, 2014, no new employees were allowed to participate in the Legacy Plan, and benefit accruals for members with respect to service rendered prior to July 1, 2014 were frozen based on the members' years of service, average final compensation, and the pension multiplier formula as of the freeze date. Employees working after July 1, 2014 are now earning service credit in the Hybrid Plan.

Police and Fire Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

On July 1, 2014, the City first published a document entitled the Combined Plan for the Police and Fire Retirement System of the City of Detroit, Michigan (the "Combined Plan"). On October 19, 2014, the emergency manager issued Order No. 43, which amended and restated the Combined Plan. Before leaving office on December 8, 2014, the emergency manager issued Order No. 44, which again amended and restated the Combined Plan. According to Order No. 44, the latest amendments and restatements to the Combined Plan made changes related to collective bargaining agreements, conformed the combined plan terms to the requirements of the City of Detroit, Michigan's bankruptcy plan, and made clarifying modifications. The Combined Plan is available at DPFRS' website, www.pfrsdetroit.org.

DPFRS governance was modified in December 2014 as part of the City of Detroit, Michigan's bankruptcy plan. DPFRS is governed by a board of trustees (the "Board") composed of 17 seats, though, as of June 30, 2019, there were 15 seats occupied. While DPFRS' investment management is now the ultimate responsibility of a nine-member investment committee (the "Investment Committee"), the Board maintains its role as the governing board vested with responsibility for the general administration, management, and operation of the System, with which the Investment Committee assists, pursuant to Michigan law.

The Board is composed of six members elected by the active membership to serve three-year terms. Expirations of terms of elected trustees are staggered. Two retired members are elected by the retired membership and serve three-year terms. Eight members serve ex officio, these members being the mayor of the City of Detroit, Michigan (or designee), the city treasurer (or deputy treasurer), one representative from the Detroit City Council, the Corporation Counsel (or designee), the finance director (or designee), the budget director (or designee), and two ex officio trustees to be appointed by the mayor. A 17th trustee, who is not a participant of the plan and is not employed by the City, may be selected to serve two years by the board of trustees.

The Investment Committee has five independent members appointed to initial terms with staggered expirations, which terms will all eventually become six years. Four additional members, two active and two retired, serve on the Investment Committee based on appointment by the Board. The Investment Committee will be in place through at least December 2034.

Contributions to the System

Historically, both the City and active employees have made regular contributions to the System. Basic pension and disability benefits have been funded through employer and employee contributions plus investment earnings on those contributions. The required employer contributions have been determined by the System's actuaries using the entry age normal cost method. Assumptions used by the actuaries are subject to experience testing every five years. Effective December 10, 2014, as part of the resolution of the Chapter 9 case, the investment return assumption and discount rate used by the System's actuary for the purpose of determining the System's assets and liabilities for funding purposes was fixed at 6.75 percent through the period ending June 30, 2023.

The obligations for contributions to the System through 2023 are determined as fixed amounts pursuant to the provisions in the Plan of Adjustment. Pursuant to the Plan of Adjustment, the System was expected to receive contributions totaling \$260.7 million, including \$96.0 million from the State of Michigan and at least the present value equivalent of \$164.7 million from the foundation donors, over a 10-year period covering fiscal year 2015 through fiscal year 2023, as well as at least the present value of \$50 million over a 10-year period ending in 2034. The City will retain responsibility for the full funding obligations of the System after 2023, consistent with Michigan law.

The Plan of Adjustment allows for certain of the funding obligations to DPFRS through 2034 to be met by prepayment of the present value equivalent using a discount rate of 6.75 percent. In the fiscal year ended June 30, 2016, a portion of the DIA obligation to make annual \$5 million contributions over 10 years ending in 2034 was prepaid. This present value prepayment resulted in DPFRS receiving \$19,487,744 on June 30, 2016 from the DIA, which represents the present value, using a 6.75 percent discount rate, of \$4,650,000 per year for 10 years ending in 2034. DPFRS still expects to receive the equivalent or actual remaining \$375,000 per year from the DIA for that 10-year period from 2025 to 2034.

Police and Fire Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

Impact of City of Detroit Collective Bargaining and Bankruptcy Pension Adjustments

As further noted below, depending on bargaining unit, the following changes became effective with EM Order No. 29:

- The Legacy Plan obligations, or the existing defined contribution plan and defined benefit plan, were frozen as of June 30, 2014, as referenced above.
- As of July 1, 2014, a new defined benefit plan commenced with mandatory contributions as part of the new Hybrid Plan. Members hired on or before June 30, 2014 contribute 6 percent of base compensation, and all employees hired on or after July 1, 2014 will contribute 8 percent of base compensation.
- As of July 1, 2014, a new defined contribution plan became optional for the annuity savings fund in the new Hybrid Plan. Employees may make voluntary annuity savings fund contributions up to 10 percent of total after-tax pay. Interest will be credited at the actual net investment rate of return of DPFERS, but will in no event be lower than 0 percent or higher than 5.25 percent.

In the Legacy Plan, active employees historically made a mandatory contribution of 5 percent of pay toward their defined contribution benefits (annuity savings fund) until the date at which they are eligible for retirement. These employee contributions are maintained in separate accounts in the defined contribution plan solely for the benefit of the contributing employee. Before the Legacy Plan was frozen, employee annuity savings fund accounts were credited with investment earnings equal to the rate of return earned by the System subject to minimum earnings of 0 percent. An active employee is allowed in the Legacy Plan to withdraw his or her accumulated contributions in the annuity savings fund plus investment earnings once he or she is eligible for retirement or upon completion of 25 years of service (DPOA and fire equivalents may do so at 20 years, consistent with new collective bargaining agreements entered in 2014).

Following the freeze of the Legacy Plan, no member was allowed to make contributions into the annuity savings fund of the Legacy Plan with respect to payroll dates occurring on or after August 1, 2014. Mandatory employee contributions of 6 percent of pay after that date support the defined benefits allowed as part of the new Hybrid Plan.

In the new Hybrid Plan, effective July 1, 2014 and beginning with payroll on or after August 1, 2014, active employees were allowed to make voluntary contributions to a new annuity savings fund account of up to 10 percent of total after-tax pay. Interest will be credited to those accounts at the actual net investment rate of return for DPFERS, but will not be lower than 0 percent or more than 5.25 percent. No in-service withdrawals are permitted from the Hybrid Plan annuity savings fund accounts.

In the Hybrid Plan, employer contributions by the City are allocated according to bargaining unit and the respective collective bargaining agreement (CBA). For Detroit Fire Fighter Association employees, the City will contribute 11.2 percent of base compensation prior to the effective date of the CBA and 12.25 percent after the effective date of the CBA. For Detroit Police Command Officers Association employees, the City will contribute 12.25 percent of base compensation. For Detroit Police Officers Association employees, the City will contribute 11.2 percent of base compensation prior to the effective date of the CBA and 12.25 percent after the effective date of the CBA. For Detroit Police Lieutenants and Sergeants Association employees, 12.25 percent of base compensation will be contributed by the City. For all of these employees, a portion of these contributions will be contributed to a rate stabilization fund, as determined by the City.

Additionally, as noted above, as a result of the Chapter 9 case, cost of living adjustments made to annual pension benefits to account for the effects of inflation (COLA) in the Legacy Plan from and after June 30, 2014 were reduced to 45 percent of the COLAs provided for in police and fire collective bargaining agreements, other contracts, or ordinances. These adjustments were implemented with pension payments made on and after March 1, 2015. Base benefits for DPFERS member benefits accrued through June 30, 2014 were not subject to any cuts in resolution of the Chapter 9 case.

Beginning on March 1, 2015, certain DPFERS members also received benefit pension cut restoration under the Income Stabilization Fund program administered by DPFERS pursuant to the State Contribution Agreement based on eligibility and benefit payments calculated by the State of Michigan.

Police and Fire Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

Note 10 to the financial statements for the fiscal year ended June 30, 2014 discusses, in further detail, the changes resulting from the Plan of Adjustment.

Benefit Payments

The System exists to pay the benefits that its members have earned pursuant to benefits promised by the City, subject to the Chapter 9 case benefit adjustments going forward in the Legacy Plan and the new promises in the Hybrid Plan. Benefits are paid monthly. In fiscal year 2019, DPFRS paid out \$309.7 million in benefits, consisting of \$290.2 million in benefits to retirees and beneficiaries plus \$19.5 million in refunds of annuity savings fund balances. This represents approximately 10.9 percent of the net position of the System as of June 30, 2019. Employer and employee contributions were approximately \$45.9 million, or 1.6 percent, of the net position of the System. The excess of benefits over contributions is funded through investment income. The public capital markets represent the primary source of opportunities to earn investment income.

As of June 30, 2014, due to the freeze for the Legacy Plan, no additional benefit accruals are being earned in the Legacy Plan.

Asset Allocation

The Board and Investment Committee believe that the principal determinant of total fund investment performance over long periods of time is asset allocation. The DPFRS asset allocation is built upon the foundation that the obligations of DPFRS to pay the benefits promised to its members are very long-term obligations. Accordingly, the Board and Investment Committee must make investment decisions that they believe will be the most beneficial to the System over many years, not just one or two years.

DPFRS has established asset allocation policies that are expected to deliver more than enough investment income over a very long period of time to satisfy the obligations to pay the benefits promised to the members of the System. The following is a summary of the System's target asset allocation policy as of June 30, 2019:

<u>Asset Class</u>	<u>Target Allocation</u>
Global equity	34.00 %
Global fixed income	35.00
Real estate	10.00
Private equity	10.00
Hedge funds	5.00
MLPs	5.00
Cash	1.00

DPFRS asset allocation policies comply with Michigan law.

