FIRE & POLICE

Employees' Retirement System

City of Baltimore, Maryland

Comprehensive Annual Financial Report

A Component Unit of the
City of Baltimore, Maryland

Year Ended June 30, 2017

Baltimore City Fire Department

fire.baltimorecity.gov

For more than 150 years the Baltimore City Fire Department has provided fire protection and emergency medical services to the citizens of the City of Baltimore. The Baltimore City Fire Department responds to more than 270,000 emergencies annually and has 38 fire stations strategically located throughout the city.

The men and women of the Baltimore City Fire Department take enormous pride in the communities they serve. Residents are encouraged to visit their local fire station to apply for a free smoke alarm, get their blood pressure checked and to get to know the firefighters that serve their community every day.

Majority of the fire department photos are courtesy of Stan Jaworski (freelance photographer for the BCFP) and some are courtesy of Gino Inocentes (Public Affairs Section of the BPD).

Baltimore Police Department

baltimorepolice.org

The Baltimore Police Department is the 8th largest municipal police force in the United States, staffed by nearly 3,100 civilian and sworn personnel. The Baltimore Police Department's jurisdiction covers Maryland's largest city, with a population of over 614,000.

The men and women of the Baltimore Police Department are dedicated to the City of Baltimore and the citizens they serve. Members of the police department often visit schools, serve meals to the community and each year the districts and special units of the police department adopt families to help spread the holiday spirit.

All police photographs courtesy of the Baltimore Police Department.

The F&P would like to give special thanks to Stan Jaworski, freelance photographer and Gino Inocentes, Public Affairs Section, VIDEOUNIT of the Baltimore Police Department for their assistance.

FIRE & POLICE

Employees' Retirement System

City of Baltimore, Maryland

Comprehensive Annual Financial Report

A Component Unit of the
City of Baltimore, Maryland

Year Ended June 30, 2017

Prepared by:

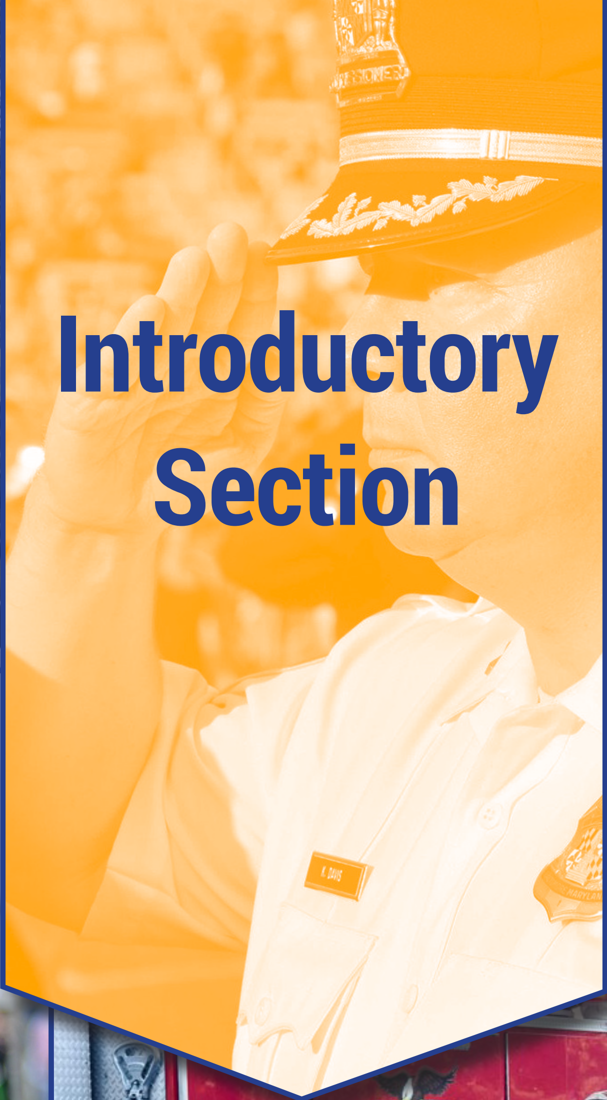
N. Anthony Calhoun, Executive Director

David A. Randall, Deputy Executive Director

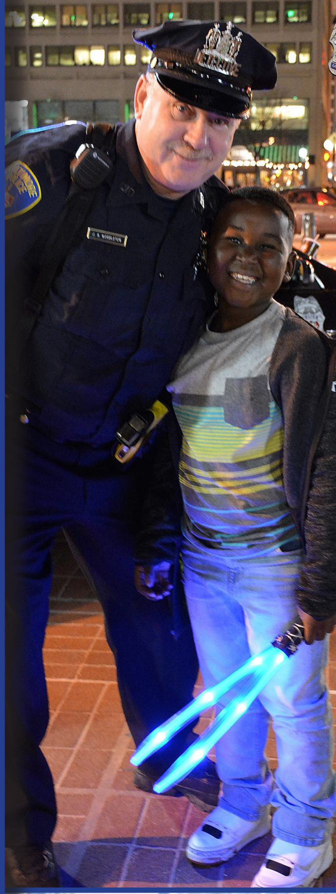
Howard I. Mossovitz, Accounting Manager

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
Comprehensive Annual Financial Report
For the Year Ended June 30, 2017

TABLE OF CONTENTS



Introductory Section



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Fire and Police Employees'

Retirement System, City of Baltimore

Maryland

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2016

Jeffrey R. Emer

Executive Director/CEO

CITY OF BALTIMORE

CATHERINE E. PUGH, Mayor

FIRE AND POLICE EMPLOYEES' RETIREMENT SYSTEM

N. ANTHONY CALHOUN, Executive Director
7 E. Redwood Street
18th Floor
Baltimore, Maryland 21202

November 21, 2017

The Honorable Members of the Board of Trustees
Fire and Police Employees' Retirement System
Baltimore, Maryland

The Fire and Police Employees' Retirement System of the City of Baltimore (F&P, Plan, System) has just completed fifty-five years of service to the uniformed officers of the Baltimore City Fire and Police Departments. On behalf of the dedicated staff that serves the System's membership, I am pleased to submit the Comprehensive Annual Financial Report of the F&P for the fiscal year ended June 30, 2017. The System's administration is responsible for both the accuracy of the data and the completeness of the presentation, including all disclosures. To the best of my knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the F&P. The F&P is a component unit of the City of Baltimore.

Established July 1, 1962, by City ordinance, the F&P is a defined benefit plan that covers all uniformed officers of the Baltimore City Fire and Police Departments. The Plan also covers certain Maryland Aviation Administration firefighter/paramedics. These State of Maryland employees were grandfathered into F&P plan coverage by State law.

All System-related administrative and benefit provisions are established by City ordinance, as contained in Article 22 of the Baltimore City Code, and may be amended only by the Mayor and City Council. The F&P provides normal service retirement benefits for members who attain the required age and/or service requirements, and now due to plan amendments passed in June 2010, early service retirement benefits. Coverage for line-of-duty disability benefits is immediate upon entry into the System. Disability benefits for non-duty-related injury or illness are provided after the attainment of five years of membership. Line-of-duty death benefits are provided upon membership for any member whose death results from an injury occurring in the actual performance of duty. After one year of System service, members are also covered for non-duty-related death benefits. Members who do not reach normal or early service retirement benefit eligibility remain vested only in their accumulated member contributions and interest credits which are payable to the member upon termination from employment. A Deferred Retirement Option Plan (DROP) is available to members who entered the F&P prior to July 1, 2003, and who attained twenty or more years of service as of December 31, 2009. Members who do not meet the eligibility requirements for DROP may become eligible to participate in DROP 2 that commenced January 1, 2010. More information concerning the benefit provisions, DROP, and DROP 2, can be found in the Summary of Plan Provisions beginning on page 82.

The Board of Trustees
Fire and Police Employees' Retirement System
Baltimore, Maryland

November 21, 2017

Major Initiatives

The plan's administration and staff successfully launched phase 2 of the member website portal with the creation of the new Retirement Benefits Advanced Estimator. The Retirement Benefits Advanced Estimator provides members an approximate calculation of their retirement benefit and Deferred Retirement Option Plan (DROP) or DROP 2 retirement benefits and account payouts. Phase 2 of the member website portal successfully built upon the previous implementation of the Active Member Retirement Benefits Basic Estimator which was phase 1. The F&P hopes to continue expanding the member website portal and a future phase will include allowing the submission of forms and other documents through the website.

Also following a review performed by its investment consultant Summit Strategies, the Board implemented a rebalancing of the asset allocations in order to bring them closer to their targets. The Board approved lowering domestic equity allocations and increasing the international equity and bonds allocations. In addition, the Board approved lowering hedge fund allocations and increasing private equity target allocations. Rebalancing of the asset allocations will not only help the Plan meet its target allocations, but also help meet the 7.50% assumption rate which will aid in improving the Plan's funding status.

Another initiative that was started in 2017 was building the Disability Case Management System. The Disability Case Management System will allow the F&P legal affairs section to track the progress of each individual member's disability application. We expect the Disability Case Management System to be completed and implemented in 2018.

We have also updated our database to enable all service credits to be posted in real time during each pay period. A member's mandatory contribution for each pay period represents 14 days of service credit.

In addition, the Government Finance Officers Association of the United States and Canada (GFOA) has given an Award for Outstanding Achievement in Popular Annual Financial Reporting to the Fire and Police Employees' Retirement System for the City of Baltimore, Maryland for its Popular Annual Financial Report for the fiscal year ended June 30, 2016. This was the second time that the F&P has submitted a PAFR for review. The Award for Outstanding Achievement in Popular Annual Financial Reporting is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports.

Financial Information

This report has been prepared in accordance with the principles of governmental accounting and reporting promulgated by the Governmental Accounting Standards Board. The accrual basis of accounting is used to record assets, liabilities, revenues, and expenses. Revenues are recorded when earned, regardless of the date of collection. Expenses are recorded when liabilities are incurred, regardless of when payment is made.

Accounting principles generally accepted in the United States require that management provide a narrative introduction, an overview, and an analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The MD&A begins on page 18 immediately following the report of the independent auditor in the Financial Section of this report.

The Board of Trustees
Fire and Police Employees' Retirement System
Baltimore, Maryland

November 21, 2017

The System's administration is responsible for establishing and maintaining an internal control structure designed to ensure that the assets of the F&P are protected from loss, theft, or misuse and to ensure that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with accounting principles generally accepted in the United States of America. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived, and that the valuation of costs and benefits requires estimates and judgments by the System's management. Sufficient internal accounting controls exist to provide reasonable assurance regarding the safekeeping of assets and the fair presentation of the financial statements and supporting schedules.

Investments

As provided for in the plan provisions, the Board of Trustees is authorized to invest the System's assets and to take appropriate action regarding the investment, management, and custodianship of plan assets. The investment responsibilities of the Board include establishing reasonable investment objectives, developing investment policy guidelines, selecting investment managers, and evaluating performance results to assure adherence to guidelines and the achievement of objectives.

The portfolio returned slightly below the median of 12.1% which ranked the F&P portfolio in the 52nd percentile of the BNY Mellon All Public Plans Total Fund universe at June 30, 2017. The three year, five year, and ten year performance numbers for the portfolio were 5.0% which ranked in the 84th percentile, 7.7% which ranked in the 66th percentile, and 5.3% which ranked in the 88th percentile.

Plan Funding

As of June 30, 2017, the date of the F&P's last actuarial valuation, the System's funded ratio was 71.1% on an actuarial value of assets basis, compared to a 71.5% actuarial value basis at June 30, 2016. As of June 30, 2017, the market funded ratio is 68.9%, compared to a 65.3% market funded ratio at June 30, 2016. As required by GASB 67, the market funding ratio is calculated using the Entry Age Normal cost method. In prior years, the Projected Unit Credit method of funding was used, however, beginning in fiscal year 2015, the methods of funding are the Entry Age Normal cost method. The required supplementary information that follows immediately after the notes to the basic financial statements provides new information and schedules due to the GASB 67 implementation. The schedules on page 42 show the changes in net pension liability and related ratios as well as the schedule of investment returns. These schedules will have four years of information as of June 30, 2017, but eventually will build up to ten years of information. Also provided is the schedule of required contributions made by the employer.

As a result of the actuarial valuation performed for the fiscal year ended June 30, 2015, a total City and State contribution due to the F&P for fiscal year 2017 was $129.7 million which was paid in full.

Litigation

On August 19, 2016, the fire and police unions and several plan participants and retirees filed a class action lawsuit against the City in the Circuit Court for Baltimore City, claiming that passage by the City of Ordinance 10-306, which became effective June 30, 2010, wrongfully breached the City's contract with plan membership under the contract clause of the plan. Plaintiffs requested judgment against the City awarding monetary damages, equitable relief, and specific performance – including restoration of pre-Ordinance plan provisions, attorney's fees, costs, and judgment interest.

Barring a future court order to the contrary, F&P will continue to administer the F&P plan as amended by Ordinance 10-306. See Note 11 of the Notes to Basic Financial Statements on page 40 for more information.

Independent Audit

The Baltimore City Code stipulates that the Board of Estimates shall select an independent auditor for the F&P and that the auditor shall report their findings annually to the Board of Estimates and to the Board of Trustees. The Board of Estimates elected to have CliftonLarsonAllen render an opinion on the System's financial statements. The auditor's report is contained in the Financial Section of this report.

Professional Services

The Board of Trustees appoints consultants and investment managers subject to approval by the City's policy making and approval body, the Board of Estimates. These professionals have been chosen based on their ability to provide services that are essential to the effective and efficient operation of the System. All of the professionals who provide service to the Board of Trustees are listed in the Introductory Section on page 14 and in the Investment Section on pages 62 to 65.

Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Fire and Police Employees' Retirement System, City of Baltimore, Maryland for its comprehensive annual financial report for the fiscal year ended June 30, 2016. This was the thirty-fourth consecutive year (fiscal years 1983-2016) that the F&P has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both accounting principles generally accepted in the United States and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. I believe that this current report continues to meet the Certificate of Achievement Program requirements. I am submitting it to the GFOA to determine its eligibility for another certificate.

Acknowledgments

The preparation of this report could not be accomplished without the dedicated efforts of the System's accounting and communication support staff, investment consultant, and actuarial consultant. I would like to express my appreciation to all who assisted and contributed to its preparation.

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

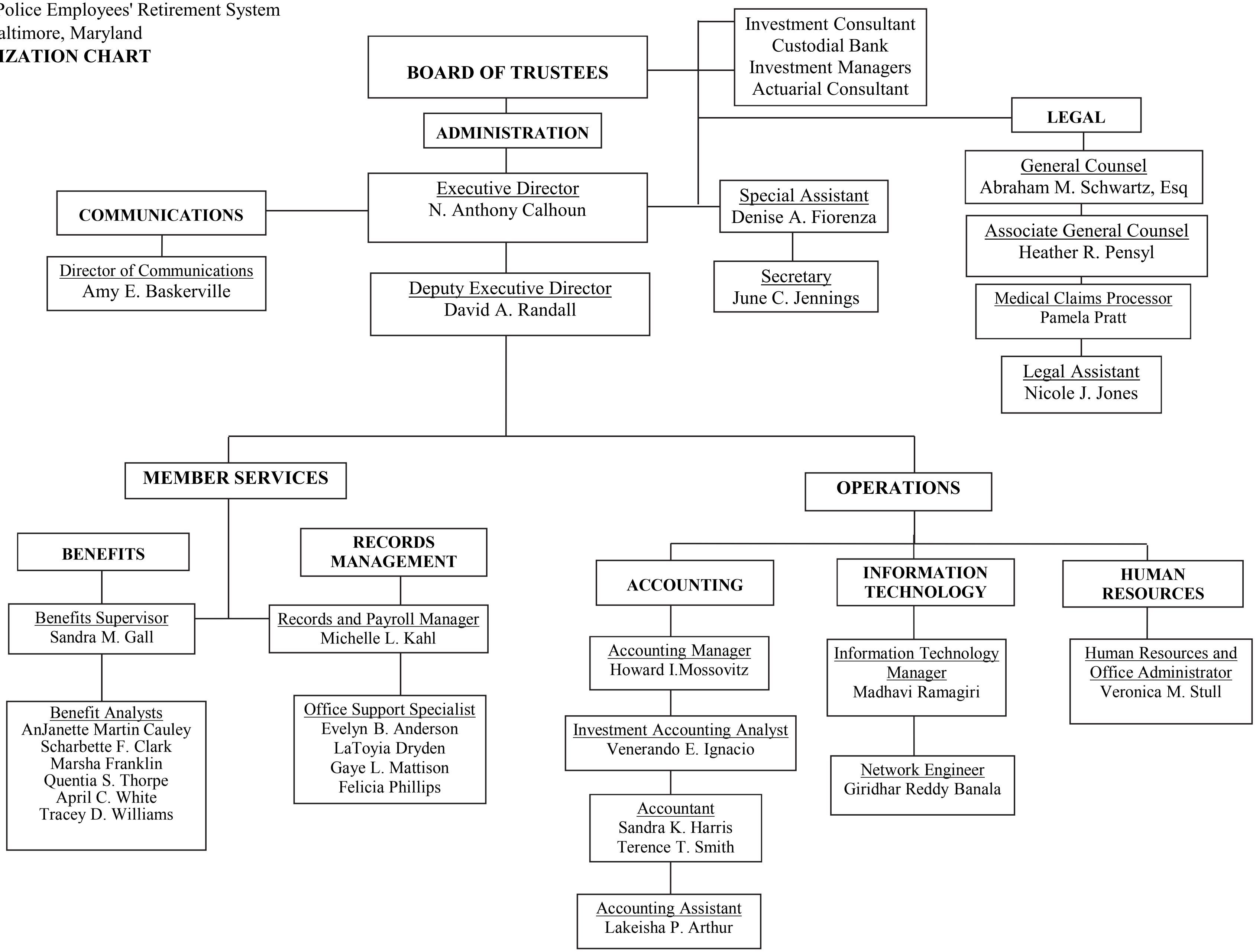
This report is being forwarded to the Mayor, the President of the City Council, the Comptroller, and other members of the Board of Estimates, to all members of the City Council, and to the Fire and Police Departments so that all members of the F&P will have the opportunity to review it. Hopefully, the administration of the City and the membership of the System will find this report both informative and helpful.