Investment Results

DPFRS calculates investment results on a time-weighted global investment performance standard (GIPS) basis, unless explicitly stated otherwise. All returns for periods of one year or greater have been annualized.

Total Fund Composite

DPFRS' total fund composite return for the year was 5.1 percent, net of fees and expenses, using a time-weighted methodology. The three-year and five-year annualized total fund returns were 8.4 percent and 6.0 percent, respectively, net of fees and expenses.

DPFRS' well-diversified global portfolio performed in line with most asset classes. During fiscal year 2019, equity market returns were below expectations due to a steep decline in all equity markets during the fourth quarter of calendar year 2018. These equity markets have rebounded in the first half of calendar year 2019, and this rebound, along with maintaining a well-diversified portfolio across several asset classes, contributed to the total fund's positive performance for the fiscal year.

Police and Fire Retirement System of the City of Detroit

Management's Discussion and Analysis (Continued)

As part of the resolution of the City of Detroit, Michigan's Chapter 9 bankruptcy case, the discount rate assumption used to meet current and future benefit obligations was set at 6.75 percent through the period ending June 30, 2023. This discount rate assumption provided in the Chapter 9 case does not purport to establish an investment return assumption or discount rate for purposes of, or in accordance with, generally accepted accounting principles. Although the fund's return for this year fell below this assumption, the fund's longer-term return expectation, which this assumption is intended to characterize, still exceeds this assumption.

Total plan returns, net of fees and expenses, for the recent prior fiscal years ended June 30 are shown below:

2018	8.20 %
2017	12.00
2016	2.60
2015	3.40
2014	18.40
2013	9.70
2012	(1.50)
2011	13.80

Money-weighted Rate of Return

GASB Statement No. 67 requires the disclosure of the annual money-weighted rate of return. A money-weighted rate of return (as opposed to the time-weighted rate of return discussed in the previous section) considers both the size and timing of cash flows over the course of the year to determine an internal rate of return (sometimes referred to as an IRR). This return is calculated net of expenses and uses cash flows determined on a monthly basis. The DPFRS money-weighted rate of return for the year using end-of-the-month cash flows was 4.95 percent.

Requests for Further Information

This financial report is intended to provide a general overview of the System's finances and investment results in relation to actuarial projections. It shows the System's accountability for the money it receives from employer and employee contributions. If you have questions about this report or need additional information, we welcome you to contact the System's office or visit its website at www.pfrsdetroit.org or www.rscd.org.

Police and Fire Retirement System of the City of Detroit

Statement of Fiduciary Net Position

June 30, 2019

	Component II Plan (Legacy)		Component I	Total Combined Plan
	Defined Benefit Fund	Income Stabilization Fund	Plan (Hybrid) Defined Benefit Fund	
Assets				
Cash and cash equivalents (Note 3)	\$ 57,654,896	\$ 394,959	\$ 34,463,600	\$ 92,513,455
Investments: (Notes 3 and 4)				
Global equities	1,304,139,108	2,147,449	56,565,433	1,362,851,990
Global fixed income	506,919,152	803,478	19,971,365	527,693,995
Real assets	406,966,533	712,747	20,954,318	428,633,598
Private equity	219,399,453	394,354	12,178,552	231,972,359
Diversifying strategies	172,800,038	310,594	9,591,883	182,702,515
Receivables:				
Accrued interest receivable	5,694,561	8,886	211,717	5,915,164
Contributions (Note 1)	-	-	4,274,284	4,274,284
Other accounts receivable	86,535	-	254,290	340,825
Notes receivable from participants	7,586,760	-	-	7,586,760
Receivables from investment sales	86,421,405	140,756	3,587,055	90,149,216
Cash and investments held as collateral for securities lending: (Note 3)				
Asset-backed securities	41,392,344	74,399	2,297,630	43,764,373
Repurchase agreements	30,052,449	54,017	1,668,168	31,774,634
U.S. corporate floating rate	128,939,032	231,758	7,157,221	136,328,011
Capital assets - Net (Note 1)	1,198,468	-	776,512	1,974,980
Total assets	2,969,250,734	5,273,397	173,952,028	3,148,476,159
Liabilities				
Claims payable to retirees and beneficiaries	787,340	-	3,198	790,538
Payables for investment purchases	94,809,737	153,931	3,924,018	98,887,686
Due to City of Detroit, Michigan	1,508,399	-	-	1,508,399
Amounts due to broker under securities lending arrangements (Note 3)	197,785,120	355,503	10,978,768	209,119,391
Other liabilities	3,516,782	2,633	78,499	3,597,914
Total liabilities	298,407,378	512,067	14,984,483	313,903,928
Net Position - Restricted for pensions	\$ 2,670,843,356	\$ 4,761,330	\$ 158,967,545	\$ 2,834,572,231

Police and Fire Retirement System of the City of Detroit

Statement of Changes in Fiduciary Net Position

Year Ended June 30, 2019
(with comparative totals for the year ended June 30, 2018)

	Component II Plan (Legacy)		Component I	Total Combined Plan 2019	2018
	Defined Benefit Fund	Income Stabilization Fund	Defined Benefit Fund		
Additions					
Investment income:					
Interest and dividends	\$ 71,905,822	\$ 119,097	\$ 3,391,976	\$ 75,416,895	\$ 74,419,789
Net increase in fair value of investments	38,662,100	86,119	2,570,828	41,319,047	185,198,076
Investment-related expenses	(13,633,532)	(22,741)	(794,048)	(14,450,321)	(15,298,967)
Net investment income	96,934,390	182,475	5,168,756	102,285,621	244,318,898
Securities lending income:					
Income	1,270,406	2,085	59,330	1,331,821	1,942,678
Net gain on collateral pool	134,066	241	7,442	141,749	397,791
Net securities lending income	1,404,472	2,326	66,772	1,473,570	2,340,469
Contributions:					
Employer	-	-	17,832,015	17,832,015	19,274,356
Employee	3,600	-	9,768,284	9,771,884	9,212,990
Foundation (Note 2)	18,300,000	-	-	18,300,000	18,300,000
Total contributions	18,303,600	-	27,600,299	45,903,899	46,787,346
Transfer from Component II to Component I (Note 9)	-	-	4,030,561	4,030,561	-
Other income	496,088	210	11,913	508,211	1,525,944
Total additions - Net	117,138,550	185,011	36,878,301	154,201,862	294,972,657
Deductions					
Retirees' pension and annuity benefits	286,557,515	62,144	3,617,625	290,237,284	288,851,671
Member refunds and withdrawals	19,054,169	-	395,733	19,449,902	20,163,415
Transfer to Component I from Component II (Note 9)	4,030,561	-	-	4,030,561	-
General and administrative expenses	2,956,754	-	1,868,784	4,825,538	6,862,540
Total deductions	312,598,999	62,144	5,882,142	318,543,285	315,877,626
Net (Decrease) Increase in Net Position Held in Trust	(195,460,449)	122,867	30,996,159	(164,341,423)	(20,904,969)
Net Position Restricted for Pensions - Beginning of year	2,866,303,805	4,638,463	127,971,386	2,998,913,654	3,019,818,623
Net Position Restricted for Pensions - End of year	\$ 2,670,843,356	\$ 4,761,330	\$ 158,967,545	\$ 2,834,572,231	\$ 2,998,913,654

June 30, 2019

Note 1 - Significant Accounting Policies

Reporting Entity

The City of Detroit, Michigan (the "City") sponsors the Police and Fire Retirement System of the City of Detroit (the "System"), which consists of two single-employer retirement plans, as described below.

Component II

This is the legacy plan (the "Legacy Plan"), which represents the original defined benefit plan and includes a defined benefit component and a defined contribution component. Component II generally applies to benefits accrued by members prior to July 1, 2014. On June 30, 2014, as a result of negotiations between the City and the public employee unions, the existing plan benefit formulas were frozen, and no new employees were allowed to earn benefits under the existing plan. The emergency manager issued Order No. 29 (Police and Fire Retirement System of the City of Detroit) on June 30, 2014, which put these changes into effect. Except as specifically provided in the Combined Plan, benefits provided under Component II are frozen effective June 30, 2014.

Component I

As of July 1, 2014, all current and future employees participate in the new hybrid pension plan (the "Hybrid Plan"), or Component I. This hybrid plan includes a defined benefit component and a defined contribution component. Component I of the plan document applies to benefits accrued by members on or after July 1, 2014.

Active city employees who participate in the current plan will receive the benefits they have earned under the System through June 30, 2014 plus an additional benefit under the new hybrid plan formula, assuming all vesting requirements are met.

The Combined Plan is a separate and independent trust qualified under applicable provisions of the Internal Revenue Code; it is an independent entity (separate and distinct from the employer/plan sponsor), as required by (1) state law and (2) Internal Revenue Code provisions setting forth qualified plan status. The trustees of the plan have a fiduciary obligation and legal liability for any violations of fiduciary duties as independent trustees. The Combined Plan provides retirement, disability, and survivor benefits to plan members and beneficiaries.

The financial statements for fiscal year 2019 represent the Legacy Plan, or Component II, as well as the new Hybrid Plan, or Component I. Component II also includes the Income Stabilization Fund. The fund, which is part of Component II only and established as a special plan of adjustment provision, was established for the sole purpose of paying the Income Stabilization Benefits and Income Stabilization Benefits Plus to eligible pensioners. Any funds received by the System that are designated by the City as UTGO Bond Tax Proceeds or a contribution to the Income Stabilization Fund are credited to the Income Stabilization Fund, as defined in the State Contribution Agreement, which is an exhibit to the Plan of Adjustment. After 2022, the Investment Committee may recommend to the board of trustees (the "Board") that a portion or all of the assets that exceed Income Stabilization Benefits (including Income Stabilization Benefits Plus) to be paid in the future be used to fund regular pension payments.

The financial statements for the System are also reported in the financial statements of the City of Detroit, Michigan as a pension trust fund. The assets of the pension trust funds include no securities of or loans to the City or other related parties.

These financial statements include comparative columns for 2018. Such information is not meant to be a complete presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended June 30, 2018.

June 30, 2019

Note 1 - Significant Accounting Policies (Continued)

Plan Sponsor Financial Condition - Impact on the System

In the past, the City of Detroit, Michigan (the "plan sponsor") had experienced significant financial difficulty and liquidity concerns. As of June 2013, the City had defaulted on approximately \$71 million of pension contributions due to the System. During fiscal year 2014, the City did not pay any employer contributions into the System, despite the fact that there were actuarially required contributions.

In February 2013, the governor appointed a financial review team, which determined that a local government financial emergency existed in the City. This culminated in bankruptcy proceedings, which the City initiated in July 2013. Part of the federal court's ruling in December 2013 indicated that the bankruptcy status usurped whatever protections may be offered to governmental pensions under the Michigan Constitution. On December 10, 2014, the City exited from bankruptcy through confirmation of the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit (the "POA"). The POA specifies certain provisions pertinent to the Legacy and Hybrid plans, including contributions and benefits.

In fiscal year 2019, the contributions received by the System were made in accordance with the provisions of the POA. See Note 10 for significant changes that were implemented by the System under the POA.

Summary of Significant Accounting Policies

The following is a summary of the significant accounting policies used by the Police and Fire Retirement System of the City of Detroit.

Accounting and Reporting Principles

The System follows accounting principles generally accepted in the United States of America (GAAP) applicable to governmental units. Accounting and financial reporting pronouncements are promulgated by the Governmental Accounting Standards Board.

Basis of Accounting

The System uses the economic resources measurement focus and the full accrual basis of accounting. Revenue is recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due pursuant to legal requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Specific Balances and Transactions

Cash and Cash Equivalents

The System considers cash on hand, demand deposits, and short-term investments with an original maturity of three months or less when purchased to be cash equivalents.

Investments

Investments are reported at fair value or estimated fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments. The fair value of real estate investments is based on periodic appraisals, as well as the judgment of independent real estate advisors and management. Investments that do not have an established market value are reported at estimated fair value determined by the System's management.

Approximately \$26,800,000, or 1 percent, of the System's net position as of June 30, 2019 does not have a readily determinable market value and has been estimated by management.

June 30, 2019

Note 1 - Significant Accounting Policies (Continued)

Investments for which market quotations are readily available are generally priced by the custodian using nationally recognized pricing services and practices. For investments that do not have readily observable market prices, including, but not limited to, private equity, public and private real estate, alternatives, and direct loans, management's estimate of their fair value is based on information provided by investment managers, general partners, real estate advisors, and other means. These sources are held to a standard of reasonable care in verifying that the valuations presented reasonably reflect the underlying fair value of the investments. A variety of factors is considered in the valuation process, including the nature of the investment, local market conditions, trading values on public exchanges for comparable investments, and current and projected operating performance. However, due to the inherent uncertainty and the degree of judgment involved in determining fair value for such investments, the values reflected in the financial statements may differ significantly from values that would have been used had a readily determinable market value for the investments existed, and the difference could be material.

Contributions Receivable

At June 30, 2019, there was \$4,274,284 in employer contributions receivable. This amount relates to fiscal year 2019 Component I contributions and was paid in July 2019.

Receivable/Payable from Investment Sales/Purchases

The System liquidated investments prior to year end and reported a receivable from investment sales at June 30, 2019 in the amount of \$90,149,216. The proceeds from the sales were received subsequent to year end. In addition, the System purchased investments prior to year end and reported a payable from investment purchases at June 30, 2019 in the amount of \$98,887,686. This amount was paid subsequent to year end.

Notes Receivable from Participants

In Component II (Legacy), any active, terminated, or retired police and fire employee who is or has been a participant in the 1973 defined contribution plan (annuity savings fund) may be eligible for the employee loan program. The minimum amount of the loan was established at \$1,000. The maximum loan is the lesser of 50 percent of the member's account balance in the annuity saving fund or \$10,000. Members can borrow as either a general purpose loan payable in 1 to 5 years or a residential loan payable in 1 to 15 years. A member can have only two outstanding loans. The balance of these loans for the year ended June 30, 2019 was \$7,586,760. The balance is measured at the unpaid principal balance plus any accrued but unpaid interest. Participant notes receivable are written off when deemed uncollectible.

Although Component I (Hybrid) allows participant loans, there are none outstanding at June 30, 2019.

Capital Assets

Capital assets for the System include software, office equipment, and furniture. Depreciation expense is calculated by allocating the net cost of the assets over their estimated useful lives.

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 the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

June 30, 2019

Note 2 - Pension Plan Description

Component II (Legacy Plan) and Component I (Hybrid Plan)

Plan Administration

The System's governance was modified in December 2014 as part of the City's bankruptcy plan. The System's board of trustees and Investment Committee administer the Police and Fire Retirement System of the City of Detroit Pension Plan, a single-employer defined benefit and defined contribution plan that provides retirement benefits, as well as survivor and disability benefits, for plan members and beneficiaries. Plan members include active employees, retirees, and beneficiaries from various departments within the City of Detroit, Michigan. Benefit terms have been established by contractual agreements between the System and the employees' collective bargaining unit, as modified by the POA. Future amendments are subject to the same process. However, pursuant to the POA, calculation of pension benefits presently expressed in the System are not subject to amendment before June 30, 2023, unless an amendment is required to maintain the tax-qualified status of the System. The obligation to contribute to and maintain the System was established by the city charter and negotiations with the employees' collective bargaining units.

The board of trustees is composed of 17 seats, occupied by 15 members as of June 30, 2019. Six members of the Board are elected by the active membership to serve three-year terms. Expirations of terms of elected trustees are staggered. Two retired members are elected by the retired membership and serve three-year terms. Eight members serve ex officio, these members being the mayor of the City of Detroit, Michigan (or designee), the city treasurer (or deputy treasurer), one representative from the Detroit City Council, the Corporation Counsel (or designee), the finance director (or designee), the budget director (or designee), and two ex officio trustees to be appointed by the mayor. A 17th trustee, who is not a participant of the plan and is not employed by the City, may be selected to service two years by the board of trustees.

The Investment Committee has five independent members appointed to initial terms with staggered expirations, which terms will all eventually become six years. Four additional members, two active members and two retired members, serve on the Investment Committee based on appointment by the board. The Investment Committee will be in place through at least December 2034.

Benefits Provided

The System provides retirement, disability, and death benefits. Benefit terms had been established by negotiations between the City Council and the employees' collective bargaining unit and subject to amendment by the City Council. Further changes to benefits were provided for under the POA.

Note 2 - Pension Plan Description (Continued)

Employees Covered by Benefit Terms

The following members were covered by the benefit terms:

	Component II (Legacy Plan)	Component I (Hybrid Plan)
Date of member count	June 30, 2018	June 30, 2018
Inactive plan members or beneficiaries currently receiving benefits	8,151	90
Inactive plan members entitled to but not yet receiving benefits	410	471
Active plan members (includes DROP members of 694 for Component II and 112 for Component I)	2,446	2,687
Total employees covered by the plan	<u>11,007</u>	<u>3,248</u>

As of June 30, 2014, Component II has been frozen. As of that date, no new participants were allowed to enter the plan, and no new benefit accruals were allowed for existing participants.

After July 1, 2014, active members will retain existing service credit in the Legacy Plan but will only earn existing service credit in the new Hybrid Plan.

Contributions

Article 9, Section 24 of the State of Michigan Constitution requires that financial benefits arising on account of employee service rendered in each year be funded during that year. Accordingly, in the past, the System had retained an independent actuary to determine the annual contribution. The actuarially determined rate was the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. However, until 2024, contributions are based on specific provisions in accordance with the Plan of Adjustment.

Employer Contributions

Component II

For Component II, during fiscal year 2019, employer contributions are not actuarially determined, but rather are determined by the provisions of the POA detailed under Exhibit II.B.3.q.ii.A of the POA. For fiscal year 2019, contributions were from the Foundation for Detroit's Future (the "Foundation") in the amount of \$18.3 million. Going forward, no more employer contributions will be made toward Component II until 2024, other than those that will continue to be made from proceeds of the Foundation's contributions, as specified in the POA, assuming all requirements are met.

Component I

For Component I, during fiscal year 2019, employer contributions are not actuarially determined, but rather are determined by the provisions of the Combined Plan detailed under Section 9.3 of Component I. Per Section 9.3, commencing on July 1, 2014 and ending on June 30, 2023, the City is required to contribute 11.2 percent, or 12.25 percent of base compensation of active members, depending on bargaining unit. These contribution rates are fixed by the POA through June 30, 2023. During fiscal year 2019, the City contributed \$17,832,015 into the Hybrid Plan. Beginning in 2024, the employer contributions will be actuarially determined based on the amount necessary to fund the plan on an actuarial basis.