I would like to take this opportunity to express my gratitude to the Board of Trustees, the dedicated F&P staff, the System's consultants, investment managers and advisors, all of whom continue to work diligently to assure the successful operation of the System.

Respectfully submitted,

N. Anthony Calhoun
Executive Director

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
ORGANIZATION CHART



Fire and Police Employees' Retirement System
City of Baltimore, Maryland
BOARD OF TRUSTEES

The Board Chairman, Vice-Chairman, and members of the Investment Committee are elected by the members of the Board of Trustees. The ex-officio members to the Board are the City Comptroller, the Director of Finance, the Police Commissioner and the Fire Chief, all of whom may appoint a Deputy to represent her or him on the Board. Trustees appointed by the Mayor serve terms concurrent with the Mayor's term. Appointed Trustees continue to serve until replaced by the Mayor, or until the expiration of two consecutive full terms. Elected active and retired member Trustees serve four-year terms. There are no term limits for Trustees elected by the active or retired members.

CITY OF BALTIMORE

CATHERINE E. PUGH, Mayor

FIRE AND POLICE EMPLOYEES' RETIREMENT SYSTEM

N. ANTHONY CALHOUN, Executive Director
7 E. Redwood Street
18th Floor
Baltimore, Maryland 21202

November 2, 2017

To All Members, Retirees, and Beneficiaries
Fire and Police Employees' Retirement System
Baltimore, Maryland

This comprehensive financial report covers the fiscal year ending June 30, 2017.

The past year was a strong one financially for the F&P. However, volatile financial markets, reduced government budgets, limited salary increases for active employees, reduced numbers of active employees contributing to retirement systems, larger numbers of retirees, and longer lifespans for retirees all complicate the goal of making public pensions fully funded. For example, over the past year, the number of active F&P members continued to decrease from 4,094 to 4,012, while our number of retirees increased from 6,291 to 6,319. Many cities and states are grappling with chronically-underfunded pension systems and have cut pension benefits.

Fortunately, over the past year our investments earned 12.1%, significantly above our assumed rate of return of 7.5%. The financial markets are quite erratic, as demonstrated by our investment returns for Fiscal Years 2013 through 2016 of 13.2%, 16.5%, 2.3% and 0.6%, respectively. Our investment return for the past year roughly matched the median of public plans. Our funded status on a market value of assets basis improved to 68.9% in FY 2016 from 65.3% in 2015. The actuarial value of our highly-diversified investment portfolio as of June 30, 2017 is in excess of $2.6 billion, the highest ever.

During the fiscal year ending June 30, 2017, the City contributed $128.8 million to the F&P. This was the largest annual contribution ever made by the City, more than twice what the City contributed a decade ago. The annual City contribution will continue to grow. The City's contribution is expected to be $136.8 million for FY 2018 and $140.9 million for FY 2019. We continue to focus on our essential long-term goal: to make our plan fully-funded, so that our Members, Retirees and Beneficiaries will continue to receive their full benefits in the years to come. We made significant progress over the past year in raising our funded status, but it will take many years of continued hard work, City and member contributions, and careful planning to make us fully-funded.

Our Executive Director, Mr. N. Anthony Calhoun; our Deputy Executive Director, Mr. David A. Randall; and the F&P staff appreciate the privilege of working with you. Our staff worked hard over the past year to control administrative expenses, which were well under budget, and to improve service to you. Hopefully you have visited the website for the F&P at www.bcfpers.org, where you will find useful information about your retirement, including the Active Member Benefits Advanced Estimator to help you calculate your future benefits.

On behalf of the F&P Board of Trustees and the F&P staff, thank you for your dedicated service to the City. We will continue to work hard to protect your retirement benefits.

Sincerely,

Peter E Keith

Peter E. Keith, Esq.
Chairman
Board of Trustees

LEGAL AND GENERAL COUNSEL, ACTUARY, AND INDEPENDENT AUDITOR

LEGAL COUNSEL

Law Department
City of Baltimore
Andre M. Davis, Esq.

GENERAL COUNSEL

Fire and Police Employees' Retirement System
City of Baltimore
Abraham M. Schwartz, Esq.

ACTUARY

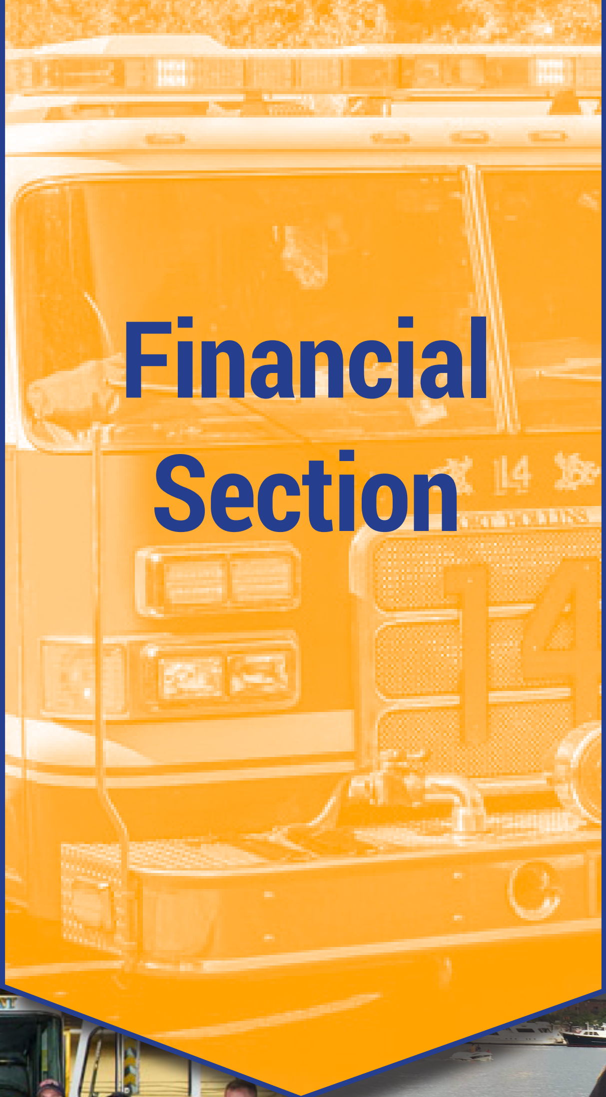
Cheiron
Fiona E. Liston, F.S.A.
McLean, Virginia

INDEPENDENT AUDITOR

CliftonLarsonAllen
Timonium, Maryland

See pages 62 to 65 in the Investment Section for a list of investment professionals.

Financial Section



CliftonLarsonAllen

CliftonLarsonAllen LLP
CLAconnect.com

INDEPENDENT AUDITORS' REPORT

The Honorable Joan M. Pratt, Comptroller,
Other Members of the Board of Estimates of the City of Baltimore and the
Board of Trustees of the Fire and Police Employees' Retirement System
Baltimore, Maryland

Report on the Financial Statements

We have audited the accompanying financial statements of the Fire and Police Employees' Retirement System of the City of Baltimore (the System), which comprise the statement of fiduciary net position as of June 30, 2017, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System as of June 30, 2017, and the respective changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

The financial statements include alternative investments valued at $736 million (29% percent of net position), and as explained in Note 2, their fair values have been estimated by management in the absence of readily determinable fair values. Management's estimates are based on information provided by the fund managers or the general partners.

A member of Nexia International

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of changes in net pension liability and related ratios, investment returns and employer contributions and related notes, as listed in the table of contents, be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the System's financial statements. The schedules of administrative expenses, investment expenses and payments to consultants, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the financial statements.

The schedules of administrative expenses, investment expenses and payments to consultants are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of administrative expenses, investment expenses and payments to consultants are fairly stated, in all material respects, in relation to the financial statements as a whole.

The introductory, investment, actuarial and statistical sections, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 16, 2017 on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Baltimore, Maryland
November 16, 2017

The following overview and analysis of the financial activities of the Fire and Police Employees' Retirement System (F&P, Plan, System) is provided for the fiscal year ended June 30, 2017. Readers are encouraged to consider the information presented here in conjunction with additional information furnished in the Transmittal Letter, which begins on page 5 of this report.

Financial Summary

- The net position restricted for pension benefits increased by $184.6 million during the fiscal year from $2,378.0 million at June 30, 2016, to $2,562.6 million at June 30, 2017. The increase in fiscal year 2017 was mainly due to the relative strong performance across the entire portfolio.

- Additions to Net Position (Revenues) for the year were $434.0 million, an increase of $279.3 million from the prior year revenues of $154.7 million. The increase in revenues was caused by higher investment earnings that were uniformly up across all asset classes for fiscal year 2017.

- Deductions from Net Position (Expenses) were $249.4 million in the current year, an increase of $6.2 million from the prior year expenses of $243.2 million. The increase in expenses was driven by post-retirement benefit increases, effective January 2017, increased retirement allowance payments, and increased DROP payments.

- The investment portfolio's total time-weighted rate of return of 12.1% for the one year period ended June 30, 2017, was slightly below the median public fund performance of 12.3%. The performance placed the F&P in the 52nd percentile of the BNY Mellon Public Fund – Total Fund universe.

- The portfolio performance for the three year period ended June 30, 2017, was 5.0% which was above the median public plan performance of 4.3%.

- The System's real estate portfolio composite performance had a return of 10.3% for fiscal year 2017. The real estate composite outperformed the NCREIF Property Index of 7.0%.

- The energy master limited partnership (MLP) portfolio composite provided a return of 3.8% for fiscal year 2017. The energy MLP composite outperformed the S&P MLP Index by 0.6%.

- The U.S. equity composite provided a 17.7% rate of return which ranked below the median 18.6% rate of return for the BNY Mellon All Master Trust – U.S. Equity Segment universe.

- The international equity composite provided a 19.5% rate of return which underperformed the MSCI All Country World Ex-U.S. Index by 1.0%.

- The System's fixed income composite portfolio earned 3.6% and performed above the 1.2% median portfolio performance of the BNY Mellon All Master Trust – U.S. Fixed Income Segment universe.

- The System's private equity fund-of-funds portfolio composite and the direct hedge funds portfolio composite provided returns of 18.5% and 10.4%, respectively, for fiscal year 2017.

- Employer contributions made to the F&P were $129.7 million in fiscal year 2017, up from the employer contribution made in fiscal year 2016.

- Member contributions to the F&P decreased by $0.6 million in fiscal year 2017 due to a decrease in the member's covered payroll.

- The F&P's funding objective is to meet benefit obligations through investment income, employer contributions, and member contributions. The earnings assumption rate for FY 2017 was 7.5%.

- As of June 30, 2017, the date of the F&P's last actuarial valuation, the System's funded ratio is 71.1% on an actuarial value of assets basis, compared to 71.5% at June 30, 2016. The System's Plan Fiduciary Net Position as a percentage of the Total Pension Liability at June 30, 2017 is 68.9% compared to 65.3% at June 30, 2016. Both ratios are calculated using the Entry Age Normal cost method.

- Capital assets are recorded at cost, net of depreciation, and include leasehold improvements, computer equipment, and office furniture.

Overview of Financial Statements

The following discussion and analysis are intended to serve as an introduction to the F&P financial statements and the Financial Section of this report. The statements and the notes are in conformity with accounting principles generally accepted in the United States. These principles require certain financial statement presentations and disclosures including the use of the accrual basis of accounting to record assets and liabilities, and revenues and expenses.

The **Statement of Fiduciary Net Position** provides a snapshot of the financial position of the F&P at June 30, 2017, the end of the plan's financial year. It indicates the total assets, current liabilities, and the net assets available for future payment of retirement benefits and operating expenditures at June 30, 2017. The assets comprise cash and cash equivalents, which are fixed income instruments with a maturity date of three months or less; receivables, which are primarily from investment activity; investments at fair value; securities lending collateral; and capital assets, which includes leasehold improvements, computer equipment, and office furniture. Securities traded on national or international exchanges are valued at the last reported sale price at current exchange rates. Purchases and sales of investments are recorded on a trade date basis. The current liabilities comprise of payables for securities lending collateral, certain investment activity, retirement benefits, lump sums payable to members, and administrative expenses.

The **Statement of Changes in Fiduciary Net Position** summarizes the F&P financial activities that occurred during the plan's fiscal year from July 1, 2016, through June 30, 2017. Employer contributions are recognized when a formal commitment has been made by the employer to provide the contributions. Member contributions are recognized in the period in which the contributions are due. The net appreciation (depreciation) in fair value of investments consists of the realized gains or losses and the unrealized increase or decrease in fair value of investments during the year. Realized gains and losses on sales of investments are computed based on the difference between the sales price and the original cost of the investment sold. Realized gains and losses on investments that had been held in more than one fiscal year and sold in the current fiscal year were included as a change in the fair value of investments reported in the prior year(s) and the current year. Unrealized increase or decrease is computed based on changes in the fair value of investments between years. Security transactions are accounted for on a trade date basis. Interest income is recognized when earned and dividend income is recorded on the ex-dividend date. Retirement benefits and refunds are recognized when due and payable in accordance with the terms of the plan provisions.

The **Notes to Basic Financial Statements** provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes are an integral part of the financial statements and include detailed information not readily evident in the basic financial statements.

The **Required Supplementary Information** that follows immediately after the notes to the basic financial statements provides information and schedules required by GASB 67. The schedules on page 42-43 show the changes in net pension liability and related ratios as well as the schedule of investment return. Also provided is the schedule of required contributions made by the employer. See the Required Supplementary Information beginning on page 41 of this report.

The remaining supplemental schedules provide additional detailed information concerning operating expenses, investment expenses and payments to consultants. All of this information is considered useful in understanding and evaluating the financial activities of the F&P.

Financial Analysis

The examination of fiduciary net position over time may serve as a useful indicator of the financial position of the F&P. At June 30, 2017, assets, as displayed below, exceeded current liabilities by $2.6 billion, a increase of $184.6 million over the prior year. Prior to the passage of Ordinance 10-306 of June 2010, it was mandated that the total assets of two reserves, the Paid-Up Benefit Reserve and the Contingency Reserve, were to be segregated and separately invested from the general plan assets. As required, the assets of these two reserves were dedicated to the payment of certain post-retirement benefit increases. With the passage of Ordinance 10-306, the assets of the two aforementioned reserves are to be included in the general asset pool as there is no longer a requirement to maintain those reserves and invest those assets separately. As of June 30, 2017, total assets increased by 6.8% from the prior year mainly due to an increase in investments at fair value. Total current liabilities were lower at June 30, 2017, from the prior fiscal year, mainly due to a decrease in securities lending collateral.