Because there were no actuarially determined contributions for Component I, there is no required schedule of the City's contributions included within these financial statements.

Note 2 - Pension Plan Description (Continued)

Employee Contributions

Component II

Contribution requirements of plan members were historically established and amended by the board of trustees in accordance with the city charter, union contracts, and plan provisions. For the year ended June 30, 2019, there were minimal employee contributions into Component II related to repayment of prior refunded contributions, as the plan was frozen as of June 30, 2014.

Component I

Contribution requirements of plan members are established by the Combined Plan. For the year ended June 30, 2019, active member contribution rate for employees hired before July 1, 2014 was 6 percent of annual pay and was 8 percent of annual pay for employees hired after July 1, 2014. During fiscal year 2019, the plan received mandatory and voluntary employee contributions of \$9,768,284.

Deferred Retirement Option Program (DROP)

In lieu of terminating employment and accepting a retirement allowance under the plan, any member of the System who is eligible for the DROP program may defer the receipt of his or her retirement allowance, continue services, and be paid compensation. At the time of the DROP election, the member no longer accrues a benefit. The program credits the employee for benefit payments that would have been paid had he or she retired normally by depositing 75 percent of the monthly payment with a third-party administrator in the member's name. The remaining 25 percent of the monthly payments is retained by the System for general purposes. The DROP allocations continue if the member continues to be actively employed as a police officer or a firefighter with the City. The member is eligible to withdraw the amounts deposited with the third-party administrator upon retirement. In addition, upon retirement, the retiree receives 100 percent of his or her retirement benefits. Members are allowed to participate in the DROP program for a maximum of 5 years, except for Detroit Police Lieutenants and Sergeants Association (DPLSA) members, who are eligible for a maximum of 10 years. There are no amounts held by the System at June 30, 2019, as all amounts due to the members pursuant to the DROP election are held by a third-party administrator.

Note 3 - Deposits and Investments

The System is authorized by Michigan Public Act 314 of 1965, as amended, to invest in certain reverse repurchase agreements, stocks, diversified investment companies, annuity investment contracts, real estate leased to public entities, mortgages, real estate, debt or equity of certain small businesses, certain state and local government obligations, and certain other specified investment vehicles.

The investment policy adopted by the Board is in accordance with Public Act 196 of 1997 and has authorized investments according to Michigan Public Act 314 of 1965, as amended. The System's deposits and investment policies are in accordance with statutory authority.

The System invests in various investment securities. Investment securities are exposed to various risks, such as interest rate, market, credit risks, and overall market volatility. 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 such changes could materially affect the amounts reported on the statement of changes in fiduciary net position.

Police and Fire Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2019

Note 3 - Deposits and Investments (Continued)

The System's cash and investments are subject to several types of risk, which are examined in more detail below:

Custodial Credit Risk of Bank Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the System's deposits may not be returned to it. The System does not have a deposit policy for custodial credit risk. Approximately \$2.9 million of the System's checking account balances was uninsured and uncollateralized at June 30, 2019. The System believes that, due to the dollar amounts of cash deposits and the limits of FDIC insurance, it is impractical to insure all deposits. As a result, the System evaluates each financial institution with which it deposits funds and assesses the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories.

Interest Rate Risk

Interest rate risk is the risk that the value of investments will decrease as a result of a rise in interest rates. The System's investment policy does not restrict investment maturities.

At year end, the average maturities of debt investments were as follows:

Investment Type	Fair Value	Less Than 1 Year	1-5 Years	6-10 Years	More Than 10 Years
U.S. government	\$ 79,407,789	\$ 577,842	\$ 16,876,895	\$ 27,638,229	\$ 34,314,823
Convertible securities	40,495,176	2,837,582	23,425,612	2,731,247	11,500,735
Domestic fixed income	348,632,124	7,904,280	87,454,139	80,591,575	172,682,130
International fixed income	1,354,552	-	735,981	618,571	-
Total	<u>\$ 469,889,641</u>	<u>\$ 11,319,704</u>	<u>\$ 128,492,627</u>	<u>\$ 111,579,622</u>	<u>\$ 218,497,688</u>

Not all fixed-income securities are subject to interest rate risk.

Credit Risk

State law limits investments in commercial paper to the top two ratings issued by nationally recognized statistical rating organizations. The System has no investment policy that would further limit its investment choices.

At June 30, 2019, the credit quality ratings of debt securities (other than the U.S. government), as rated by S&P, are as follows:

Investment Type and Fair Value (in thousands)	AAA	AA	A	BBB	BB	B	Lower than B	NR
Convertible securities	\$ -	\$ -	\$ 7,829	\$ 27,758	\$ 2,486	\$ 1,058	\$ -	\$ 19,377
Domestic fixed income	17,143	111,087	42,055	91,181	22,158	22,195	437	48,206
International fixed income	-	-	661	-	-	-	-	710
Total	<u>\$ 17,143</u>	<u>\$111,087</u>	<u>\$ 50,545</u>	<u>\$118,939</u>	<u>\$ 24,644</u>	<u>\$ 23,253</u>	<u>\$ 437</u>	<u>\$ 68,293</u>

Foreign Currency Risk

Foreign currency risk is the risk that an investment denominated in the currency of a foreign country could reduce its U.S. dollar value as a result of changes in foreign currency exchange rates. The System does not restrict the amount of investments in foreign currency.

Police and Fire Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2019

Note 3 - Deposits and Investments (Continued)

The following securities are subject to foreign currency risk:

Currency (in thousands)	Equity	Fixed Income	Cash	Forward Contracts, including Receivable (Payable)	Net Investment Receivable (Payable)
Australian dollar	\$ 12,092	\$ -	\$ 58	\$ 1,576	\$ 584
Brazil real	709	-	-	(69)	69
Canadian dollar	21,080	-	44	(1,759)	1,630
Danish krone	493	-	149	41	566
Euro currency unit	102,600	-	780	(6,864)	6,024
Hong Kong dollar	23,114	-	-	2,486	(50)
Indian rupee	857	-	-	-	-
Indonesian Rupiah	390	-	-	-	-
Israeli shekel	-	-	1	576	-
Japanese yen	66,005	-	508	4,183	1,132
Mexican peso	-	1,129	-	-	-
New Taiwan dollar	1,234	-	-	-	-
Norwegian krone	-	-	11	675	-
Polish Zloty	364	-	-	-	-
Pound sterling	40,804	-	60	(9,007)	3,523
Singapore dollar	334	-	3	1,335	-
South African Rand	649	-	-	-	-
South Korean won	1,074	-	-	-	-
Swedish krona	1,867	-	7	2,266	-
Swiss franc	11,544	-	474	173	1,142
Uruguay peso	-	242	-	-	-
Total	\$ 285,210	\$ 1,371	\$ 2,095	\$ (4,388)	\$ 14,620

Securities Lending

As permitted by state statutes and under the provisions of a securities lending authorization agreement, the System lends securities to broker-dealers and banks for collateral that will be returned for the same securities in the future. The System's custodial bank manages the securities lending program and receives cash, government securities, or irrevocable bank letters of credit as collateral. The custodial bank does not have the ability to pledge or sell collateral securities unless the borrower defaults. Borrowers are required to deliver collateral for each loan equal to not less than 102 percent of the market value of the loaned securities.

As of June 30, 2019, the collateral provided was 101.46 percent of the market value of the loaned securities, which is less than the required 102 percent.

The System did not impose any restrictions during the fiscal year on the amount of loans made on its behalf by the custodial bank. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year. Moreover, there were no losses during the fiscal year resulting from a default of the borrowers or custodial bank.

The System and the borrower maintain the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other lenders, in an investment pool. The average duration of such investment pool as of June 30, 2019 was 23 days. Because the loans are terminable on demand, their duration did not generally match the duration of the investments made with cash collateral. On June 30, 2019, the System had no credit risk exposure to borrowers. The collateral held (at cost) and the fair market value of the underlying securities on loans for the System as of June 30, 2019 were \$209,119,391 and \$206,107,852, respectively.

Note 3 - Deposits and Investments (Continued)

The following represents the balances relating to the securities lending transactions as of June 30, 2019; investments are reported at fair value:

Securities Lent	Underlying Securities
U.S. corporate fixed income	\$ 37,144,480
U.S. equities	109,667,310
Non-U.S. equities	8,143,136
U.S. governments	50,695,926
Non-U.S. fixed income	457,000
Total	<u>\$ 206,107,852</u>

The fair market value of the collateral pool related to securities lending at June 30, 2019 was \$211,867,018. The investments were in agencies, asset-backed securities, floating rate notes, and repurchase agreements. Approximately 64.6 percent of these securities had a duration of less than 1 year, 32.5 percent had a duration between 1 and 3 years, and 2.9 percent had a duration over 15 years.

The credit ratings of the securities lending collateral pool held at June 30, 2019, as rated by S&P, are as follows:

Ratings	Amount
AAA	\$ 36,575,723
AA	52,808,940
A	83,519,070
CC	5,317,859
CCC	755,242
NR	32,890,184
Total	<u>\$ 211,867,018</u>

Note 4 - Fair Value Measurements

In accordance with GASB Statement No. 72, *Fair Value Measurement and Application*, the notes to the financial statements now include enhanced disclosures about fair value measurement, the level of fair value hierarchy, and valuation techniques.

The System categorizes its 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. Investments that are measured at fair value using net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

In instances whereby inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System’s assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset.

Police and Fire Retirement System of the City of Detroit

Notes to Financial Statements

June 30, 2019

Note 4 - Fair Value Measurements (Continued)

The System has the following recurring fair value measurements as of June 30, 2019:

	Assets Measured at Fair Value on a Recurring Basis at June 30, 2019			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Balance at June 30, 2019
Debt securities:				
Government securities (U.S. and other)	\$ 79,407,789	\$ 12,092,726	\$ -	\$ 91,500,515
U.S. government mortgage-backed securities	-	114,054,421	-	114,054,421
Corporate bonds	-	264,468,786	-	264,468,786
Privately negotiated debt	-	-	6,104,127	6,104,127
Corporate floating rate notes	-	136,328,011	-	136,328,011
Asset-backed securities	-	43,764,373	-	43,764,373
Total debt securities	79,407,789	570,708,317	6,104,127	656,220,233
Equity securities:				
Common stock	998,577,735	-	-	998,577,735
Preferred stock	14,031,420	4,325,779	-	18,357,199
Total equity securities	1,012,609,155	4,325,779	-	1,016,934,934
Private equity funds	-	-	2,800,000	2,800,000
Partnership investments	-	-	1,881,000	1,881,000
Real estate private equity funds	-	-	11,700,000	11,700,000
Real estate-related investments	-	-	4,358,503	4,358,503
Total	\$ 1,092,016,944	\$ 575,034,096	\$ 26,843,630	1,693,894,670
Investments measured at NAV:				
International equity fund				243,139,443
Fixed-income funds				32,994,924
Global equity funds				164,367,122
Hedge funds				182,702,516
Real estate funds				369,556,814
Private equity funds				227,291,352
Total investments measured at NAV				1,220,052,171
Total investments measured at fair value				\$ 2,913,946,841

A total of \$31,774,634 of repurchase agreements recorded at amortized cost is not included in the fair value table above.

Debt and equity securities classified in Level 1 are valued using prices quoted in active markets for those securities.

The fair value of preferred stock and debt securities at June 30, 2019 was determined primarily based on Level 2 inputs. The System estimates the fair value of these investments using other inputs, such as interest rates and yield curves, that are observable at commonly quoted intervals for identical or similar assets.

Note 4 - Fair Value Measurements (Continued)

The fair value of the remaining investments at June 30, 2019 was determined primarily based on Level 3 inputs. The System estimates the fair value of these investments using the System’s own pricing estimate methodology, pricing models, discounted cash flow methodologies, or similar techniques taking into account the characteristics of the asset.

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

Investments in Entities that Calculate Net Asset Value per Share

The System holds shares or interests in investment companies whereby the fair value of the investments is measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient.

As of June 30, 2019, the fair value, unfunded commitments, and redemption rules of those investments are as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency, if Eligible	Redemption Notice Period
International equity funds	\$ 243,139,443	\$ -	Monthly	Up to 30 days
Fixed-income funds	32,994,924	-	Monthly	Up to 30 days
Global equity funds	164,367,122	-	Monthly	Up to 30 days
Hedge funds	182,702,516	-	Annually	Up to 100 days
Real estate funds	369,556,814	72,421,840	Quarterly	Up to 90 days
Private equity funds	227,291,352	204,226,048	N/A	N/A
Total investments measured at NAV	<u>\$ 1,220,052,171</u>	<u>\$ 276,647,888</u>		

Multiple funds are held in each category. For reporting purposes, the redemption frequency and redemption notice period provided are the most restrictive of any of the funds in the category.

The international equity funds class includes investments in funds that invest predominantly in equity securities of non-U.S. companies. The funds invest in developed and emerging market countries and utilize investments across the capitalization spectrum from large to small companies. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The fixed-income funds class includes investments in funds that invest predominantly in fixed-income instruments in the U.S., developed, and emerging market countries. The funds invest across a diverse group of security types, including government, corporate, and mortgage-backed debt, and across the credit quality spectrum of investment grade and high yield. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The global equity funds include investments in funds that are designed to achieve a return volatility considerably less than the global equity market while providing market-like or above-market returns over a full market cycle. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

Note 4 - Fair Value Measurements (Continued)

The hedge funds class include investments in funds that achieve capital appreciation through multimanager and/or multistrategy investments. Within this group of funds, there is exposure to investment strategies, including, but not limited to, credit, event-driven, equity, and relative value. The funds have the ability to invest across all markets and across all asset classes to implement their various strategies. The fair values of the investments in this class have been estimated using net asset value per share of the investments. Approximately 1 percent of the value of the investments in the hedge fund class above is in the process of being liquidated by the fund manager. Distributions from each fund will be received as the underlying investments of the fund are liquidated. It is estimated that the underlying investments of the fund will be liquidated over the next 18 - 24 months.

The real estate funds class include investments in funds whose objective is to operate a core portfolio of real estate investments predominantly located in the U.S. The funds acquire ownership in underlying investments either through direct real estate ownership or ownership in real estate companies or the equity of real estate investment trusts. The funds predominantly target purchases in office, industrial, retail, or multifamily real estate classes. The fair values of the investments in this class have been estimated using net asset value per share of the investments (or its equivalents).

The private equity class is an alternative investment class and consists of investments in companies that are not listed on a public exchange. The Police and Fire Retirement System of the City of Detroit maintains a diversified portfolio of private equity investments by both style (buyout, turnaround, venture capital, etc.) and vintage year exposure. With its private equity allocation, the Police and Fire Retirement System of the City of Detroit seeks to take advantage of the illiquidity premium associated with these private equity investments. The fair values of the investments in this class have been estimated using net asset value per share of the investments (or its equivalent).

Note 5 - Pension Plan Investments - Policy and Rate of Return

Component II (Legacy Plan) and Component I (Hybrid Plan)

Investment Policy

The assets of Component II and I are commingled and invested together, as allowed by the POA. The System's policy in regard to the allocation of invested assets is established and may be amended by governance by a majority vote of its members. It is the policy of the governance to pursue an investment strategy that manages risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The System's investment policy discourages the use of cash equivalents, except for liquidity purposes, and aims to refrain from dramatically shifting asset class allocations over short time spans. The following was the governance's adopted asset allocation policy as of June 30, 2019:

<u>Asset Class</u>	<u>Target Allocation</u>
Global equity	34.00 %
Global fixed income	35.00
Real estate	10.00
Private equity	10.00
Hedge funds	5.00
MLPs	5.00
Cash	1.00
Total	<u>100.00 %</u>

Rate of Return

For the year ended June 30, 2019, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 4.95 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Note 6 - Pension Plan Reserves

Component II (Legacy Plan)

In accordance with the Combined Plan for the Police and Fire Retirement System of the City of Detroit, Michigan and state law, the following reserves are required to be set aside within the Component II (Legacy) pension plan:

The annuity reserve fund is an accumulation of transfers that is made from the Annuity Savings Fund when an employee retires, becomes disabled, or if a surviving spouse elects an annuity rather than a lump-sum payout of accumulated employee contributions.

The survivor's benefit fund accumulates regular interest on funds contributed by members prior to July 1, 2014 and from which benefits will be paid, but only to the extent sufficient assets are credited to the fund at the time a claim for benefits is made. In the event there are insufficient assets credited to the survivor's benefit fund to pay the benefits, then the benefits will be payable from the pension reserve fund.

The employee reserve (the "Annuity Savings Fund" or ASF) is credited as employee contributions are received throughout the year; the System maintains a record of the amount contributed by each employee and credits interest annually. Eligible active members may elect to withdraw their accumulated (annuity) contributions plus investment earnings. Upon retirement, a member can elect to annuitize or receive a lump sum of his or her accumulated contribution and interest earnings. When an employee retires, becomes disabled, or if a surviving spouse elects an annuity rather than a lump-sum payout of accumulated employee contributions, the balance is transferred to the annuity reserve fund.

The pension accumulation fund is the fund that will accumulate reserves for the pensions and other benefits payable from the contributions made by the City, including various departments thereof, and certain third parties pursuant to the POA and from which pensions and other benefits will be paid on account of members with prior service credit. Contributions to the pension accumulation fund from the effective date of the POA through fiscal year 2023 shall be made only in the amounts and from the sources identified in the POA.

The pension reserve fund represents funded pension benefits available for retired members and is funded by actuarially determined transfers from the pension accumulation fund. The transfers from the pension accumulation fund to the pension reserve fund for fiscal year 2019 retirements have not yet been determined.

The expense fund is the fund that will be credited with all money provided by the City to pay the administrative expenses of the System and from which all the expenses necessary in connection with the administration and operation of the System will be paid. At year end, this reserve balance is zero, as all employer contributions were credited to the pension accumulation fund.

The balances of the reserve accounts for Component II (excluding the Income Stabilization Fund) as of June 30, 2019 are included in the table below. The reserve balances as of June 30, 2019 shown below do not include the current year transfer amount related to fiscal year 2019 retirements for amounts that are transferred from the pension accumulation fund to the pension reserve fund.

The balances of the reserve accounts at June 30, 2019 are as follows:

	Required Reserve	Amount Funded
Annuity Savings Fund	\$ 117,476,538	\$ 117,476,538
Pension reserve fund	3,073,060,042	2,522,817,278
Annuity reserve fund	30,549,540	30,549,540
Survivor's benefit fund	N/A	-
Pension accumulation fund	N/A	-

Note 6 - Pension Plan Reserves (Continued)

Component I (Hybrid Plan)

In accordance with the Combined Plan for the Police and Fire Retirement System of the City of Detroit, Michigan and state law, the following reserves are required to be set aside within the Component I (Hybrid) pension plan:

The accumulated mandatory employee contribution fund shall be the fund in which shall be accumulated the contributions of members to provide their retirement allowances. Upon the retirement, termination, or death of a member with a vested retirement allowance, the member's accumulated mandatory employee contributions shall be deemed to be part of the pension reserve that shall be used to pay the member's retirement allowance.