Fiduciary Net Position
For the Fiscal Years ended June 30, 2017 and 2016

	2017	2016	Increase (Decrease)	Percentage Change
Cash and receivables	$ 85,595,031	$ 80,033,387	$ 5,561,644	6.9
Investments	2,532,726,459	2,371,382,066	161,344,393	6.8
Capital assets	891,180	798,419	92,761	11.6
Total Assets	**2,619,212,670**	**2,452,213,872**	**166,998,798**	6.8
Current liabilities	56,648,008	74,219,367	(17,571,359)	(23.7)
Total Liabilities	**56,648,008**	**74,219,367**	**(17,571,359)**	**(23.7)**
Net Position	**$ 2,562,564,662**	**$ 2,377,994,505**	**$ 184,570,157**	7.8

Investment Assets

The asset portfolio is invested in domestic and foreign fixed income, domestic and international equities, real estate limited partnerships, direct hedge funds, private equity fund-of-funds and energy master limited partnerships. All assets are managed by external investment management firms selected by the Board of Trustees and approved by the City's policy making body, the Board of Estimates. BNY Mellon Asset Servicing, the F&P's custodian bank, holds in custody all marketable securities except securities held in commingled management accounts, direct hedge funds, private equity fund-of-funds, and the assets held by the real estate portfolios. The System participates in a securities lending program that is managed by BNY Mellon Asset Servicing. The Board of Trustees retains the services of the Summit Strategies Group, an investment consulting services firm that provides investment allocation advice, manager selection advice, manager and portfolio performance calculations and peer comparisons, performance analytics, asset-liability studies, and other related services. As the result of an asset-liability study concluded in fiscal year 2016, the Board expanded its investment opportunity set to include target allocations for direct hedge fund investments. With the assistance of the Summit Strategies Group, the Board filled its direct hedge funds allocation targets and restructured the dedicated variable benefit portfolios.

All investments are stated at fair value and include the recognition of unrealized gains and losses in the current period. The rate of return on the total assets for the year ended June 30, 2017, was 12.1%. The median public plan performance was

12.3%. The portfolio annualized rates of return for the last three-year, five-year, and ten-year periods ended June 30, 2017, were 5.0%, 7.7%, and 5.3%, respectively.

The Board has diversified the assets across multiple classes and strategies as it seeks to maximize investment opportunities and return at an acceptable level of investment risk. However, as evidenced by the variation in rates of return from year to year, the Board's investment allocation plan is not immune to market volatility. The F&P's long-term actuarial investment return assumption was 7.5% for fiscal year 2017, as the result of an actuarial experience study concluded in fiscal year 2015, and as recommended and adopted by the Mayor and City Council.

Beginning on page 49 of this report, the Investment Section gives detailed information on the F&P investment policies. See page 58 for the comparison of the asset allocation targets established by the Board of Trustees to the actual asset allocation at June 30, 2017.

Liabilities

Reported on the Statement of Fiduciary Net Position, the current liabilities are payables incurred mainly from investment portfolio transaction activity. Liabilities at June 30, 2017, were $56.6 million, $17.6 million less than the $74.2 million in liabilities at June 30, 2016. Payables for the settlement of investment purchases increased $0.1 million to $12.2 million and forward foreign contracts payable increased $0.1 million to $5.2 million at June 30, 2017. However, the securities lending collateral payable decreased by $19.1 million from $54.5 million at June 30, 2016, to $35.4 million at June 30, 2017, and served as a reason for the overall decrease in current liabilities at June 30, 2017.

Changes in Fiduciary Net Position
For the Fiscal Years Ended June 30, 2017 and 2016

	2017	2016	Increase (Decrease)
Additions			
Net investment income	$ 273,800,787	$ 2,533,389	$ 271,267,398
Employer contributions	129,688,977	121,115,085	8,573,892
Member contributions	29,901,791	30,549,801	(648,010)
Net securities lending income	586,818	469,337	117,481
Total Additions	**433,978,373**	**154,667,612**	**279,310,761**
Deductions			
Retirement allowances	223,772,460	217,821,498	5,950,962
Lump sum DROP payments	17,790,724	17,062,244	728,480
Administrative expenses	4,328,135	4,407,296	(79,161)
Refunds of member contributions	3,069,464	3,094,838	(25,374)
Death benefits	447,433	863,933	(416,500)
Total Deductions	**249,408,216**	**243,249,809**	**6,158,407**
Net Increase (Decrease)	**$ 184,570,157**	**$ (88,582,197)**	**$ 273,152,354**

Investment Income

The F&P's total composite portfolio achieved a 12.1% time-weighted rate of return which ranked the F&P asset performance in the 52nd percentile when compared to other public pension plans in the BNY Mellon Public Fund–Total Fund universe. Strong performance across the entire portfolio was a major contributor to the overall rate of return.

The System's U.S. equity composite returned 17.7% for fiscal year 2017, which ranked the domestic equity composite in the 72nd percentile of the BNY Mellon All Master Trust – U.S. Equity Segment universe. The domestic equity composite underperformed its Russell 3000 comparative index by 0.9%.

The international equity composite posted 19.5% rate of return which ranked in the 68th percentile of the BNY Mellon All Master Trust – International Equity Segment universe. The international equity composite underperformed its MSCI All Country World Ex-U.S. comparative index by 1.0%.

The fixed income composite earned 3.6% for the fiscal year which ranked in the 17th percentile of the BNY Mellon All Master Trust – U.S. Fixed Income Segment universe. The fixed income portfolio outperformed its Barclays Capital Aggregate index benchmark of 0.9% by 2.7%.

The real estate composite portfolio continued to earn good rates of return with performance of a strong 10.3% for the fiscal year. The real estate portfolio continued its recovery from the 2008-2009 liquidity crises, as it outperformed the comparative NCREIF Property Index, which returned 7.0% this fiscal year, by 3.3%.

The System's alternative asset portfolios, direct hedge funds, and private equity fund-of-funds, had positive performance. The direct hedge funds composite earned 10.4%, and performed 4.0% above its comparative HFRI Fund-of-Funds Composite Index that provided a 6.4% for the fiscal year ended June 30, 2017. The direct hedge funds composite portfolio is expected to provide investment returns which, over a market cycle, generally are greater than bonds and less than stocks, but with less volatility than that of stocks and more like that of fixed income investments.

The System invests in various private equity fund-of-funds. The private equity composite achieved an 18.5% return for the fiscal year and outperformed the S&P 500 Index performance of 17.9% for the same time period. The private equity portfolio funds are diversified by strategy and vintage year; and many of the underlying investments are still very young in their investment lifecycle. The goal of the private equity portfolio is to outperform the S&P 500 index over a market cycle. The private equity composite is reviewed over rolling three and five year periods and the composite performance outperformed the index over the last three year period but slightly underperformed the index over the last five year period.

For the year ended June 30, 2017, the MLPs composite achieved a 3.8% rate of return which exceeded the S&P MLP Index by 0.6%. The MLPs are expected to have low correlation to other asset classes which makes them a good diversifier for overall portfolio performance. Long term, the Board expects the MLPs to continue to outperform the domestic equity composite with lower risk.

The investment income is reduced by investment expenses which include the fees paid to firms hired by the Board to manage the System's assets, the Board's investment consulting firm, and the System's custodian bank which tracks the investment activity of the F&P's investment managers, values the System's assets, and provides accounting reports to System staff and the Board's investment consultant. Investment expenses increased from $9.9 million in fiscal year 2016 to $14.3 million in fiscal year 2017. The increase in investment expenses was caused by recording the management fees separately and not showing the income net of fees.

Member and Employer Contributions

Member contributions were made at 10.0% of regular compensation during fiscal year 2017. During the current fiscal year, the member's contributions decreased by $0.6 million due to a decrease in the number of active members. Overtime pay is not subject to the mandatory member contribution rate and it is not included in the member's average final compensation calculation. The number of active members decreased from 4,094 at June 30, 2016, to 4,012 at June 30, 2017. Should the active member population remain stable, member contributions are expected to increase, in conjunction with increased salaries.

Employer contributions requirements are determined by the results of an actuarial valuation process which is performed following the end of each fiscal year. The valuation results determine the contribution requirements due on July 1 two fiscal years hence. The employer contribution is comprised of the contribution made by the City of Baltimore and the contribution made by the State of Maryland for a small fixed number of State employees whose F&P coverage is mandated by State law. The contribution required from the City of Baltimore for fiscal year 2017 was $128.8 million.

The City's employer contribution requirement will increase to $136.8 million for fiscal year 2018 and to $140.9 million for fiscal year 2019, the later mainly due to the increase in the unfunded actuarial liability and the actuarial losses.

Retirement Benefits and Administrative Expenses

The F&P was created to provide lifetime service retirement and permanent disability retirement benefits for eligible members and survivor benefits and death benefits to eligible beneficiaries. The cost of such programs includes recurring retirement benefit payments, post-retirement benefit increases, lump-sum payments to Deferred Retirement Option Plan (DROP and DROP 2) participants, lump sum death benefits, refunds of accumulated member contributions and interest to non-retirement eligible members who leave F&P covered employment, and the costs of administering the System.

The primary expense during fiscal year 2017 was for the payment of continuing retirement benefits totaling $223.8 million, an increase of $6.0 million over the $217.8 million in retirement allowances paid in fiscal year 2016. The increase in retirement allowances was mainly due to higher benefit levels paid to newly retired members, post-retirement increases, and minimum benefit amounts paid to certain beneficiaries.

Lump sum DROP and DROP 2 distributions increased $0.7 million from $17.1 million in fiscal year 2016 to $17.8 million in fiscal year 2017 due to an increase in the number of DROP and DROP 2 participant service retirements. The number of DROP participants continues to decrease as the eligibility for DROP was frozen in 2009. DROP 2 became effective January 1, 2010; the number of DROP 2 participants also decreased in FY 2017.

Administrative expenses are comprised primarily of personnel costs and other professional services costs including information technology consultants. Administrative expenses decreased by $79,161 from fiscal year 2016 to fiscal year 2017. The decrease in administrative expenses was mainly due to a decrease in technology cost and a decrease in processing retirement payroll. The cost of processing the retirement payroll has significantly decreased due to the change in the vendor and payment cycle from bi-weekly to monthly. Leasehold improvements and office furniture are depreciated on a straight-line basis over 15 years. Computer equipment is depreciated on a straight-line basis over a five year useful life.

Litigation

On August 19, 2016, the fire and police unions and several plan participants and retirees filed a class action lawsuit against the City in the Circuit Court for Baltimore City, claiming that passage by the City of Ordinance 10-306, which became effective June 30, 2010, wrongfully breached the City's contract with plan membership under the contract clause of the plan. Plaintiffs requested judgment against the City awarding monetary damages, equitable relief, specific performance – including restoration of pre-Ordinance plan provisions, attorney's fees, costs, and judgment interest.

Barring a future court order to the contrary, F&P will continue to administer the F&P plan as amended by Ordinance 10-306. See Note 11 of the Notes to Basic Financial Statements on page 40 for more information.

Requests for Information

This report is designed to provide a general overview of the F&P's financial activity. Questions concerning information provided in this report or requests for additional financial information should be addressed to:

N. Anthony Calhoun
Executive Director
Fire and Police Employees' Retirement System
7 East Redwood Street, 19th Floor
Baltimore, Maryland 21202

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
STATEMENT OF FIDUCIARY NET POSITION
June 30, 2017

Assets		
Cash and cash equivalents		$ 65,033,050
Receivables		
Accrued income	$ 10,607,027	
Forward foreign contracts	5,156,176	
Investments sold	4,797,864	
Receivable - members	914	
Total receivables		20,561,981
Investments, at fair value		
Stocks	1,233,040,369	
Bonds	528,329,779	
Hedge funds	255,004,446	
Private equity funds	240,526,561	
Real estate funds	240,379,358	
Total investments		2,497,280,513
Capital assets, net of depreciation		
Leasehold improvements	502,710	
Computer equipment	280,879	
Office furniture	107,591	
Total capital assets, net of depreciation		891,180
Securities lending collateral		35,445,946
Total assets		2,619,212,670
Liabilities		
Securities lending collateral	35,445,946	
Investments purchased	12,229,551	
Forward foreign contracts	5,161,489	
Lump sums payable to members	1,760,993	
Investment management fees payable	1,671,352	
Administrative expenses payable	366,414	
Other accounts payable	12,263	
Total liabilities		56,648,008
Net Position Restricted for Pension Benefits		$ 2,562,564,662

The notes to the basic financial statements are an integral part of this statement.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
STATEMENT OF CHANGES IN FICUCIARY NET POSITION
For the Year Ended June 30, 2017

Additions		
Contributions		
Employer	$ 128,806,072	
Plan members	29,901,791	
State of Maryland/Airport	882,905	
Total contributions		$ 159,590,768
Investment income		
Net appreciation in fair value of investments	198,555,255	
Interest and dividends	32,695,875	
Private equity income	25,709,615	
Hedge funds income	19,385,514	
Real estate income	11,788,812	
Less: investment expenses	(14,334,284)	
Net investment income		273,800,787
Securities lending income	782,362	
Less: securities lending expenses	(195,544)	
Net securities lending income		586,818
Total additions		433,978,373
Deductions		
Retirement allowances	223,772,460	
Lump sum DROP payments	17,790,724	
Administrative expenses	4,328,135	
Refunds of member contributions	3,069,464	
Death benefits	447,433	
Total deductions		249,408,216
Net Increase (Decrease) in Fiduciary Net Position		184,570,157
Net Position Restricted for Pension Benefits		
June 30, 2016		2,377,994,505
June 30, 2017		$ 2,562,564,662

The notes to the basic financial statements are an integral part of this statement.

1. Plan Description:

The Fire and Police Employees' Retirement System of the City of Baltimore (F&P, Plan, System) is the administrator of a single employer defined benefit local government retirement plan. Established July 1, 1962, the Plan covers all uniformed personnel of the Baltimore City Fire and Police Departments. In addition, the Plan includes three active fire officers who are employees of the State of Maryland; this contingent emanated from when the City of Baltimore owned the Baltimore/Washington International Thurgood Marshall Airport. Based on criteria established by the Governmental Accounting Standards Board, the F&P is a component unit of the City of Baltimore and is included in the City's financial report as a public employees' retirement system (PERS).

At June 30, 2017, the F&P membership consisted of:

Retirees and beneficiaries currently receiving benefits	6,319
Active plan members	4,012
Total	10,331

The F&P provides normal service retirement benefits, as well as, death and disability benefits in accordance with Article 22 of the Baltimore City Code, which may be amended only by the Mayor and City Council. Certain provisions were amended by Ordinance 11-444, as noted in the Summary of Plan Provisions beginning on page 82. Membership in the System is mandatory upon employment. The System does not have a vested benefit plan; however, members have vested rights to their contributions and interest.

Post-retirement benefit increases are provided to retirees and beneficiaries based on age, type of retirement and having received benefits for two or more years as of each June 30 eligibility determination date.

2. Summary of Significant Accounting Policies:

Basis of Presentation:
The accounting and financial reporting policies of the F&P included in this report conform to accounting principles generally accepted in the United States and reporting standards as promulgated by the Governmental Accounting Standards Board, which designates accounting principles and financial reporting standards applicable to PERS. This report includes solely the accounts of the F&P, a component unit of the City of Baltimore.

There are no component units of the F&P based on the nature of operational or financial relationships.

Basis of Accounting:
These financial statements have been prepared on the accrual basis of accounting, whereby revenues are recorded when they are earned, expenses are recorded when liabilities are incurred, and investment purchases and sales are recorded as of their trade date. Member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Use of Estimates in Preparing Financial Statements:
The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires the Board to make estimates and assumptions that affect the reported amounts of assets, liabilities, additions and deductions to net position held in trust for pension benefits and disclosure of contingent assets and liabilities at the date of the financial statements and during the reporting period. Actual results could differ from those estimates.

Method Used to Value Investments:
Investments are reported at fair value. Securities traded on national or international exchanges are valued at the last reported sales price at the current exchange rates. The real estate holdings are based on the most recent appraisal (either internal to the manager or third party) as then presently available. For alternative investments, which include private equity, and hedge funds where no readily ascertainable fair value exists, management, in consultation with the general partner and investment advisors, has determined the fair values for the individual investments based upon the partnership's most recent available financial information. Foreign exchange contracts are marked-to-market daily based on published market prices and quotations from national securities exchanges or securities pricing services. The changes in fair value are recognized as part of net appreciation/depreciation in the fair value of investments. Initial margin requirements for such financial instruments are provided by investment securities pledged as collateral or by cash.

Investment income consists of realized and unrealized appreciation (depreciation) in the fair value of investments, and interest and dividend income earned, less investment expenses. Interest income is recorded on the accrual basis and dividends are recorded on the ex-dividend date. Securities and securities transactions are reflected in the financial statements on a trade-date basis.

GASB 72 is effective for fiscal years beginning after June 15, 2015. This statement addresses accounting and financial reporting requirements related to fair value measurements. GASB 72 requires measurement of certain assets and liabilities at fair value using a consistent and detailed definition of fair value and accepted valuation techniques. It also enhances disclosures about fair value measurements, the level of fair value hierarchy, and valuation techniques. Additional disclosures are also required for investments in certain entities that calculate net asset value per share (or its equivalent)

3. Contributions and Reserves:

F&P members are required to contribute 10.0% of their regular compensation through payroll deduction. The employer contributions are determined through an actuarial valuation. According to the plan provisions, contribution requirements of the plan members and the City are established and may be amended by the Mayor and City Council. The valuation method is stipulated in the plan provisions. An expense load of 1.5% of covered payroll is included in the annual employer contribution requirement to cover administrative plan costs.