The accumulated voluntary employee contribution fund shall be the fund in which shall be accumulated the voluntary after-tax contributions of members together with earnings thereon.

The pension accumulation fund shall be the fund in which shall be accumulated reserves for the retirement allowances and other benefits payable from that portion of the employer's annual contribution that is not credited to the rate stabilization fund and amounts transferred to Component I and from which shall be paid retirement allowances and other benefits on account of members. During fiscal year 2019, all employer contributions were directed by the City into the pension accumulation fund, and no amounts were credited to the rate stabilization fund.

The rate stabilization fund shall be the fund that shall be credited with the employer's annual contributions in excess of the amount of the employer's contribution that is credited to the pension accumulation fund and amounts transferred to Component I, as provided in Section G-2(f) of Component II. See Note 9 for details on the transfer provisions related to transfers between Component II and Component I. During fiscal year 2019, \$4,030,561 was credited to the rate stabilization fund related to the transfer provisions between Component II and Component I.

The deferred retirement option plan fund shall accumulate the amounts credited to the DROP accounts of members who have elected to participate in the DROP program pursuant to Article 12, together with earnings thereon, provided that the DROP accounts are held and invested within the System. At year end, the DROP reserve is zero because the System is not holding those assets.

The medical benefit fund shall be the fund that will be credited with contributions made for the purpose of funding medical benefits. During the year, no such contributions were made, and, therefore, this reserve balance is zero.

The expense fund shall be the fund to which will be credited any money provided by the employers to pay the administrative expenses of the System, and from which certain expenses incurred in connection with the administration and operation of the System will be paid. At year end, this reserve balance is zero, as all employer contributions were credited to the pension accumulation fund.

The income fund shall be the fund to which all interest, dividends, and other income derived from the investments of Component I of the System will be credited. Transfers from the income fund will be made to credit earnings and losses to various reserves of the System in accordance with the provisions of Component I of the combined plan document. Amounts credited to the income fund in excess of amounts needed to credit earnings and losses of the System, as provided in Component I for any plan year, shall be transferred to the pension accumulation fund. During fiscal year 2019, investment income was transferred to other reserve funds, and, therefore, this reserve balance at June 30, 2019 remains unfunded.

Note 6 - Pension Plan Reserves (Continued)

The balances of the reserve accounts for Component I as of June 30, 2019 are included in the table below. As of June 30, 2019, not all transfers from the accumulated mandatory employee contribution fund to the pension accumulation fund for retirements have occurred.

The balances of the above reserves for Component I that were funded as of June 30, 2019 are as follows:

	Required Reserve	Amount Funded
Accumulated mandatory employee contribution fund	\$ 41,108,990	\$ 41,108,990
Accumulated voluntary employee contribution fund	472,248	472,248
Pension accumulation fund	N/A	113,355,746
Rate stabilization fund	N/A	4,030,561

Note 7 - Net Pension Liability of the City for Component II (Legacy Plan)

The net pension liability of the City has been measured as of June 30, 2019 and is composed of the following:

Total pension liability	\$ 3,669,742,652
Plan fiduciary net position	<u>2,670,843,356</u>
City's net pension liability	<u>\$ 998,899,296</u>
Plan fiduciary net position as a percentage of the total pension liability	72.78 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2018, which used updated procedures to roll forward the estimated liability to June 30, 2019. The valuation used the following actuarial assumptions applied to all periods included in the measurement:

Inflation	N/A	
Salary increases	N/A	No inflation assumption or salary increases due to plan freeze as of June 30, 2014
Investment rate of return	7.19%	Net of pension plan investment expense, including inflation

Note that the long-term assumed rate of return used for the purpose of the GASB Statement No. 67 valuations were determined in accordance with generally accepted accounting principles. This should not be confused with the provisions in the Plan of Adjustment, which established a 6.75 percent assumed rate of return for purposes of the various provisions within the plan; the Plan of Adjustment did not attempt to dictate the long-term rate of return to be used for accounting purposes.

Based on an experience study from 2008-2013 issued in February 2015, the mortality table assumption was based on the RP-2014 Blue Collar Annuitant Table for males and females. The tables are projected to be fully generational based on the two-dimensional sex-distinct mortality scale MP-2014.

The actuarial assumptions, other than mortality and the investment rate of return, used in the June 30, 2018 valuation to calculate the total pension liability as of June 30, 2019 were based on the results of an actuarial experience study for the period from 2002-2007.

Cost of Living Adjustments (COLA)

For the calculation of the total pension liability, COLA has been limited in accordance with the Plan of Adjustment to 1.0125 percent.

June 30, 2019

Note 7 - Net Pension Liability of the City for Component II (Legacy Plan) (Continued)

Attribution Period

As addressed more fully in Note 1, as of June 30, 2014, the plan was frozen such that no new benefit accruals were allowed, and no new members could join. Starting on July 1, 2014, the participants in this Legacy Plan (Component II) will now be earning benefits under a newly created defined benefit plan (Component I). GASB Statement No. 67 requires that the service costs of all pensions be attributed through all assumed exit ages, through retirement. Neither GASB Statement No. 67 nor any other GASB standard has set forth guidance specifically related to frozen plans with successor plans in place. Absent any guidance to the contrary, due to the status as a frozen plan combined with the fact that individuals are now earning service in a new defined benefit pension plan, the retirement date for the purpose of attribution was assumed to be June 30, 2014 for all members. Therefore, the total pension liability at June 30, 2019 is equal to the present value of projected benefit payments.

Benefit Changes

During the current year, new DROP plan provisions were adopted. The new provisions allow DPLSA (Detroit Police Lieutenants and Sergeants Association) members to participate in the DROP program for a maximum of 10 years, up from the prior maximum of 5 years. This change resulted in a \$3.1 million decrease in the total pension liability.

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2019 was 7.19 percent, which was also the single discount rate used at the beginning of the year. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that city contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Projected Cash Flows

Based on the above assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees both at the beginning of the year and at the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate. Contributions to the System are projected to be at the minimum amounts required by the Plan of Adjustment through 2023, followed by actuarially determined contributions beginning in 2024. While no funding policy has been adopted by the City of Detroit, Michigan, the projection of cash flows assumes full funding of contributions such that the plan's net position will be sufficient to make all benefit payments. The System believes that the funding practice adopted by the City will be consistent with the underlying objective used in the projection to develop the single discount rate.

June 30, 2019

**Note 7 - Net Pension Liability of the City for Component II (Legacy Plan)
(Continued)**

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. Best estimates of geometric real rates of return as of June 30, 2019 for each major asset class included in the pension plan's target asset allocation, as disclosed in the investment note, are summarized in the following table:

Asset Class	Long-term Expected Real Rate of Return
Global equity	5.27 %
Global fixed income	3.21
Real estate	4.29
Private equity	7.97
Hedge funds	4.26
MLPs	5.09
Cash	0.39

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the City, calculated using the discount rate of 7.19 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.19 percent) or 1 percentage point higher (8.19 percent) than the current rate:

	1 Percent Decrease (6.19%)	Current Discount Rate (7.19%)	1 Percent Increase (8.19%)
Net pension liability of the City	\$ 1,368,667,287	\$ 998,899,296	\$ 687,507,556

Note 8 - Net Pension Asset of the City for Component I (Hybrid Plan)

The net pension asset of the City has been measured as of June 30, 2019 based on benefits in force as of that date and is composed of the following:

Total pension liability	\$ 121,704,815
Plan fiduciary net position	<u>158,967,545</u>
City's net pension asset	<u>\$ (37,262,730)</u>
Plan fiduciary net position as a percentage of the total pension liability	130.62 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2018, which used updated procedures to roll forward the estimated liability to June 30, 2019. The following are the significant assumptions:

Wage inflation assumption was 2 percent for five years, 2.5 percent for the next five years, and 3 percent thereafter.

June 30, 2019

Note 8 - Net Pension Asset of the City for Component I (Hybrid Plan) (Continued)

The investment rate of return (net of pension plan investment expense, including inflation) applied to the beginning of year total pension liability was 7.19 percent, which was also the assumed long-term rate of return as of the end of year. The rates were determined in accordance with generally accepted accounting principles. This should not be confused with the provisions in the Plan of Adjustment, which established a 6.75 percent assumed rate of return for purposes of the various provisions within the plan; the Plan of Adjustment did not attempt to dictate the long-term rate of return to be used for accounting purposes.

Based on an experience study from 2008-2013 issued in February 2015, the mortality table assumption was based on the RP-2014 Blue Collar Annuitant Table for males and females. The tables are projected to be fully generational based on the two-dimensional sex-distinct mortality scale MP-2014.

Cost of living adjustments: This plan has a postretirement COLA feature known as the Variable Pension Improvement Factor (VPIF) of a 1 percent compound COLA. It can be granted beginning on July 1, 2015 only if the five-year projection shows the plan's funded status above 90 percent based upon 6.75 percent future investment return. For the purpose of the total pension liability, the actuary assumed a 0.50 percent compound COLA beginning on July 1, 2019 to model the potential average COLA over time. Had no COLA been assumed, the net pension asset would have been \$43,566,713. Had the full 1 percent COLA been assumed, the net pension asset would have been \$30,370,692.