The plan provisions, Article 22 of the Baltimore City Code, established the following reserves:

Annuity Savings Reserve - Accumulated in this reserve are members' contributions inclusive of interest credits, less amounts distributed upon termination of employment or death, or transferred to another reserve for retirement.

Annuity Reserve - Upon retirement, the accumulated contributions of members are transferred to this reserve. From this reserve, the members' accumulated contributions are paid as a life annuity.

Pension Accumulation Reserve - Employer contributions are credited and accumulated with earnings in this reserve. DROP benefits and certain death benefits are paid from here. In addition, when a member retires, an amount equal to the member's pension reserve is transferred from this reserve to the Pension Reserve.

Pension Reserve - From this reserve is paid the pension portion of the retirement allowance. The pension represents benefits for life derived from employer contributions and investment income.

At June 30, 2017, the balances in the legally required reserves are as follows:

Reserves	Balance
Annuity savings reserve	$ 325,140,922
Annuity reserve	380,511,216
Pension accumulation reserve	(271,426,095)
Pension reserve	2,128,338,619
Total Reserves	$ 2,562,564,662

4. Securities Lending:

The Board of Trustees (the Board) entered into a Securities Lending Authorization Agreement with the System's custodian bank, BNY Mellon Asset Servicing. All individual securities which are readily marketable and which are not restricted due to an outstanding short option are eligible for loan at the discretion of the custodian bank. The investment manager may loan securities held in custody of commingled accounts if authorized in the manager's contract with the F&P.

Collateral received in exchange for securities loaned is collected in an escrow account for the F&P's benefit for the duration of the loan. At no time will the System lose custody of the loaned securities. Collateral in exchange for the principal loaned may be in the form of cash, or securities issued or guaranteed by the U.S. government, its agencies or instrumentalities. Irrevocable Letters of Credit from banks approved by the custodian may not be used as collateral. The minimum levels of collateral will be set at 102% of the fair value of domestic securities loaned, including all accrued income, and 105% of the fair value of international securities loaned, including all accrued income. If the fair value of the collateral falls below 100% of the loaned securities, additional collateral will be collected to maintain the appropriate minimum level. All collateral amounts will be marked to market daily. The F&P does not have the right to sell or pledge securities received as collateral without borrower default.

At June 30, 2017, the F&P had no credit risk exposure to borrowers because the amounts the F&P owed borrowers exceeded the amounts the borrowers owed the F&P. The fair value of securities on loan at June 30, 2017, was $198,834,674 and the fair value of the collateral received for those securities on loan was $208,805,514. The securities purchased with cash collateral are reported at amortized cost. The terms of the Securities Lending Authorization Agreement require that the custodian indemnify the F&P against: (1) the failure to demand adequate and appropriate collateral from a borrower; (2) the failure to comply with the investment guidelines in connection with the investment and reinvestment of cash collateral; (3) the failure to obtain and perfect a security interest or rights equivalent thereto in and to the collateral; and (4) the failure to make a reasoned determination of the creditworthiness of any borrower.

Substantially all securities loans can be terminated on demand either by the custodian or by the borrower, although generally the average term of these loans is one week. Cash collateral is invested in the custodian's short-term investment account, specific to the F&P. The short-term investment account guidelines specify that a minimum of 20.0% of the invested cash collateral is to be available each business day and the dollar weighted average maturity of holdings should not exceed 90 days.

The custodian's lending program does not operate the collateral investments as a "matched program" where the length of the loaned assets would be specifically matched to the length of the portfolio investments. Because the System's active investments are currently engaged in the overnight investment fund, all assets in the portfolio mature within a 24 hour period.

The following represents the balances relating to the securities lending transactions as of June 30, 2017:

Types of Securities On Loan	Fair Value of Securites On Loan	Fair Value of Collateral Received	Type of Collateral
Domestic equities	$24,320,020	$24,954,495	Cash
Corporate Bonds	6,891,811	7,039,738	Cash
U.S. treasury notes and bonds	2,918,435	2,977,563	Cash
U.S. Government agency bonds	453,557	474,150	Cash
Total cash collateral	34,583,823	35,445,946	
Domestic equities	$124,002,983	$132,280,630	Securities
U.S. treasury notes and bonds	26,807,943	27,340,414	Securities
U.S. Government agency bonds	11,716,707	11,980,737	Securities
Corporate Bonds	1,723,218	1,757,787	Securities
Total securities collateral	164,250,851	173,359,568	
Total Securities on Loan	$ 198,834,674	$ 208,805,514	

5. Cash and Investments:

The System's cash deposits are entirely covered by federal depository insurance at all times. The System classifies cash on deposit in the custodian institution, BNY Mellon, as well as the cash management pool held by BNY Mellon as cash and cash equivalents. The System also classifies certain short-term highly liquid securities as cash equivalents if the date of maturity is three months or less from the date of acquisition.

The Board of Trustees of the F&P is authorized by the Baltimore City Code to make investments in accordance with the guidelines and limitations set forth in the Code. The Board accomplishes the daily management of the System's investments through an external investment consultant who acts as a fiduciary for the System and through external investment managers. The Board invests the assets of the F&P using the "prudent person standard" which allows the Board to consider the probable safety of investments, avoid speculative investments, and invest as people of prudence, discretion, and intelligence would in a similar situation. The Board has adopted an investment policy and guidelines to formally document its investment objectives and responsibilities.

Fair Value Measurements

The System categorizes their fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets (level 1) and the lowest priority to unobservable inputs (level 3). The categorization of investments within the hierarchy is based upon the pricing transparency of the instruments and should not be perceived as the particular investment risk.

The F&P invested assets measured at fair value at June 30, 2017 are presented below:

Investment by Fair Value Level		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Debt Securities:				
Corporate bonds	$ 237,620,746		$ 232,752,491	$ 4,868,255
U.S. treasury notes and bonds	80,717,126	80,717,126		
U.S. Government agency bonds	40,291,878		40,291,878	
Total debt securities	358,629,750	80,717,126	273,044,369	4,868,255
Equity securities:				
International equities	379,523,010	379,523,010		
Domestic equities	310,561,824	310,561,824		
Energy master limited partnerships	139,919,468	139,919,468		
Dynamic US equity fund	132,094,775	132,094,775		
Total equity securities	962,099,077	962,099,077		
Total Investments by Fair Value Level	1,320,728,827	$ 1,042,816,203	$ 273,044,369	$ 4,868,255
Investments Measured at the Net Asset Value (NAV)				
Comingled equity funds	270,941,292			
Hedge funds	255,004,446			
Real estate funds	240,379,358			
Private equity funds	174,544,476			
Comingled debt funds	169,700,029			
Private energy funds	65,982,085			
Total investments measured at the net asset value	1,176,551,686			
Total investments	$ 2,497,280,513			

The valuation method for investments measured at the net asset value (NAV) per share, or equivalent, is presented in the table below:

		Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Investments Measured at the Net Asset Value (NAV)				
Comingled equity funds [5]	$ 270,941,292	N/A	Daily, monthly	2 - 30 days
Hedge funds [1]	255,004,446	N/A	Daily, quarterly, semi-annual, annual	3 - 90 days
Real estate funds [2]	240,379,358	3,340,345	Not eligible, quarterly	N/A, 45 days
Private equity funds [3]	174,544,476	117,578,303	Not eligible	N/A
Comingled debt funds [6]	169,700,029	N/A	Daily, bi-monthly, monthly	2 - 30 days
Private energy funds [4]	65,982,085	17,288,547	Not eligible	N/A
Total investments measured at the net asset value	$ 1,176,551,686			

(1) The System invests in direct hedge funds utilizing 8 direct hedge fund managers. The investment strategies consist of equity long/short, event driven composites, relative value composites and tactical trading composites. These investments are eligible for redemption with various frequency terms ranging from daily to annual and a 3 - 90 day notice period.

(2) The System's real estate investments consist of 2 core real estate funds and 12 real estate partnerships. The real estate partnerships consist of non-core, value added and opportunistic stratgies. For the most part, the real estate investments are illiquid and redemptions are restricted, however the core funds of $137 million are liquid and the redemption frequency is quarterly, and a 45 day notice period.

(3) The System's private equity investments consist of 21 funds, invested in Diversified, Venture Capital, Distressed Debt, Buyouts, International, Growth Equity and Special Situations strategies. These investments are considered illiquid as redemptions are restricted over the life of the investment.

(4) The System's private energy investments consist of 5 funds, invested in Natural Resources and Energy Partnerships. These investments are considered illiquid as redemptions are restricted over the life of the investment.

(5) The System's comingled equity funds consist of 2 index funds and 2 emerging markets collective funds. These investments are liquid.

(6) The System's comingled debt funds consist of 1 index fund, 1 mortgage backed securities fund, 1 comingled bank loan fund, and 1 emerging markets debt fund. These investments are liquid.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a plan’s investment in a single issuer. As of June 30, 2017, the F&P has no single issuer that exceeds 5% of total investments. Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments are excluded.

Foreign Currency Risk Exposure

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. It is the Board’s policy that external managers demonstrate sensitivity to foreign currency risk. The foreign currency exposure of the System may be hedged back to the U.S. dollar using forward foreign exchange contracts. From 0% to 100% of the foreign currency exposure of a portfolio may be hedged. Cross-hedging to currency other than the U.S. dollar may reach 25% of the total portfolio. Currency speculation is not permitted.

The F&P exposure to foreign currency risk is presented on the following table:

Currency	Fair Value (USD)
Euro Currency Unit	$ 98,980,704
British Pound Sterling	89,832,246
Japanese Yen	59,820,533
Swiss Franc	35,853,805
Hong Kong Dollar	24,174,144
Canadian Dollar	20,654,416
South Korean Won	12,457,116
Swedish Krona	6,550,055
Australian Dollar	3,918,683
Danish Krone	3,137,225
Brazil Real	2,843,967
Mexican Peso	1,917,587
New Taiwan Dollar	1,857,723
South African Comm Rand	1,040,754
Indonesian Rupiah	852,926
UAE Dirham	521,951
Hungarian Forint	469,753
Thailand Baht	295,415
Norwegian Krone	3,184
Total Foreign Currency	$365,182,187
U.S. Dollars (held in International Equity)	$159,974,903

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment. F&P uses the Option Adjusted Duration as a measure of interest rate sensitivity for bonds. Duration is a measure of the approximate sensitivity of a bond’s value to interest rate changes. The Board’s fixed income interest rate policy states that the effective duration of a portfolio may not exceed 120% of the effective duration of the underlying Barclay Capital Aggregate benchmark.

Asset Type	Option Adjusted Duration (in years)	Fair Value
Corporate bonds	4.70	$237,620,746
Emerging markets debt fund	5.53	130,101,733
U.S. treasury notes and bonds	6.80	80,717,126
U.S. Government agency bonds	3.34	40,291,878
NHIT agency mbs trust	4.48	21,102,222
Barclay aggregate index	6.02	13,583,488
Senior floating rate fund	0.10	4,912,586
Total debt securities		$528,329,779

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Credit Risk by Quality

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. The Board has not adopted a formal policy to limit credit risk. The F&P's rated debt investments as of June 30, 2017, were rated by Standard & Poor, and for securities with no S&P rating, the Moody Quality ratings were used.

Asset Type	Quality Ratings	Fair Value
Corporate bonds	AAA	$ 37,170,154
	AA	12,364,234
	A	39,611,622
	BBB	66,705,010
	BB	35,475,870
	B	33,326,403
	CCC	3,320,090
	CC	416,770
	Not Rated	9,230,593
Total corporate bonds		237,620,746
Emerging markets debt fund	BBB	130,101,733
U.S. treasury notes and bonds	AA	80,717,126
U.S. Government agency bonds	AA	40,291,878
NHIT agency mbs trust	AAA	21,102,222
Barclay aggregate index	AA	13,583,488
Senior floating rate fund	BB	4,912,586
Total debt securities		$ 528,329,779

Investment Policy

The System's investment policy is to preserve the capital value of the System adjusted for inflation; to ensure adequate liquidity to meet benefit liabilities as they fall due; to meet the actuarial interest rate assumptions over the longer term while maintaining appropriate risk levels; and to exceed the investment return by the astute management of System assets. The System's investment policy is designed to provide broad diversification among asset classes in order to maximize returns at a prudent level of risk. In addition, asset allocation ranges, target allocations and a process of periodic rebalancing are used to maintain compliance with policy. The long-term expected rate of return was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of 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 weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The following is the Board's adopted target asset allocation and the best estimates of arithmetic real rates of return by asset class.

Asset Class	**Allocation Target**	**Long-Term Expected Real Rate of Return**
US Equity	22.5%	5.2%
International Equity	22.5%	6.0%
Private Equity	10.0%	7.8%
Fixed Income	17.0%	3.2%
Real Estate	10.0%	6.0%
Hedge Funds	5.0%	4.5%
Energy MLP	7.0%	7.0%
Private Energy	5.0%	8.5%
Cash	1.0%	1.0%
Total Portfolio	***100.0%***	

Rate of return

For the year ended June 30, 2017, the annual money-weighted rate of return of the Plan, calculated as the internal rate of return on investments, net of investment expenses, was 11.3%. The money-weighted rate of return expresses the Plan's investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

6. Deferred Retirement Option Program (DROP):

The System has two DROP programs, DROP and DROP 2. DROP became effective July 1, 1996 and DROP 2 became effective January 1, 2010. The DROP balance as of June 30, 2017, is $54,507,928. The DROP 2 balance as of June 30, 2017, is $59,760,254.

DROP

Members with more than 20 years of service on or before December 31, 2009 can elect to participate in DROP at any time. A member's DROP participation period can be for one, two or three years. During that time the member will accrue no additional service. A member who continues employment at the end of his/her DROP participation period shall begin to earn additional service credit.

If a member retires during his/her DROP participation period or immediately at the end of this period, he/she shall be entitled to a Basic DROP Retirement Benefit. This shall equal:

1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP participation, plus

2) A lump sum equal to the member's DROP account. This equals the accumulation of the annuity payments the member would have received had he/she retired at the time his/her DROP participation began receiving benefits, plus the member contributions paid during his/her DROP participation period, plus interest at 8.25%.

If a member retires later than the end of the three-year DROP period but less than 18 months after the conclusion of his/her DROP participation period, he/she is entitled to an Intermediate DROP Retirement Benefit. This shall equal:

1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP participation, plus

2) Benefit accrual of 2% plus an extra 1.5% per year (not to exceed 18 months) for service after the DROP participation period.

3) A lump sum equal to the DROP account. No additions (other than interest) are added after the conclusion of the DROP participation period.

If a member retires more than 18 months after the conclusion of his/her DROP participation period, he/she is entitled to a Full DROP Retirement Benefit. This shall equal:

1) The retirement benefit based on current average final compensation and all service excluding service while a participant is in DROP.

2) Benefit accrual includes an extra 1.5% per year (not to exceed four years) for service after the DROP participation period.

3) A lump sum equal to the DROP account. No additions (other than interest) are added after the conclusion of the DROP participation period.

DROP 2

Members with more than 20 years of service on or after January 1, 2010, but not before December 31, 2009, can elect to participate in DROP 2. Effective July 1, 2010, the 20-year requirement was moved to 25 years for non-grandfathered members. A member's DROP 2 participation period can be for one, two or three years. The participant must remain in DROP 2 for at least one year. Those participants who retire prior to the end of the first year are not entitled to receive any amounts accumulated in the DROP 2 account. No additional service is accrued during DROP 2 participation. A member who continues employment at the end of the DROP 2 participation period shall begin to earn additional service credit.

If a member retires during the DROP 2 participation period or immediately at the end of this period, the member is entitled to an Early DROP 2 Retirement Benefit. This is equal to:

1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP 2 participation, plus

2) A lump sum equal to the member's DROP 2 account. This equals the accumulation of the annuity payments the member would have received had he/she retired at the time his/her DROP 2 participation began plus the member contributions paid during his/her DROP 2 participation period, plus interest at 5.5% for grandfathered participants and 3.0% for non-grandfathered participants.

If a member retires later than the end of the three-year DROP 2 period but less than 3.5 years for police employees or five years for fire employees after the conclusion of his/her DROP 2 participation period, he/she is entitled to a Mid DROP 2 Retirement Benefit. This is equal to:

1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP 2 participation, plus

2) Benefit accrual of 2% for service after the DROP 2 participation period began.

3) An additional benefit accrual of 1.5% per year (not to exceed four years) for service after the DROP 2 participation period for fire employees only. Police employees do not receive an additional benefit accrual.

4) A lump sum equal to the DROP 2 account. No additions (other than interest) are added after the conclusion of the DROP 2 participation period.

If a member retires more than 3.5 years for police employees or five years for fire employees after the conclusion of his/her DROP 2 participation period, he/she is entitled to a Complete DROP 2 Retirement Benefit. This shall equal:

1) The retirement benefit based on current average final compensation and all service excluding service while a participant is in DROP 2.