Benefit Changes

During the current year, new DROP plan provisions were adopted. The new provisions allow DPLSA (Detroit Police Lieutenants and Sergeants Association) members to participate in the DROP program for a maximum of 10 years, up from the prior maximum of 5 years. This change resulted in a \$0.5 million decrease in the total pension liability.

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2019 was 7.19 percent, which was also the single discount rate used at the beginning of the year. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that city contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Projected Cash Flows

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 active and inactive employees at both the beginning of the year and the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate. Contributions to the System are projected to be at the minimum amounts required by the Plan of Adjustment through 2023, followed by actuarially determined contributions beginning in 2024. While no funding policy has been adopted by the City of Detroit, Michigan, the projection of cash flows assumes full funding of contributions such that the plan's net position will be sufficient to make all benefit payments. The System believes that the funding practice adopted by the City will be consistent with the underlying objective used in the projection to develop the single discount rate.

The long-term expected rate of return on future pension plan investments is the same as Component II given that the assets are commingled (see Note 7).

June 30, 2019

Note 8 - Net Pension Asset of the City for Component I (Hybrid Plan) (Continued)

Sensitivity of the Net Pension Asset to Changes in the Discount Rate

The following presents the net pension asset of the City, calculated using the discount rate of 7.19 percent, as well as what the City's net pension asset would be if it were calculated using a discount rate that is 1 percentage point lower (6.19 percent) or 1 percentage point higher (8.19 percent) than the current rate:

	1 Percent Decrease (6.19%)	Current Discount Rate (7.19%)	1 Percent Increase (8.19%)
Net pension asset of the City	\$ (14,771,762)	\$ (37,262,730)	\$ (55,240,098)

Note 9 - Commitments

When the System enters into various investments, it may not completely fund the entire investment at the beginning. Rather, it enters into commitments to fund remaining capital amounts at certain points in time. At June 30, 2019, the remaining capital funding commitment for the System is approximately \$277 million.

In addition, the combined plan document setting forth the Legacy Plan (Component II) contains a provision for the transfer of certain excess investment returns to the new Hybrid Plan (Component I). In any plan year during the period beginning on or after July 1, 2014 and ending on June 30, 2023, if the annual rate of return credited to member annuity savings fund accounts is less than the actual rate of return net of expenses of the Plan's invested assets for the second plan year preceding the plan year in which the annual rate of return is credited, the excess earned shall be transferred to the pension accumulation fund maintained under Component I of the System and will be used to fund transition costs related to Component I. The transition cost is a measure of the liability that Component I has at its inception due to the fact that members in Component I receive vesting and eligibility credit under Component I for service that was earned prior to July 1, 2014 and is otherwise credited to members under Component II. Such transition costs have been calculated by the System's actuary. Yearly transfers to fund these costs are required in the second year following the year in which the return is earned based on a two-year "lookback"; therefore, for example, any transfers based on the plan year ended June 30, 2017 will be calculated and transferred during the plan year ended June 30, 2019.

Based on these provisions, for the plan year ended June 30, 2019, \$4,030,561 was transferred from Component II to Component I toward the transition costs. In the fiscal year ended June 30, 2017, while not required based on the two-year "lookback," the System transferred \$20 million from Component II to Component I toward the transition costs.

Note 10 - City of Detroit, Michigan's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan

In March 2013, after enduring years of financial difficulty, the City of Detroit, Michigan filed for bankruptcy protection. The Eighth Amended Plan for Adjustment of Debts of the City of Detroit (the "Plan of Adjustment") was filed with the Bankruptcy Court on October 22, 2014. In November 2014, after a confirmation hearing lasting several weeks, the Bankruptcy Court confirmed the Plan of Adjustment (POA), which became effective December 10, 2014.

In fiscal year 2015, the System began implementing the provisions of the POA, which included a 55 percent reduction in cost of living adjustments (or escalators) and a program for income stabilization for certain of the most vulnerable retirees. Separately, at the start of the 2015 fiscal year, the City, through the emergency manager, adopted ordinances, which resulted in the freeze of Legacy Plan (Component II) as of June 30, 2014 and the creation of a new Hybrid Plan (Component I) effective July 1, 2014.

June 30, 2019

Note 10 - City of Detroit, Michigan's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan (Continued)

The POA also required certain governance changes for the System. Those governance changes included establishment of the Investment Committee effective December 10, 2014, which officially marked the beginning of implementation of the POA, though the System had for several months already undertaken contingency planning for all of the pension adjustments. In addition to governance changes, the POA requires of the System, through its board of trustees and Investment Committee, certain periodic and interim reporting obligations to the City, the Foundation for Detroit's Future, and the State of Michigan. Though there were some delays in fiscal year 2017 in meeting certain obligations because of new actuarial reporting requirements for governmental systems, which in turn impacted the preparation of the System's audited financial statements, the System believes it has ultimately met its special reporting obligations in fiscal year 2017, and continued to do so in 2018.

Legacy Plan (Component II)

The Fourth Amended Disclosure Statement (the "Pension Settlement"), as part of the POA, compromised pension claims and provided funding support for legacy pension benefit obligations under the Police and Fire Retirement System of the City of Detroit (DPFRS) Component II from the State of Michigan and the Detroit Institute of Arts.

For DPFRS, with respect to Component II benefit adjustments, the Pension Settlement (for which benefit levels were and are contingent on other factors, including receipt of outside contributions) provided for the following:

- A 55 percent reduction in cost of living adjustments (COLAs), or escalators, paid after July 1, 2014
- The possibility of restoration of certain pension benefit cuts, based on a program for the most financially vulnerable pensioners and beneficiaries through the State of Michigan Treasury Department, as well as a new feature of Component II allowing restoration depending on the System's funding level over time
- An Income Stabilization Program (the "ISF Program") was established as part of the State Contribution Agreement as another facet of the Pension Settlement. The ISF Program, supported by city funds arising from an unlimited tax general obligation bonds settlement, is intended to ensure that the most financially vulnerable retirees and beneficiaries do not fall below the poverty line as a result of bankruptcy-related pension changes. Beginning on March 1, 2015, certain DPFRS members also received benefit pension cut restoration under the Income Stabilization Program administered by DPFRS, pursuant to the State Contribution Agreement, based on eligibility and benefit payments calculated by the State of Michigan. Following the close of the fiscal year ended June 30, 2016 and pursuant to Component II of the Combined Plan and the State Contribution Agreement, the System implemented the first annual ISF Program benefit adjustments effective July 1, 2016.
- The POA also discusses a restoration plan. Terms of the pension restoration are contained in Exhibit II.B.3q.ii.C of the POA, and the terms govern how accrued pensions, including COLA benefits that were reduced as a part of the POA, may be restored over the 30-year period following the confirmation order. The Investment Committee will supervise the restoration process in accordance with the restoration plan. The restoration plan shall be deemed a part of Component II. The funding levels have not been attained as of June 30, 2019 for the restoration process to initiate.

As of March 1, 2015, less than three months after the effective date of the POA, DPFRS successfully implemented the vast majority of benefit changes required by the POA, including the ISF Program coordinated in conjunction with the Michigan Department of Treasury.

June 30, 2019

Note 10 - City of Detroit, Michigan's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan (Continued)

Going forward, the obligations for contributions to support Component II of the System through 2023 are determined as fixed amounts by the provisions in the POA. Pursuant to the POA, the System is expected to receive contributions totaling \$260.7 million through fiscal year 2023. The POA calls for the System to receive \$96 million from the State of Michigan and at least the present value of \$164.7 million from foundation donors covering fiscal year 2015 through fiscal year 2023, as well as at least the present value of \$50 million over a 10-year period ending in 2034. After 2023, the City will retain responsibility for the full funding obligations of Component II of the System, consistent with Michigan law.

In fiscal year 2019, DPFERS received all contributions required by the POA from the foundation donors.

Hybrid Plan (Component I)

In the new Hybrid Plan, effective July 1, 2014, the following provisions were in place:

- Active employees are allowed to make voluntary contributions up to 10 percent of total after-tax pay. Interest will be credited to those accounts at the actual net investment rate of return for DPFERS, but will not be lower than 0 percent or more than 5.25 percent.
- Employer contributions by the City will be between 11.2 and 12.25 percent of base compensation.
- A variable pension improvement factor of 1.0 percent, which operates similar to an escalator (or COLA), is available, subject to certain Hybrid Plan (Component I) funding level requirements being maintained.

DPFERS continues to implement the POA, which includes ongoing compliance and additional reporting requirements by the Board and the Investment Committee, annual review of benefit levels, and essentially provides for a 40-year plan to close the DPFERS Legacy Component II underfunded liability.

Note 11 - City of Detroit, Michigan Commitment to Future Funding

In anticipation of significant actuarially required contributions commencing in fiscal year 2024, the City, independent of the System, has established a Retiree Protection Trust Fund (the "Trust"). The Trust, a permanent irrevocable trust under Section 115 and 414(d) of the Internal Revenue Code, is to receive, maintain, and invest city funds restricted for future deposits to the General Retirement System Plan and the Police and Fire Retirement System Plan as part of an effort to manage and stabilize future required city contributions to the plans. The City has set aside \$130 million for this Trust as of June 30, 2019 for future contributions to the General Retirement System Plan and the Police and Fire Retirement System Plan. Contributions to the System will be recognized as the City makes distributions from this independent trust to the System.