2) Benefit accrual includes an extra 1.5% per year (no to exceed four years) for service after the DROP 2 participation period for fire employees only. Police employees do not receive an additional benefit accrual.

3) A lump sum equal to the DROP 2 account. No additions (other than interest) are added after the conclusion of the DROP 2 participation period.

7. Capital Assets:

Capital Assets consisting of furniture and equipment, computer equipment and leasehold improvements are recorded at cost. Depreciation on computer equipment is calculated on a straight-line basis over a five year useful life; depreciation on leasehold improvements and office furniture is calculated on a straight-line basis over fifteen years, the life of the building lease.

Capital Asset	July 1, 2016 Balance	Capital Acquisitions	Dispositions	June 30, 2017 Balance
Computer equipment	$1,452,803	$ 97,841	$558,824	$991,820
Office furniture / equipment	396,612	23,773		420,385
Leasehold improvements	1,354,114	238,649		1,592,763
Totals	$3,203,529	$360,263	$558,824	$3,004,968

Accumulated Depreciation	July 1, 2016 Balance	Increases	Decreases	June 30, 2017 Balance
Computer equipment	$1,135,886	$133,879	$558,824	$710,941
Office furniture / equipment	285,716	27,078		312,794
Leasehold improvements	983,509	106,544		1,090,053
Totals	$2,405,111	$267,501	$558,824	$2,113,788

8. Net Pension Liability:

The following schedules show the Net Pension Liability as of June 30, 2017, and the sensitivity of the NPL to the discount rate. The discount rate used to measure the total pension liability was 7.5 percent. The projection of cash flows used to determine the discount rate assumed that member and employer contributions will be made at rates equal to those based on the June 30, 2017, Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service cost of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, F&P's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members as of July 1, 2017. Therefore, the long-term expected rate of return on F&P investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2017.

Net Pension Liability

Total Pension Liability	$ 3,720,306,742
Plan Fiduciary Net Position	2,562,564,662
Net Pension Liability	$ 1,157,742,080
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	68.9%

	1% Decrease 6.50%	Discount Rate 7.50%	1% Increase 8.50%
Total Pension Liability	$ 4,145,190,405	$ 3,720,306,742	$ 3,366,019,048
Plan Fiduciary Net Position	2,562,564,662	2,562,564,662	2,562,564,662
Net Pension Liability	$ 1,582,625,743	$ 1,157,742,080	$ 803,454,386
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	61.8%	68.9%	76.1%

Valuation Date 6/30/2017

The total pension liability was determined by an actuarial valuation as of June 30, 2016, using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial Cost Method	Entry Age Normal
Discount rate	7.50%
Price inflation	3.00%
Salary increases	3.00% plus merit component based on employee classification and years of service
Mortality	Actives, Retirees, Beneficiaries: 114% and 130% of the RP-2014 Blue Collar Mortality Table for males and females respectively projected using the RPEC_2014 model, with an ultimate rate of 0.85% for ages 20-95, an ultimate rate of 0.00% for ages 95-120, convergence to the ultimate rate in year 2017, and using the committee selected weighting assumption. Disabled Members: RP-2014 Disabled Retiree Mortality blended 50%/50% with the healthy annuitant's table projected using the healthy annuitant's RPEC_2014 model.

The last experience study covered the period July 1, 2012 through June 30, 2015. An actuarial experience study is generally conducted every five years, however, the F&P conducts an experience study every three years.

9. Derivatives:

Derivatives are generally defined as an investment contract or security with a value that depends on, or is derived from, the value of an underlying asset, reference rate or financial index. The F&P has classified the following instruments as forward foreign contracts:

Forward Currency Contracts

Certain F&P investment managers enter into forward currency contracts to manage exposure to fluctuations in foreign currency exchange rates on portfolio holdings. Those managers also enter into forward exchange contracts to settle future obligations. A forward exchange contract is a commitment to purchase (payable) or sell (receivable) a foreign currency at a future date at a negotiated forward rate. Risk associated with such contracts includes movement in the value of a foreign currency relative to the U.S. dollar. Unrealized gain or loss on forward currency contracts is the difference between the contract and the closing fair value of such contract and is included in the statement of changes in fiduciary net position as net appreciation/depreciation in fair value of investments. The table below summarizes the market value of foreign currency contracts as of June 30, 2017.

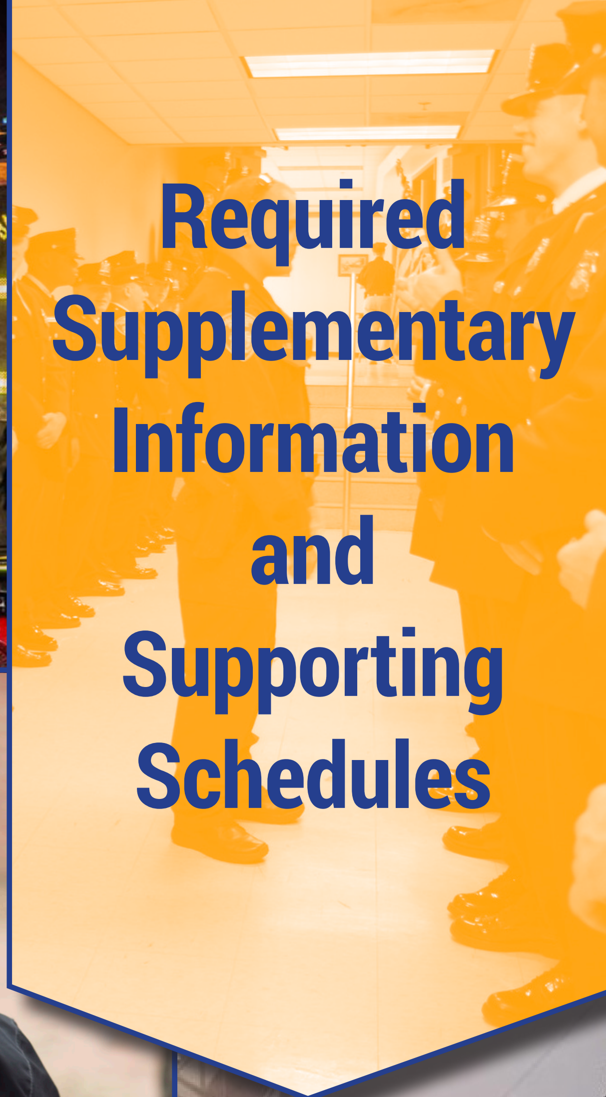
Currency	Forward Foreign Contracts Cost Receivable	Forward Foreign Contracts Cost Payable	Forward Foreign Contracts Fair Value Receivable	Forward Foreign Contracts Fair Value Payable
British Pound Sterling	$ 10,736	$ 10,736	$ 10,727	$ 10,736
British Pound Sterling	523,634	523,634	523,634	523,422
Canadian Dollar	392,435	392,435	392,625	392,435
Euro Currency Unit	632,820	632,820	632,304	632,820
Euro Currency Unit	620,706	620,706	620,706	622,616
Japanese Yen	727,043	727,043	725,361	727,042
Japanese Yen	509,166	509,166	509,166	508,794
Brazil Real	55,355	55,355	55,355	55,273
Swiss Franc	628,253	628,253	627,302	628,253
Swiss Franc	451,143	451,143	451,143	451,239
Danish Krone	305,767	305,767	304,952	305,767
Hong Kong Dollar	195,735	195,735	195,722	195,735
South Korean Won	21,516	21,516	21,485	21,516
Mexican Peso	85,842	85,842	85,693	85,842
Totals	$ 5,160,151	$ 5,160,151	$ 5,156,176	$ 5,161,489

10. Litigation:

Ordinance 10-306, which became effective June 30, 2010, enacted the following changes to the plan: 1) “variable benefit” cost-of-living increases for retirees based on investment performance were replaced with fixed, tiered post-retirement COLAs based on the attained age of a retiree or beneficiary, 2) “average final compensation” was modified by increasing the number of months used in the calculation, 3) eligibility requirements for normal service retirement and DROP 2 participation were lengthened, and 4) member contribution rates were increased.

On August 19, 2016, the fire and police unions and several plan participants and retirees filed a class action lawsuit against the City in the Circuit Court for Baltimore City, claiming that passage of the Ordinance wrongfully breached the City’s contract with plan membership under the contract clause (Art. 22, Sec. 42) of the plan. In their complaint, the plaintiffs requested that the court declare that the City impaired and diminished its contract with active, retirement-eligible and retired plan members by enacting the Ordinance and failing to adequately fund the plan. In addition, the plaintiffs requested judgment against the City awarding plaintiffs monetary damages, equitable relief, specific performance – including restoration of pre-Ordinance plan provisions, attorney’s fees, costs, and judgment interest.

Barring a future court order to the contrary, F&P will continue to administer the plan as amended by Ordinance 10-306.



Required Supplementary Information and Supporting Schedules

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
SCHEDULE OF INVESTMENT RETURNS
For the Year Ended June 30

Schedule of Changes in Net Pension Liability and Related Ratios

	2017	2016	2015	2014
Total Pension Liability:				
Interest (includes interest on service cost)	$ 269,479,447	$ 261,805,511	$ 257,871,163	$ 250,480,374
Service cost	70,986,959	71,220,766	66,665,615	66,034,831
Changes of assumptions			35,744,707	
Differences between expected and actual experience	(17,476,659)	11,431,589	28,263,161	1,405,813
Benefit payments, including refunds of member contributions	(245,080,080)	(238,842,513)	(224,934,312)	(221,439,237)
Net change in total pension liability	**77,909,667**	**105,615,353**	**163,610,334**	**96,481,781**
Total pension liability - beginning	**3,642,397,075**	**3,536,781,722**	**3,373,171,388**	**3,276,689,607**
Total pension liability - ending	**$ 3,720,306,742**	**$ 3,642,397,075**	**$ 3,536,781,722**	**$ 3,373,171,388**
Plan fiduciary net position				
Net investment income	$ 274,387,604	$ 3,002,726	$ 53,902,299	$ 314,449,271
Contributions - employer	129,688,977	121,115,085	119,020,291	113,843,250
Contributions - members	29,901,791	30,549,801	30,341,796	28,265,556
Benefit payments, including refunds of member contributions	(245,080,080)	(238,842,513)	(224,934,310)	(221,439,237)
Administrative expense	(4,328,135)	(4,407,296)	(4,297,773)	(3,907,539)
Net change in total pension liability	**184,570,157**	**(88,582,197)**	**(25,967,697)**	**231,211,301**
Plan fiduciary net position - beginning	**2,377,994,505**	**2,466,576,702**	**2,492,544,399**	**2,261,333,098**
Plan fiduciary net position - ending	**$ 2,562,564,662**	**$ 2,377,994,505**	**$ 2,466,576,702**	**$ 2,492,544,399**
Net pension liability - ending	**$ 1,157,742,080**	**$ 1,264,402,570**	**$ 1,070,205,020**	**$ 880,626,989**

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS (continued)
SCHEDULE OF INVESTMENT RETURNS (continued)
For the Year Ended June 30

Plan fiduciary net position as a percentage of the total pension liability	**68.88%**	**65.29%**	**69.74%**	**73.89%**
Covered payroll	**$ 296,356,741**	**$ 300,855,075**	**$ 298,354,900**	**$ 284,210,233**
Net pension liability as a percentage of covered payroll	**390.66%**	**420.27%**	**358.70%**	**309.85%**

Schedule of Investment Returns

	2017	**2016**	**2015**	**2014**
Annual money-weighted rate of return, net of investment expense	11.29%	-0.10%	2.00%	13.60%

These schedules are presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the Fire and Police Employees' Retirement System will present information for those years for which information is available.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ended June 30	City Contribution Per Actuarial Valuation	Contributions Required From State of Maryland	Additional City Contributions	Total Contributions Required	Total Contributions Made	Covered Payroll	Contribution Rate of Covered Payroll
2008	$66,423,208	$532,536	$ 5,731,841	$66,955,744	$72,687,585	$269,690,209	26.95%
2009	68,928,188	585,048		69,513,236	69,513,236	281,423,808	24.70
2010	81,879,056	818,687	11,400,000	82,697,743	94,097,743	276,576,626	34.02
2011	89,799,377	841,660	16,898,836	90,641,037	107,539,873	275,647,861	39.01
2012	98,895,949	790,190	7,802,264	99,686,139	107,488,403	284,601,473	37.77
2013	101,291,889	786,970	5,700,000	102,078,859	107,778,859	277,524,356	38.84
2014	113,003,944	839,306		113,843,250	113,843,250	284,210,233	40.06
2015	118,190,306	829,985		119,020,291	119,020,291	298,354,900	39.89
2016	120,275,610	839,475		121,115,085	121,115,085	300,855,075	40.26
2017	128,806,072	882,905		129,688,977	129,688,977	296,356,741	43.76

Notes:

Covered payroll is defined as the pensionable wages on which contributions are based.

See notes to required supplementary information.

1. Ordinance 10-306, signed by the Mayor on June 22, 2010, provided amendments and clarifications to the plan that affect current and future members and retirees. The Ordinance, which was clarified by Ordinance 10-357 and signed by the Mayor on August 10, 2010: (1) modified the plan's variable post-retirement increase benefit provisions by changing to a guaranteed, fixed increase: 1% for eligible retirees and beneficiaries aged 55 to 64 who have been receiving periodic benefit payments for 2 or more years as of June 30, 2011, beginning in January 2012; and 2% for eligible retirees and beneficiaries aged 65 and older and for 100% line-of-duty disability retirees and their beneficiaries who have been receiving periodic benefit payments for 2 or more years as of June 30, 2010, beginning in January 2011; and no increases for retirees less than 55 years of age; (2) changed the age and service requirements for a normal service retirement benefit for all non-grandfathered members (members who, as of June 30, 2010, did not meet the eligibility requirements for a service retirement benefit or had fewer than 15 years of service) to the earlier of 25 years of service or age 55, with at least 15 years of service as an F&P member; (3) established a new early service retirement benefit for non-grandfathered members by allowing members who are not eligible for the new normal service retirement to retire at or after their former retirement eligibility date and receive a reduced early retirement benefit; (4) changed the definition of "average final compensation" for non-grandfathered members to mean a member's salary over 36 consecutive months during which pay was highest; (5) increased DROP 2 eligibility to 25 years of service as a contributing F&P member for non-grandfathered members with less than 15 years of service as of June 30, 2010; (6) increased the percentage of compensation contributable by all members to 7% effective July 1, 2010; 8% effective July 1, 2011; 9% effective July 1, 2012; and 10% effective July 1, 2013; (7) reduced interest paid by the plan on withdrawal of accumulated contributions and lump-sum death benefits from 5.5% to 3.0% for all members; (8) reduced interest paid by the plan on DROP 2 accounts from 5.5% to 3.0% for members with less than 15 years of service; (9) established a new minimum annual benefit of $16,000 payable to spousal beneficiaries of sworn members who, before August 1, 1996, retired or died in service with 20 or more years of service; (10) allowed pre-employment military service to be used to satisfy eligibility for a normal service, DROP, or DROP 2 retirement for all members; (11) lowered the plan's long-term investment earnings assumption from 8.25% to 8.0%; and (12) expanded the plan's Board of Trustees to add the City's Director of Finance and a third Mayoral appointee and established new professional qualifications for the Mayoral appointees.

   Due to the aforementioned plan changes, the June 30, 2009 actuarial valuation report was revised. The actuarial accrued liability was reduced by $88.8 million and the fiscal year 2011 employer contribution due July 1, 2010 was reduced from $101.8 million to $90.6 million

2. The June 30, 2010, unfunded actuarial liability increased $134.1 million from a revised $374.9 million at June 30, 2009, due to the above noted changes in plan provisions, to $509.0 million mainly due to the recognition of prior year investment losses.

3. Ordinance 11-444, signed by the Mayor on May 19, 2011, established a new minimum annual benefit of $16,000 payable to spousal beneficiaries of sworn members who, before August 1, 1996, retired on account of a Line-of-Duty Disability with less than 20 years of service. The unfunded actuarial liability increased $49.6 million to $558.6 million at June 30, 2011; the increase included $5.6 million due to the minimum benefit improvement which commenced in January 2012.

4. The actuarially determined contribution rates in the schedule of employer contributions are calculated as of June 30, 2017. The following actuarial methods and assumptions were used to determine contribution rates reported in the schedule:

Valuation date	6/30/2015
Timing	Actuarially determined contribution rates are calculated based on the actuarial valuation two years prior.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal Cost Method
Asset valuation method	5-year smoothed market
Amortization method	Closed 25-year level dollar amortization of unfunded liability as of July 1, 2014
Discount rate	7.50%
Price inflation	3.00%
Salary increases	3.00% plus merit component based on employee classification and years of service
Mortality	114% and 130% of the RP-2014 Blue Collar Mortality Table for males and females, respectively, projected using the RPEC_2014 model, with an ultimate rate of 0.85% for ages 20-95, an ultimate rate of 0.00% for ages 95-120, convergence to the ultimate rate in year 2017, and using the committee selected weighting assumption for healthy lives. RP-2014 Disabled Retiree Mortality blended 50%/50% with the healthy annuitant's table projected using the version of the RPEC_2014 model for healthy members.

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2017 can be found in the June 30, 2015 actuarial valuation report.

5. Ordinance 15-381, signed by the Mayor on June 15, 2015, authorized all retirement allowances shall be paid monthly rather than bi-weekly, effective January 1, 2016. Service retirements for all members and beneficiaries take effect on the 1st day of the calendar month and shall be paid on the 15th day of that calendar month. Death and survivorship benefits take effect on the 1st day of the calendar month following the month in which the member dies and shall be paid on the 15th day of that calendar month. For the calendar month in which the death of a retired member or beneficiary occurs, the F&P shall owe and pay the entire monthly allowance due to a retired member or beneficiary.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF ADMINISTRATIVE EXPENSES
For the Year Ended June 30, 2017

Salaries and Wages:		
Permanent full-time salaries	$1,859,088	
Overtime	18,220	
Total Salaries and Wages		$1,877,308
Other Personnel Costs:		
Medical insurance and health care	287,293	
Social security	134,597	
Retirement	57,467	
Other employee benefits	25,259	
Total Other Personnel Costs		504,616
Contractual Services:		
Technology systems support	752,032	
Lease payments	253,805	
Retirement payroll processing	203,416	
Actuarial services	109,610	
Printing	60,520	
Other professional services	48,525	
Financial audit fees	39,000	
Postage	35,731	
Equipment rental	20,963	
Board meeting expense	20,778	
Staff training	20,192	
Trustee education	16,450	
Dues and publications	10,593	
Equipment maintenance	10,285	
Telephone systems	7,970	
Legal Fees	6,193	
Total Contractual Services		1,616,063
Depreciation expense		267,501
Office supplies		24,186
Office furniture		21,683
Computer equipment		16,778
Total Administrative Expenses		$4,328,135

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF INVESTMENT EXPENSES
SCHEDULE OF PAYMENTS TO CONSULTANTS
For the Year Ended June 30, 2017

Schedule of Investment Expenses

Investment Expenses	Fees
Investment management fees	$13,404,713
Investment consultant fees	769,071
Securities lending fees	195,544
Custodial fees	160,500
Total Investment Expenses	**$14,529,828**

Schedule of Payments to Consultants

Firm	Fees	Nature of Service
Magothy Technology	$433,658	Technology systems support
TeleCommunication Systems	183,802	Technology systems support
Cheiron	109,610	Actuarial services
CliftonLarsonAllen	39,000	Financial audit
Kasowitz, Benson, Torres, & Friedman, LLP	4,156	Legal fees
Venable, LLP	1,624	Legal fees
Total Paid to Consultants	**$771,850**	

Notes:

(1) Several of the alternative investment managers provide account valuations on a net of fee basis. Manager fees are netted against investment income and because they are not separable for specific investment income, amounts are recorded and reported net of fees.

(2) A schedule of fees and commissions is also illustrated in the Investment Section on page 61.

Investment Section

Summit Strategies Group

October 17, 2017

To the Board of Trustees of the
Fire & Police Employees' Retirement System of the City of Baltimore

Introduction

Summit Strategies Group ("Summit") prepares this report for the Fire & Police Employees' Retirement System of the City of Baltimore (the "System") based on the information supplied by the System's custodian, BNY Mellon Asset Servicing ("BNY Mellon"). BNY Mellon holds assets in safe-keeping for the System, regularly values the assets for the System, and provides Summit with beginning and ending fair values, cash flows, securities transactions and positions for the System as well as each manager monthly. Third-party custodians for the pooled investment vehicles, such as mutual funds or commingled trusts, and third-party administrators for hedge funds provide BNY Mellon with fair values and the System the audited financial statements for those investments. BNY Mellon audits the information contained in its monthly accounting reports. Summit uses BNY Mellon's monthly reports to calculate performance returns for the System and the System's Board of Trustees (the "Trustees").

Distinction of Responsibilities

The Trustees are responsible for the investment and administration of the System's assets. This includes establishing the strategic asset allocation that, over time, is the primary determinant of the investment return on assets. A thorough understanding of both the System's assets and liabilities is essential for determining an appropriate asset allocation. The key drivers of this analysis are the projections of the System's liabilities and of expected future returns and risk for each asset class, as well as correlation between asset classes. The liability projections include all key dimensions of the System's pension plan including: membership, benefits structure, contributions, liquidity needs, projected asset growth and funding requirements. In March 2016, Summit conducted and presented an asset-liability study to the System's Trustees at which time the Trustees adopted a strategic target asset allocation. Subsequent to an asset-liability study, Summit annually reviews the target asset allocation, expected asset class returns, and relative valuation with the Trustees and modifies the target asset mix if necessary. The following page shows the target asset allocation, as modified by the Trustees, as of fiscal year-end ("FYE") 2017.

Investment Policy and Structure

The target asset allocation adopted by the Trustees is included in the System's Statement of Investment Objectives and Policies. The System employs various investment managers to implement the asset allocation within the guidelines and limitations contained in the Statement of Investment Objectives and Policies, Asset Class Guidelines and Manager Instructions (together, the "Investment Policy"). The System's assets are invested using both active and passive investment managers to diversify the assets among multiple asset classes and investment strategies. Each investment manager is delegated full investment discretion for its respective portfolio including the discretion to purchase, hold, and sell individual securities or other investment positions and control industry, economic sector, and geographic exposure subject to the Investment Policy.

The System's Investment Policy is designed to provide broad diversification among asset classes and investment strategies in order to maximize return at a prudent level of risk as determined by the Trustees, and to minimize the risk of large losses to the System. In addition, asset allocation ranges, target allocations, and a process of periodic rebalancing are used to maintain compliance with the Investment Policy and to increase the likelihood that the System will achieve its long-term risk and return objectives.

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The following table outlines the System's long-term target asset allocation as of FYE 2017:

Asset Class	Allocation Target
US Equity	22.5%
International Equity	22.5%
Fixed Income	17.0%
Private Equity	10.0%
Hedge Funds	5.0%
Real Estate	10.0%
Energy/Natural Resources	12.0%
Cash Equivalents	1.0%
Total	**100.0%**

Within each asset class, the Trustees employ several investment managers to further diversify the investment approach and to minimize style biases. The Trustees may employ both active and passive investment strategies to obtain the desired asset allocation mix in a cost effective and efficient manner.

Investment Objectives

The System's Investment Policy contains the following objectives:

1. To preserve the inflation-adjusted fair value of the System;
2. To ensure adequate liquidity is available to meet benefit payments as they fall due;
3. To meet the actuarial rate of return assumptions over time while maintaining an appropriate risk level; and
4. To exceed the investment return objective without unduly jeopardizing objectives 1-3.

The FYE 2017 investment policy return objective is based on a hypothetical portfolio that includes the following allocations: 22.5% Russell 3000 Index; 22.5% MSCI All Country World Ex-US Index; 17% Bloomberg Barclays US Universal Index; 10% Private Equity Composite; 5% HFRI Fund of Funds Composite Index; 10% NCREIF Property Index; 7% S&P MLP Total Return Index; 5% Private Energy/Natural Resources Composite; and 1% 90 Day US Treasury Bill. In addition, the System's investment performance is evaluated relative to the Public Plan Universe of the BNY Mellon US Trust Universe, which represents the performance of 626 public pension plans with an aggregate fair value of $2.3 trillion as of June 30, 2017. Finally, each investment manager is compared to its relevant market index and style peer universe.

Market Overview

For the fiscal year beginning July 1, 2016 and ending June 30, 2017, global equity markets produced strong returns. Following the Brexit vote in June 2016, the MSCI ACWI IMI grew 5.6% in the third quarter of 2016, supported in part by increased monetary policy accommodation from central banks around the world. Growth continued in the fourth quarter (ACWI IMI +1.3%), driven by strong performance in the US as expectations for future demand and economic growth increased following the US presidential election in November. Global equity returns continued to be positive in the first and second quarter of 2017 (+6.8% and +4.3%, respectively) due to better-than-expected economic data and corporate earnings, as well as continued central bank accommodation globally. In aggregate, global equities as measured by the MSCI ACWI IMI Index grew 19.0% for the fiscal year ending June 30, 2017 and produced gains in each quarter. Due in part to the decline of the US dollar relative to other currencies, international stocks outperformed domestic stocks for the year (MSCI ACWI ex US +20.5%, Russell 3000 + 18.5 %).

Improving expectations for economic growth and inflation resulted in increased investor demand for risk-seeking assets and reduced sentiment for safer investments such as fixed income. The yield on the 10-year Treasury bond started the fiscal year at 1.5% and rose to 2.3% on June 30, 2017, which weighed on fixed income returns. The Bloomberg Barclays

US Aggregate Index (domestic investment grade bonds) returned -0.3% for the fiscal year, with the rise in yields more than offsetting the coupon payments received during the period.

In this environment, a hypothetical portfolio of 60% global stocks and 40% domestic bonds would have earned a +10.9% return for the year. The System's investment portfolio is significantly more diversified than a traditional 60/40 allocation. The System is invested in real estate, which was a steady contributor to performance for the fiscal year (NCREIF ODCE +7.9%). The System is also invested in bonds issued in emerging market countries. These bonds had a positive return for the year (JPM GBI-EM +6.4%) while domestic bonds returned -0.3%. The System is also invested in MLPs, companies responsible for transferring energy across the country, and hedge funds. Both contributed positive returns as the S&P MLP Index gained +3.2% and the HFRI Hedge Fund of Funds Composite returned 6.4%. Finally, the System has investments in private partnerships in the areas of private equity, energy and natural resources, which provide diversification and excess return potential relative to traditional publicly-traded equities. These returns are cash-flow based, with the largest amount of returns typically coming in at the end of the stated investment period. For the fiscal year, however, these investments produced strong returns on a time-weighted return basis.

Looking forward from June 30, 2017, global growth remains relatively low from a historical perspective, but is currently expanding at its fastest pace in recent years, due partly to accommodative policy from central banks throughout the world. Uncertainty (primarily surrounding geopolitics and monetary policy) remains a key investment theme in today's market environment. Despite heightened uncertainty and generally high valuations across broad asset classes, pockets of attractiveness continue to present attractive opportunities in various sectors and economies globally.

Investment Performance
Summit calculates and reports all returns in accordance with Global Investment Performance Standards ("GIPS"). As an investment consultant, Summit is prohibited from stating that investment performance is shown "in compliance with" or "in accordance with" GIPS, as GIPS compliance is reserved solely for use by investment management firms. Summit, however, strives to uphold and maintain the guiding principles underlying GIPS standards, both ethically and in its performance calculation methodology. Accordingly, all performance returns are calculated using a time-weighted methodology known as the Modified Dietz method. This algorithm attempts to eliminate the effects of cash flows and geometrically links period returns.

The total return for the fiscal year ending June 30, 2017, on all assets was 12.08% which ranked essentially at median (52nd percentile) in the of the Public Plan Universe of the BNY Mellon US Trust Universe. The System's Investment Policy calls for measuring performance over rolling 3- to 5-year periods. Prior to FYE 2016 for investment performance measurement purposes, the total System assets were separated into "actively managed" accounts and "other" assets. The "actively managed" portion of the System's total assets referred to the assets diversified according to the Investment Policy. The "other" assets consisted of the cash reserve held for payment of benefits and administrative expenses, Contingency Reserve assets, and Variable Benefit assets held in an immunized portfolio dedicated solely to paying post-retirement benefit increases. This distinction has since been eliminated but still affects trailing 3-5 year returns. Accordingly, the System's diversified assets have compounded at annual rates of return of 4.5% and 8.5% for the last 3 and 5 years, ranking in the 84th and 66th percentiles for those periods, respectively. Over the longer time period of the trailing 7 years (post-Financial Crisis) the System's diversified portfolio returned 9.6%, ranking in the 44th percentile but over the trailing 10 years (pre-Financial Crisis), the System's diversified portfolio returned 4.7% and ranked in the 88th percentile of the universe.

The System's assets produced a positive absolute return and performed in line with its policy benchmark return of 12.25% for the FY 2017. Contributors and detractors for the year included:

- Strong absolute returns in domestic equities, international equities, private equity, hedge funds, real estate and private energy/natural resources.
- Strong relative performance in fixed income, hedge funds, real estate, private equity, and private energy/natural resources (time-weighted return basis);

- Above-target weight to domestic equity and a below-target weight to real estate and MLPs contributed to performance; and
- Poor relative performance in domestic and international equities due to underperforming managers and an under-weight in international equities relative to target detracted from performance.

The fair value of all assets was $2.57 billion on June 30, 2017. The fair value of the assets increased from $2.38 billion on June 30, 2016:

	Fair Value ($ in millions)*	Percent of Total*	Fiscal Year Rate of Return	
			System	Benchmark
US Equity	$590.2	23.0%	17.7%	18.5%
International Equity	$525.2	20.5%	19.5%	20.5%
Fixed Income	$535.3	20.9%	3.6%	0.9%
Private Equity	$174.5	6.8%	18.5%	N/A
Hedge Funds	$255.0	9.9%	10.4%	6.4%
Real Estate	$240.7	9.4%	10.3%	7.0%
Energy MLPs	$142.1	5.5%	3.8%	3.2%
Natural Resources	$66.0	2.6%	21.3%	N/A
Cash	$36.8	1.4%	1.3%	N/A
Total Assets	**$2,565.8***	**100.0%***	**12.1%**	**12.3%**

* *Rounded*

Regardless of the economic or capital market climate, it is a pleasure to serve the System and to work with its staff and Board of Trustees. I look forward to our continued partnership in the continuing effort to manage risk and search for competitive investment returns in this current challenging capital market environment.

Respectfully submitted,

Daniel J. Holmes
Principal, Consulting

OUTLINE OF INVESTMENT OBJECTIVES AND POLICIES

Investment Objectives

The primary investment objectives of the Board of Trustees (Board) of the Fire and Police Employees' Retirement System (F&P, System) are set forth below. It is recognized that maximizing any one objective may compromise the achievement of other objectives. For example, maximizing liquidity may reduce investment return; seeking maximum investment return may subject capital preservation to higher risk. Accordingly, the investment objectives are given in descending order of priority:

1. To preserve the capital value of the System assets adjusted for inflation;
2. To ensure adequate System liquidity to meet benefit liabilities as they fall due;
3. To meet the actuarial interest rate assumption; and
4. Without unduly jeopardizing the above objectives, to exceed the investment return objective by the astute management of funds.

General Investment Policy

The Board must comply with investment restrictions imposed by the laws of the City of Baltimore and any other State or Federal laws dealing with investment of public retirement plan assets. System investment managers are expected to familiarize themselves with these laws.

Investment policy for the System relates to the portfolio of all assets that comprise the total holdings of the System. The Board recognizes that the objective of a sound and prudent policy is to produce investment results that will preserve the assets of the System, as well as to maximize earnings of the F&P consistent with its long-term needs. These long-term needs have been ascertained through various studies performed on behalf of the Board by its actuary and its investment advisor. Investment policy and the long-term average allocation of plan assets to which they refer are deemed to be consistent with the projected pattern of cash flows to the F&P and its projected benefit payments. Should the projected finances of the System change significantly, the applicable Federal or State statutes be amended, or changes in the System's asset valuation methods be adopted, these policies and average asset allocations will be reviewed and modified by the action of the Board, if appropriate.