Required Supplemental Information

Police and Fire Retirement System of the City of Detroit

Required Supplemental Information

Schedule of Changes in the City's Net Pension Liability and Related Ratios (Legacy Plan)

	Last Six Fiscal Years					
	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,967,708
Interest	256,873,505	257,841,119	261,449,503	264,233,821	306,063,331	304,737,369
Changes in benefit terms	(3,111,623)	-	-	-	(555,898,068)	(102,236,878)
Differences between expected and actual experience	(3,862,962)	32,674,674	(10,648,606)	45,955,553	(59,621,651)	-
Changes in assumptions	-	(6,975,457)	(4,082,068)	114,463,362	(95,014,469)	540,356,835
Benefit payments, including refunds	(305,611,684)	(308,390,724)	(306,098,871)	(304,467,162)	(313,816,916)	(323,540,473)
Net Change in Total Pension Liability	(55,712,764)	(24,850,388)	(59,380,042)	120,185,574	(718,287,773)	454,284,561
Total Pension Liability - Beginning of year	3,725,455,416	3,750,305,804	3,809,685,846	3,689,500,272	4,407,788,045	3,953,503,484
Total Pension Liability - End of year	\$ 3,669,742,652	\$ 3,725,455,416	\$ 3,750,305,804	\$ 3,809,685,846	\$ 3,689,500,272	\$ 4,407,788,045
Plan Fiduciary Net Position						
Contributions - Employer, state, and foundation	\$ 18,300,000	\$ 18,300,000	\$ 18,300,000	\$ 37,787,744	\$ 114,300,000	\$ -
Contributions - Employee	3,600	42,114	14,055	24,801	593,292	7,783,141
Net investment income	98,338,862	237,675,162	282,398,410	24,618,573	122,736,820	568,760,793
Administrative expenses	(2,956,754)	(4,933,926)	(4,433,656)	(3,103,689)	(7,630,692)	(11,373,226)
Benefit payments, including refunds	(305,611,684)	(308,390,724)	(306,098,871)	(304,467,163)	(313,816,916)	(323,540,473)
Other	(3,534,473)	1,469,201	(18,508,410)	855,743	2,368,638	-
Net Change in Plan Fiduciary Net Position	(195,460,449)	(55,838,173)	(28,328,472)	(244,283,991)	(81,448,858)	241,630,235
Plan Fiduciary Net Position - Beginning of year	2,866,303,805	2,922,141,978	2,950,470,450	3,194,754,441	3,276,203,299	3,034,573,064
Plan Fiduciary Net Position - End of year	\$ 2,670,843,356	\$ 2,866,303,805	\$ 2,922,141,978	\$ 2,950,470,450	\$ 3,194,754,441	\$ 3,276,203,299
Net Pension Liability - Ending	\$ 998,899,296	\$ 859,151,611	\$ 828,163,826	\$ 859,215,396	\$ 494,745,831	\$ 1,131,584,746
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	72.78 %	76.94 %	77.92 %	77.45 %	86.59 %	74.33 %
Covered Payroll	\$ 121,642,956	\$ 145,936,144	\$ 137,250,599	\$ 130,510,339	\$ 131,220,124	\$ 165,552,280
Net Pension Liability as a Percentage of Covered Payroll	821.17 %	588.72 %	603.40 %	658.35 %	377.04 %	683.52 %

GASB Statement No. 67 was implemented on June 30, 2014 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

Police and Fire Retirement System of the City of Detroit

Required Supplemental Information Schedule of Investment Returns (Legacy and Hybrid Plans)

	Last Six Fiscal Years Years Ended June 30					
	2019	2018	2017	2016	2015	2014*
Annual money-weighted rate of return - Net of investment expense	4.95 %	8.20 %	11.30 %	1.30 %	3.80 %	19.80 %

*GASB Statement No. 67 was implemented on June 30, 2014 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

Fiscal years 2014 and 2015 do not include information related to the Hybrid Plan. The Hybrid Plan was effective July 1, 2014 and for the first year (fiscal year 2015) did not invest in anything other than cash and cash equivalents.

Police and Fire Retirement System of the City of Detroit

Required Supplemental Information Schedule of City Contributions (Legacy Plan)

	Last Ten Fiscal Years Years Ended June 30									
	2019***	2018***	2017***	2016***	2015***	2014**	2013**	2012**	2011	2010*
Actuarially determined contribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,642,443	\$ 42,005,173	\$ 49,760,229	\$ 81,642,112	\$ 57,808,485
Contributions in relation to the actuarially determined contribution	-	-	-	-	-	-	-	20,733,429	81,642,112	32,808,485
Contribution Deficiency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (50,642,443)	\$ (42,005,173)	\$ (29,026,800)	\$ -	\$ (25,000,000)
Covered Payroll	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 165,552,280	\$ 186,694,166	\$ 205,800,278	\$ 220,461,691	\$ 228,829,999
Contributions as a Percentage of Covered Payroll	- %	- %	- %	- %	- %	- %	- %	10.07 %	37.03 %	14.34 %

* For the year ended June 30, 2010, the System gave various credits to the City that offset the required contributions.

** As of June 30, 2019, a portion of the June 30, 2012 annual required contribution and the entire June 30, 2013 and 2014 annual required contributions have not been paid and have not been recognized as revenue.

*** The contributions starting with fiscal year 2015 were determined by the provisions of the POA; the contributions were not actuarially determined and, therefore, not subject to disclosure in accordance with GASB Statement No. 67 within this schedule.

Notes to Schedule of Pension Contributions (Legacy Plan)

Actuarial valuation information relative to the determination of contributions:

N/A - Starting in fiscal year 2015, contributions are not actuarially determined.

Police and Fire Retirement System of the City of Detroit

Required Supplemental Information

Schedule of Changes in the City's Net Pension (Asset) Liability and Related Ratios (Hybrid Plan)

	Last Five Fiscal Years				
	2019	2018	2017	2016	2015
Total Pension Liability					
Service cost	\$ 26,663,624	\$ 24,811,302	\$ 25,414,182	\$ 24,068,808	\$ 24,835,814
Interest	7,633,137	5,787,404	4,474,574	2,743,066	894,089
Changes in benefit terms	(518,835)	-	-	-	-
Differences between expected and actual experience	(3,122,804)	(3,622,053)	(10,708,737)	(4,077,124)	-
Changes in assumptions	-	(305,021)	(221,533)	2,424,058	(1,008,119)
Voluntary employee contributions	278,811	96,205	34,134	15,459	14,370
Benefit payments, including refunds	(4,013,358)	(561,561)	(223,826)	(101,251)	-
Net Change in Total Pension Liability	26,920,575	26,206,276	18,768,794	25,073,016	24,736,154
Total Pension Liability - Beginning of year	94,784,240	68,577,964	49,809,170	24,736,154	-
Total Pension Liability - End of year	\$ 121,704,815	\$ 94,784,240	\$ 68,577,964	\$ 49,809,170	\$ 24,736,154
Plan Fiduciary Net Position					
Contributions - Employer	\$ 17,832,015	\$ 19,244,806	\$ 16,448,246	\$ 15,831,763	\$ 14,606,971
Mandatory employee contributions	9,489,473	9,074,671	8,554,893	7,958,271	7,390,335
Net investment income	5,235,528	8,634,505	8,897,786	252,426	21,019
Administrative expenses	(1,868,784)	(1,928,614)	(2,648,034)	(3,000,369)	(685,677)
Voluntary employee contributions	278,811	96,205	34,134	15,459	14,370
Benefit payments	(3,617,625)	(345,297)	(137,325)	(63,882)	(19,554)
Refunds	(395,733)	(216,264)	(86,501)	(37,369)	-
Other	4,042,474	55,354	20,009,058	-	-
Net Change in Plan Fiduciary Net Position	30,996,159	34,615,366	51,072,257	20,956,299	21,327,464
Plan Fiduciary Net Position - Beginning of year	127,971,386	93,356,020	42,283,763	21,327,464	-
Plan Fiduciary Net Position - End of year	\$ 158,967,545	\$ 127,971,386	\$ 93,356,020	\$ 42,283,763	\$ 21,327,464
City's Net Pension (Asset) Liability - Ending	\$ (37,262,730)	\$ (33,187,146)	\$ (24,778,056)	\$ 7,525,407	\$ 3,408,690
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	130.62 %	135.01 %	136.13 %	84.89 %	86.22 %
Covered Payroll	\$ 133,730,109	\$ 145,936,144	\$ 137,250,599	\$ 130,510,339	\$ 121,627,871
City's Net Pension (Asset) Liability as a Percentage of Covered Payroll	(27.86)%	(22.74)%	(18.05)%	5.77 %	2.80 %

Police and Fire Retirement System of the City of Detroit

Notes to Required Supplemental Information Schedules

June 30, 2019

Benefit Changes

Legacy Plan

In 2014, the pension plan was frozen. No new employees are allowed to participate in the plan. All benefits for actives were frozen as of June 30, 2014 based on service and average final compensation accrued as of that date.

In 2015, the cost of living adjustments decreased to 1.0125 percent.

Legacy and Hybrid Plan

In 2019, new DROP plan provisions were adopted. The new provisions allow DPLSA (Detroit Police Lieutenants and Sergeants Association) members to participate in the DROP program for a maximum of 10 years, up from the prior maximum of 5 years.

Changes in Assumptions

Legacy Plan

In 2014, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 8 percent to 7.2 percent and updating the mortality tables from RP-2000 Combined Table to RP-2014 Blue Collar Annuitant Table.

Legacy and Hybrid Plan

In 2015, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.2 percent to 7.47 percent.

In 2016, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.47 percent to 7.15 percent.

In 2017, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.15 percent to 7.17 percent.

In 2018, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.17 percent to 7.19 percent.