The Board recognizes that its investment portfolio must be diversified over several different asset classifications in order to reduce risk. The following asset allocation has been established as an overall objective for the total holdings of the System:

	Percentage of Total Fund at Fair Value
Asset Category	Target
Domestic Equity	22.5%
International Equity	22.5%
Private Equity	10.0%
Cash	1.0%
Energy MLP	7.0%
Private Energy	5.0%
Fixed Income	17.0%
Real Estate	10.0%
Hedge Funds	5.0%

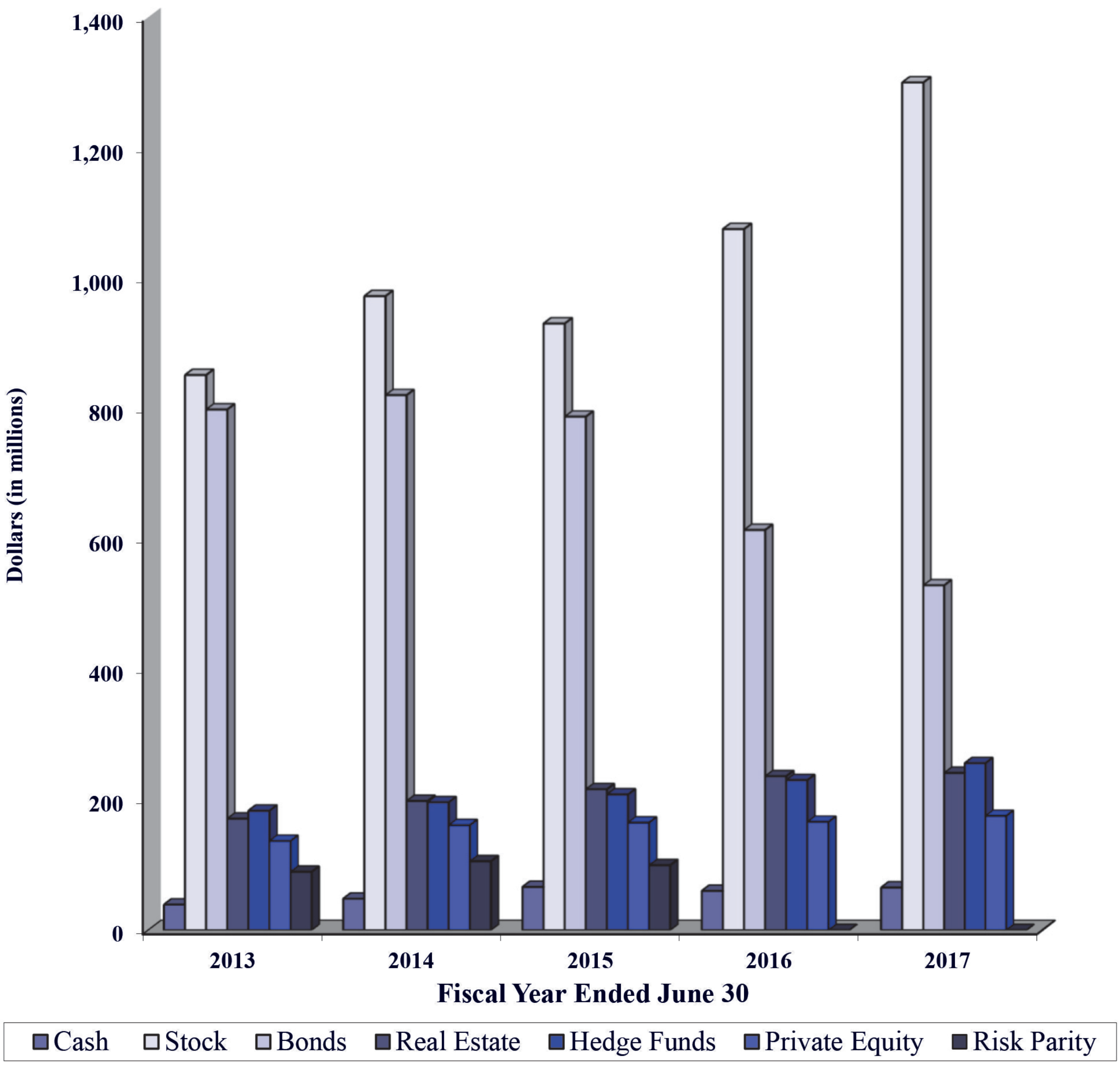
Within each major asset classification, investments are further diversified. Excessive concentration in any particular security, company or industry is to be avoided. Investment guidelines have been supplied to each of the System's investment managers. Subject to these objectives and guidelines, and the System laws, the investment managers have full discretion in investment decisions. Managers are advised to notify the Board in writing if these objectives cannot be met or if the guidelines constrict performance. The investment managers are encouraged to suggest changes to the guidelines at any time.

Proxy Voting

Pursuant to a U.S. Department of Labor directive, the Board has a long standing policy that, when solicitations of proxies with respect to securities are received by an investment manager, the decisions as to whether and how to vote such proxies are delegated to that investment manager.

The Board also recognizes, however, that the investment manager's decisions must be made in accordance with applicable legal standards and that the Board has an obligation to ensure that those standards are being observed. Therefore, the Board requests that annually (June 30) each management firm furnish the System with a written statement of their policy and practices with respect to the voting of securities held in their employee benefit plan asset portfolios, together with their written assurance that such policies and practices are being followed. These statements and assurances will be included, and will be given appropriate weight, in the Board's continuing evaluation of each manager's overall investment performance.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
TOTAL PORTFOLIO COMPOSITION
FAIR VALUE OF INVESTMENTS



	2013		2014		2015		2016		2017	
Cash	$ 39	2%	$ 48	2%	$ 66	2%	$ 60	2%	$ 65	2%
Stock	851	38	972	38	930	38	1,075	45	1,300	45
Bonds	798	35	820	35	787	35	613	26	528	26
Real Estate	170	7	197	7	215	7	235	10	240	10
Hedge Funds	182	8	195	8	207	8	229	10	255	10
Private Equity	136	6	160	6	164	6	165	7	174	7
Risk Parity	89	4	105	4	99	4				
Total	$ 2,265	100%	$ 2,497	100%	$ 2,468	100%	$ 2,377	100%	$ 2,562	100%

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
INVESTMENT RESULTS - TIME WEIGHTED RATE OF RETURN

		Annualized		
Total Returns	**FY 2017**	**3 Years**	**5 Years**	**10 Years**
TOTAL PORTFOLIO	12.1%	5.0%	7.7%	5.3%
Composite Benchmark	12.3	4.3	8.2	4.9
DOMESTIC EQUITIES	17.7	8.9	14.3	7.2
S&P 500 Index	17.9	9.6	14.6	7.2
Russell 1000	18.0	9.3	14.7	7.3
Russell 2000	24.6	7.4	13.7	6.9
Russell 3000	18.5	9.1	14.6	7.3
INTERNATIONAL EQUITIES	19.5	1.3	7.2	3.6
MSCI AC World ex USA (Net)	20.5	0.8	7.2	1.1
DOMESTIC FIXED INCOME	3.6	1.6	2.2	5.3
Barclays Capital US Government/Credit	(0.4)	2.6	2.3	4.6
Barclays Capital Aggregate	(0.3)	2.5	2.2	4.5
PRIVATE EQUITY	18.5	12.6	13.5	8.5
S&P 500 Index Plus 200 bps	19.9	11.6	16.6	9.2
HEDGE FUND	10.4	N/A	N/A	N/A
HFRI FOF Composite Index	6.4	N/A	N/A	N/A
REAL ESTATE	10.3	12.0	11.8	3.6
NCREIF Property Index	7.0	10.2	10.5	6.4
ENERGY MLP	3.8	(8.0)	7.8	N/A
S&P MLP Index	3.2	(11.3)	2.5	N/A

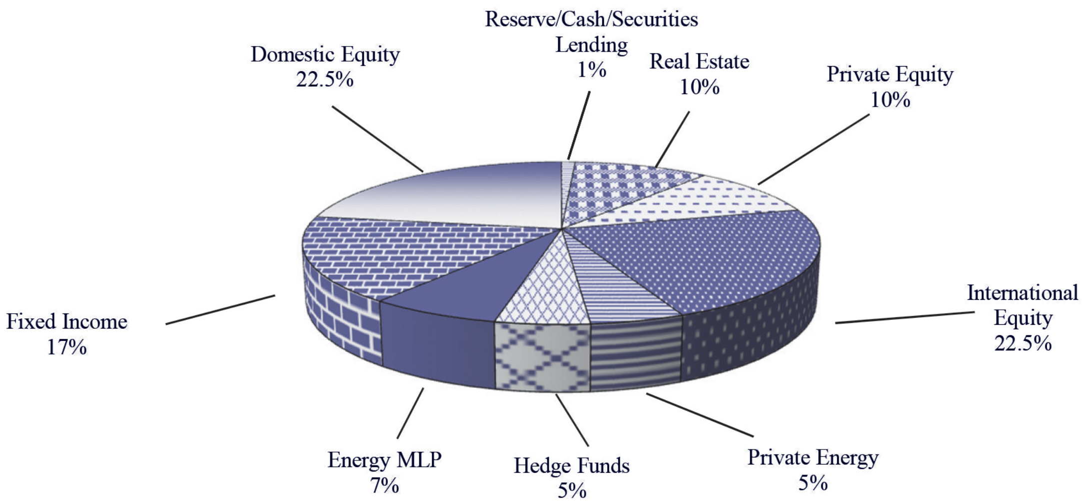
Notes:

The Composite Benchmark exhibits the overall rate of return for a sample unmanaged portfolio. At fiscal year end 2017, the Composite Benchmark is comprised of 22.5% Russell 3000 Index; 22.5% MSCI All Country World Ex-US Index; 17% Bloomberg Barclays US Universal Index; 10% Private Equity Composite; 5% HFRI Fund of Funds Composite Index; 10% NCREIF Property Index; 7% S&P MLP Total Return Index; 5% Private Energy/Natural Resources Composite; and 1% 90 Day US Treasury Bill

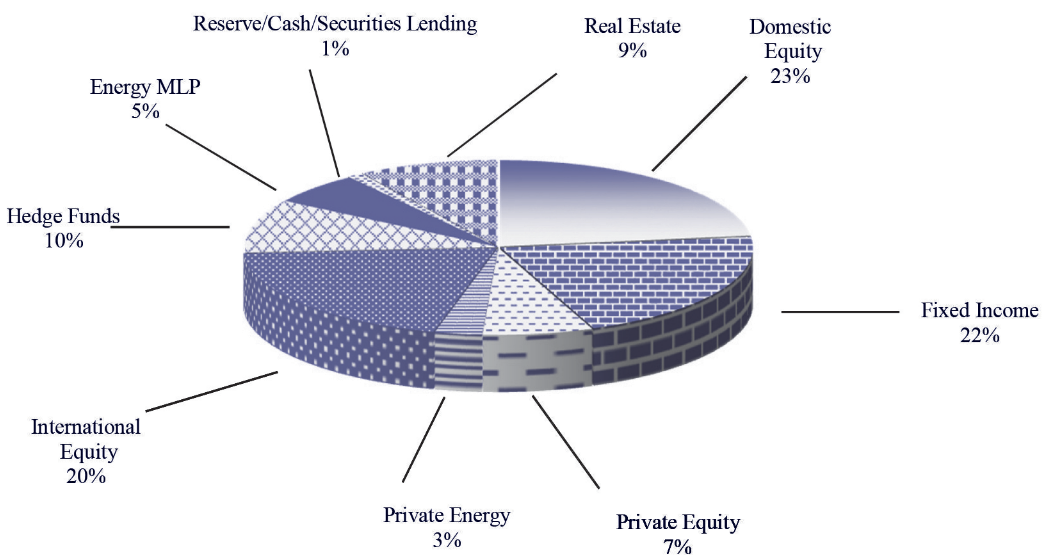
The composite returns above were calculated by the System's investment consultant, who used a time weighted rate of return based on market value.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
ASSET ALLOCATION - ACTIVELY MANAGED ACCOUNTS
For the Period Ended June 30, 2017

TARGET ASSET ALLOCATION



ACTUAL ASSET ALLOCATION



Fire and Police Employees' Retirement System
City of Baltimore, Maryland
TOP TEN DOMESTIC AND INTERNATIONAL STOCK HOLDINGS BY FAIR VALUE
TOP TEN BOND HOLDINGS BY FAIR VALUE
June 30, 2017

Top Ten Domestic Stock Holdings

	Shares	Stock	Fair Value
1)	82,500	Allstate Corp/The	7,296,300.00
2)	88,300	Wal-Mart Stores Inc	6,682,544.00
3)	99,500	Dow Chemical Co/The	6,275,465.00
4)	61,300	Procter & Gamble Co/The	5,342,295.00
5)	34,300	International Business Machine	5,276,369.00
6)	62,000	Cvs Health Corp	4,988,520.00
7)	126,000	Exelon Corp	4,544,820.00
8)	101,300	Coca-Cola Co/The	4,543,305.00
9)	117,876	A T&T Inc	4,447,461.48
10)	129,351	Pfizer Inc	4,344,900.09

Top Ten International Stock Holdings

	Shares	Stock	Fair Value
1)	66,260	Volkswagen Ag	10,077,638.61
2)	136,027	British American Tobacco Plc	9,248,073.50
3)	78,883	Basf Se	7,295,667.76
4)	268,587	Royal Dutch Shell Plc	7,195,672.36
5)	86,032	Schneider Electric Se	6,600,787.86
6)	610,477	China Mobile Ltd	6,479,003.83
7)	244,100	Kddi Corp	6,463,131.61
8)	77,061	Novartis Ag	6,421,414.71
9)	259,395	Abb Ltd	6,414,111.21
10)	292,985	Glaxosmithkline Plc	6,224,269.23

Top Ten Bond Holdings

	Par	Bonds	Fair Value
1)	3,750,000	Resolution Fdg Corp Strip	3,647,962.50
2)	3,085,000	U S Treasury Note 05/31/2019	3,077,534.30
3)	1,825,000	U S Treasury Bill 09/28/2017	1,820,401.00
4)	1,100,000	U S Treasury Bill 09/14/2017	1,093,663.69
5)	800,000	World Financial Network Cr A A	817,528.00
6)	706,833	Gnma Gtd Remic P/T 14-H14 Fa	705,581.88
7)	625,000	Federal Home Ln Bk Cons Bd	623,081.25
8)	560,000	U S Treasury Note	561,248.80
9)	550,000	Federal Home Ln Bk Cons Bd	544,412.00
10)	500,000	Freddie Mac Structured Dna1 M2	512,840.00

A complete list of portfolio holdings is available upon request.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
INVESTMENT SUMMARY
June 30, 2017

	Fair Value	Percent of Total Investments
Stock:		
U.S. Common Stock		
Financial	$ 102,393,746	4.09%
Technology	53,008,093	2.12
Health care	26,612,908	1.07
Consumer services	39,603,704	1.59
Energy	21,986,419	0.88
Consumer durables	29,356,841	1.18
Consumer nondurables	22,199,611	0.89
Basic industries	8,975,116	0.36
Transportation	5,751,573	0.23
Capital goods	673,813	0.03
Total U.S. Common Stock	310,561,824	12.44
Other		
International Stock	512,349,674	20.52
Equity index funds	270,209,403	10.82
Total Other	782,559,077	31.34
Total Stock	**1,093,120,901**	**43.78**
Bonds:		
U.S. Securities and Agencies		
Treasury notes and bonds	80,717,126	3.23
U.S. Agencies	40,291,878	1.61
Total U.S. Securities and Agencies	121,009,004	4.84
Corporate		
Financial	194,189,471	7.78
Transportation	15,353,561	0.61
Utilities	16,876,406	0.68
Industrial	11,201,308	0.45
Total Corporate	237,620,746	9.52
Emerging markets debt fund	130,101,733	5.21
Barclay Aggregate Index	13,583,488	0.54
MBS trust fund	21,102,222	0.85
Senior floating rate fund	4,912,586	0.20
Total Bonds	**528,329,779**	**21.16**
Other Investments:		
Real estate funds	240,379,358	9.62
Hedge funds	255,004,446	10.21
Private equity funds	174,544,476	6.99
Energy master limited partnerships	205,901,553	8.24
Total Other Investments	**875,829,833**	**35.06**
Total Investments	**$2,497,280,513**	**100.00%**

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SUMMARY SCHEDULE OF FEES AND COMMISSIONS
For the Year Ended June 30, 2017

	Assets Under Management	Fees
Investment Managers' Fees		
Fixed income	$535,352,064	$1,456,993
Domestic equity	732,303,203	2,768,872
International equity	525,157,089	2,132,243
Direct hedge funds	255,004,446	1,096,381
Private equity	240,526,561	5,053,237
Real estate	240,379,358	1,139,338
Securities lending		195,544
Total Investment Managers' Fees		**$13,842,608**
Other Investment Service Fees:		
Investment consultant fees		$769,071
Custodian bank fees		160,500
Total Other Investment Service Fees		**$929,571**

Brokerage Fees

Broker's fees on investment transactions for the year ended June 30, 2017 amounted to $649,474. Brokerage firms receiving more than $2,600 in fees are listed below.

Brokerage Firms	Fees Paid	Shares/ Units	Average Commission per Share
Instinet Corp	$97,237	4,144,206	$0.02346
Merrill Lynch	58,132	4,350,899	0.01336
UBS Securities, LLC	46,714	4,868,532	0.00960
Hilltop Securities, Inc.	41,414	1,392,147	0.02975
Pershing Securities, LTD	36,717	1,261,278	0.02911
Morgan Stanley & Co.	35,574	3,118,539	0.01141
Credit Suisse, LLC	31,481	5,454,592	0.00577
Citigroup Global Markets, LTD	24,887	3,387,398	0.00735
J P Morgan Securities, Inc.	23,169	1,713,960	0.01352
Goldman Sachs & Co.	20,274	898,919	0.02255
Stifel Nicolaus	17,272	512,375	0.03371
Macquarie Bank Limited	15,663	2,122,331	0.00738
Sanford C Bernstein & Co.	13,301	2,554,953	0.00521
National Financial Services Corp	13,280	499,599	0.02658
Jefferies & Company, Inc.	13,006	1,020,240	0.01274

Brokerage Firms	Fees Paid	Shares/ Units	Average Commission per Share
Barclays Capital	$12,247	579,449	$0.02114
Deutsche Bank Securities	11,162	553,963	0.02015
Robert W Baird & Co.	10,861	340,645	0.03188
Daiwa Securities, Inc.	8,897	345,587	0.02574
RBC Capital Markets, LLC	8,252	443,332	0.01861
HSBC Bank PLC	6,848	157,777	0.04340
Exane	6,678	324,235	0.02060
Credit Lyonnais Securities	6,608	1,157,107	0.00571
Societe Generale	6,532	631,064	0.01035
S G	6,435	464,173	0.01386
Berenberg Gossler & Cie	5,953	153,822	0.03870
Raymond James & Assoc.	4,403	116,961	0.03764
Wells Fargo Securities, LLC	4,334	290,453	0.01492
SMBC Securities	2,880	134,300	0.02144
Mitsubishi Securities	2,658	184,814	0.01438

Brokerage Commissions

Because of the highly visible nature of the Fire and Police Employees' Retirement System, it is important that the investment managers have best execution as their primary objective. While the managers are permitted to direct a portion of brokerage commissions for research, it is expected that each manager will receive commission discounts which are commensurate with current discount practice. Investment managers are expected to give preference whenever possible to brokerage firms with offices located in the Baltimore Metropolitan Area. However, the managers are expected to negotiate commission rates, and local brokerage firms should be given preference only when commission rates and transaction services are competitive with those available from other firms.

DOMESTIC EQUITY MANAGERS

Large Cap

The Edgar Lomax Company
Randall Eley
Springfield, VA

Rhumbline Advisors
Julie Lind
Boston, MA

Mellon Capital Management
Brian Hock
Boston, MA

Brown Advisory
Ken Stuzin
Baltimore, MD

Small and Mid Cap

Pinnacle Associates, Ltd.
Peter Marron
New York, NY

Rothschild Asset Management Inc
Tina Jones
New York, NY

INTERNATIONAL EQUITY MANAGERS

William Blair & Co.
Stephanie Braming
Chicago, IL

Thomas White International
Douglas M. Jackson
Chicago, IL

Causeway Capital Management, LLC
Sarah Ketterer
Los Angeles, CA

LMCG Investments, LLC
Gordon Johnson
Boston, MA

REAL ASSETS

Harvest Fund Advisors, LLC
Eric Conklin
Wayne, PA

Tortoise Capital Advisors, LLC
Zach Hamel
Leawood, KS

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
INVESTMENT PROFESSIONALS

DIRECT HEDGE FUND

Cantab Capital Partners
Dr. Ewan Kirk
Cambridge, UK

Farallon Capital Management
Andrew Spokes
San Francisco, CA

Caspian Capital
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City of Baltimore, Maryland
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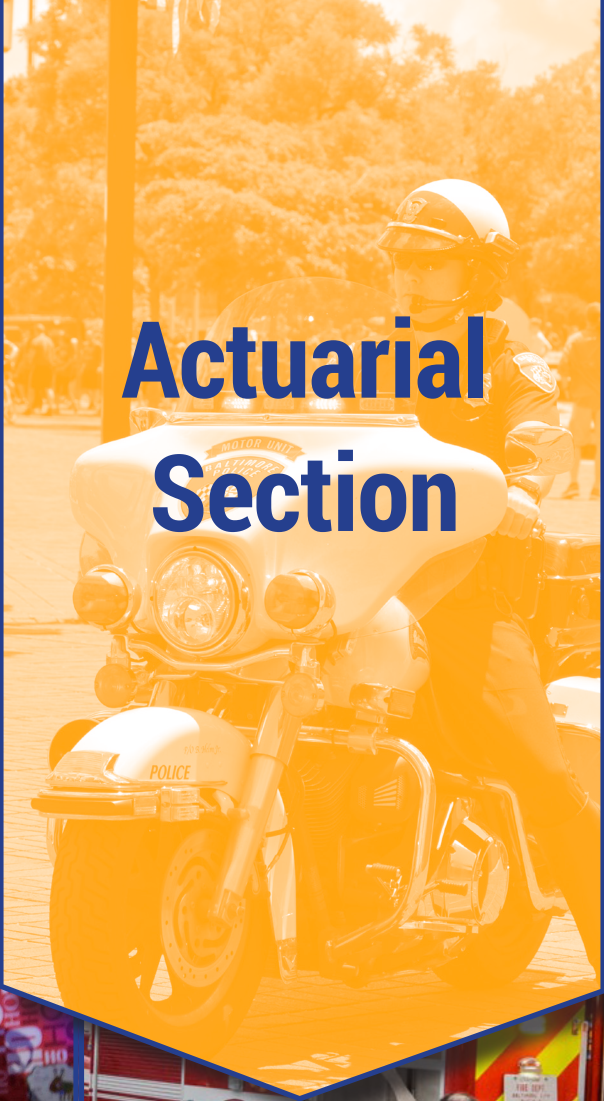
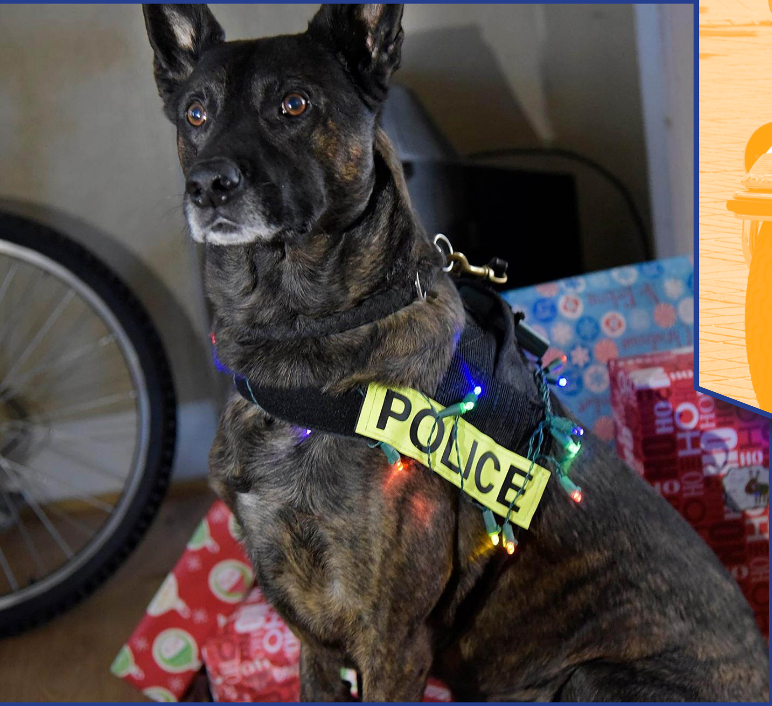
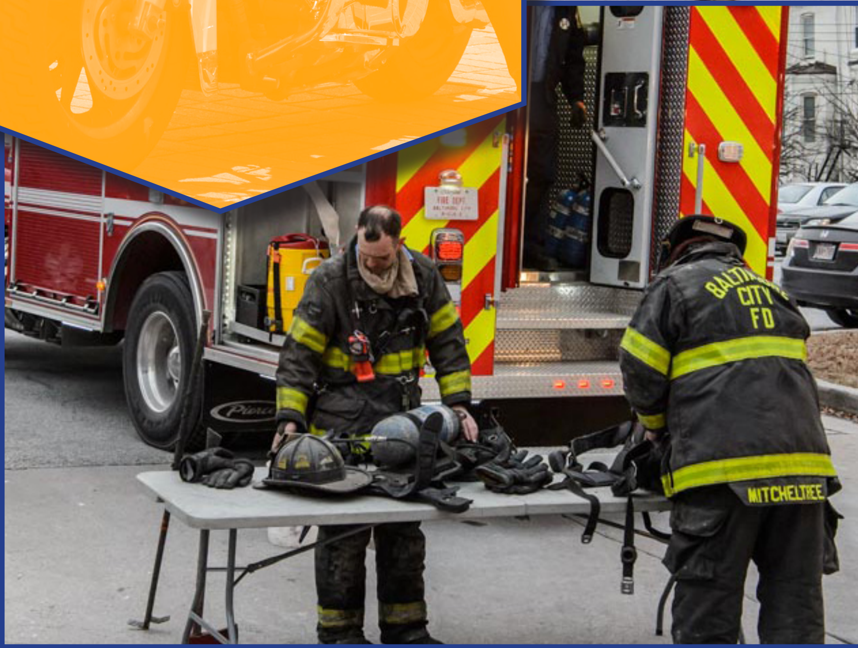


Actuarial Section





Via Electronic Mail

October 19, 2017

Board of Trustees
Fire and Police Employees' Retirement System
of the City of Baltimore
7 East Redwood Street, 18th Floor
Baltimore, Maryland 21202-3470

Re: 2017 CAFR

Honorable Members of the Board of Trustees:

Cheiron has performed an actuarial valuation of the Fire and Police Employees' Retirement System (BCFPERS) as of June 30, 2017. This valuation is used to determine the City's contribution to be made in Fiscal Year 2019 for BCFPERS. The contribution actually made during Fiscal Year 2017 was developed in the 2015 actuarial valuation.

The funding method used in this annual valuation is the entry age normal funding method. Under this funding method, a normal cost rate is determined as a level percentage of pay for each active member, net of employee contributions. The normal cost rate times payroll at the valuation equals the total normal cost for each member. The employer's contribution is then increased or decreased from this normal cost amount to amortize the unfunded actuarial liability, the difference between the actuarial value of assets and the actuarial accrued liability, as a level dollar amount over a closed 25-year period that began June 30, 2014.

The actuarial value of assets for the System was set equal to the market value of assets as of June 30, 2014. Beginning with the plan year ending June 30, 2015, the actuarial value of assets is the current market value of assets, adjusted by a five-year smoothing of gains and losses on a market value basis. However, if the actuarial value of assets is less than 80% or more than 120% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

The results presented in this Comprehensive Annual Financial Report reflect the assumptions from the June 30, 2017 actuarial valuation. Article 22 of the Baltimore City Code specifies a number of these assumptions and requires a review of all of the assumptions by the actuary at least once every three years. The most recent such review examined experience from 2011 to 2014 and resulted in assumption changes that were first reflected in the June 30, 2015 actuarial valuation. In addition, the assumptions and methods used for funding purposes meet the parameters set forth by Governmental Accounting Standards Board Statement Nos. 67 and 68.

Membership data used for the actuarial valuation was supplied by the System. An informal examination of the obvious characteristics of this data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23 was performed. Asset information was provided on an unaudited basis.

All supporting schedules in the Actuarial Section and the Schedule of Funding Progress in the Financial Section have been prepared by the System and reviewed by Cheiron.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, including the use of assumptions and methods for funding purposes that comply with the Actuarial Standards of Practice. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared solely for the Fire and Police Employees' Retirement System of the City of Baltimore for the purposes described herein, except that the System auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. This valuation report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,
Cheiron

Fiona E. Liston, FSA, MAAA	Elizabeth Wiley, FSA, MAAA	Brett Warren, FSA, MAAA
Principal Consulting Actuary	Consulting Actuary	Associate Actuary

Attachments

1. **Funding Method:**

   Liabilities and contributions shown in this report are computed using the entry age normal method of funding. Under this funding method, a normal cost rate is determined as a level percentage of pay for each active member. The normal cost rate times payroll equals the total normal cost for each member. The normal cost plus member contributions will pay for projected benefits at retirement for each active System member.

   The actuarial liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is referred to as the unfunded actuarial liability (UAL).

   The portion of the actuarial liability in excess of System assets, the UAL, is amortized to develop an additional cost or savings that is added to each year's employer normal cost. Under this cost method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability. The amortization method is described as item 3 below.

2. **Asset Valuation Method:**

   Effective June 30, 2014, the actuarial value of assets was set to equal the market value of assets. The deferral of investment gains and losses only applies after June 30, 2014.

   The actuarial value has been calculated by taking the market value of assets less 80% of the investment gain (loss) during the preceding year, less 60% of the investment gain (loss) during the second preceding year, less 40% of the investment gain (loss) during the third preceding year, and less 20% of the investment gain (loss) in the fourth preceding year.

   The investment gain (loss) is calculated by taking the difference between the expected value of assets based on an investment return assumption and the actual value of assets. If the actuarial value of assets is less than 80% or more than 120% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

3. **Amortization Method:**

   The current unfunded actuarial liability is amortized as a level dollar figure over a closed 25-year period beginning on July 1, 2014.

4. **Changes Since Last Valuation:**

   None.

Actuarial Assumptions

1. **Rate of Investment Return:**

   7.50% compounded annually.

2. **Rates of Salary Increase:**

   Salary increases are split into a static inflation assumption of 3.0% and a merit scale based on department and service, shown below.

Police	
Service	**Merit Scale**
0-1	0.25%
2	1.50%
3	18.25%
4	6.25%
5	5.50%
6	1.00%
7	4.00%
8 – 14	1.00%
15	3.75%
16 – 20	1.00%
21+	0.75%

Fire	
Service	**Merit Scale**
0	0.25%
1	4.00%
2 – 3	15.00%
4	2.00%
5	3.00%
6 – 13	0.75%
14 – 15	2.50%
16 – 20	0.50%
21+	0.50%

3. **System Expenses:**

   All expenses are paid from the fund. Administrative expenses are added to the contribution in the amount of 1.5% of covered payroll.

4. Pre-Retirement Mortality and Disability:

Age	Non-Line-of-Duty Disability[1]	Line-of-Duty Disability[1]	Non-Line-of-Duty Death[2,3]		Line-of-Duty Death[2,3]	
			Male	Female	Male	Female
20	0.0012	0.0048	0.000534	0.000206	0.000133	0.000051
25	0.0012	0.0048	0.000637	0.000219	0.000159	0.000055
30	0.0012	0.0048	0.000595	0.000277	0.000149	0.000069
35	0.0013	0.0052	0.000688	0.000364	0.000172	0.000091
40	0.0015	0.0060	0.000825	0.000503	0.000206	0.000126
45	0.0016	0.0064	0.001280	0.000835	0.000320	0.000209
50	0.0017	0.0068	0.002216	0.001401	0.000554	0.000350
55	0.0017	0.0068	0.003665	0.002127	0.000916	0.000532
60	0.0017	0.0068	0.006163	0.003103	0.001541	0.000776
64	0.0017	0.0068	0.009698	0.004308	0.002425	0.001077

[1] Assumes 80%/20% of total rates split between Line of Duty Disability and Non Line of Duty Disability, respectively.

[2] Assumes 20%/80% of total rates split between Line of Duty Death and Non Line of Duty Death, respectively.

[3] 114% and 130% of the RP-2014 Blue Collar Mortality Table for males and females respectively projected using the RPEC_2014 model, with an ultimate rate of 0.85% for ages 20-95, an ultimate rate of 0.00% for ages 95-120, convergence to the ultimate rate in year 2017, and using the committee selected weighing assumption.

5. Post-Retirement Mortality:

<u>Retirees and Beneficiaries</u>: 114% and 130% of the RP-2014 Blue Collar Mortality Table for males and females respectively projected using the RPEC_2014 model, with an ultimate rate of 0.85% for ages 20-95, an ultimate rate of 0.00% for ages 95-120, convergence to the ultimate rate in year 2017, and using the committee selected weighting assumption.

<u>Disabled members</u>: RP-2014 Disabled Retiree Mortality blended 50%/50% with the healthy annuitant's table projected using the healthy annuitant's RPEC_2014 model.

	Retirees and Beneficiaries		Disabled Members	
Age	Male	Female	Male	Female
55	0.006839	0.005233	0.015104	0.009856
60	0.009640	0.007456	0.018122	0.012227
65	0.014381	0.011343	0.023033	0.016101
70	0.022443	0.018156	0.031395	0.023179
75	0.035918	0.029862	0.045102	0.035454
80	0.059119	0.049613	0.067868	0.055325
85	0.098987	0.084514	0.106145	0.087467
90	0.166907	0.145425	0.169956	0.139038

6. **Withdrawal:**

Years of Service	Withdrawal[1]
0	11.00%
1	9.00%
2	7.00%
3	5.00%
4	4.00%
5	3.25%
6	2.75%
7	2.35%
8	1.95%
9	1.60%
10	1.30%
11	0.85%
12	0.50%
13 – 19	0.35%
20+	0.00%

[1] Withdrawal decrements are reduced to zero when member is eligible to retire.

7. **Service Retirement:**

The valuation uses retirement rates that vary according to member plan (police or firefighter) and whether a member is eligible for DROP, grandfathered DROP2, or non-grandfathered DROP2.

Members with 20 or more years of service on or before December 31, 2009 are eligible for DROP.

Members who had less than 20 years of service on December 31, 2009, but had either 15 or more years of service on June 30, 2010 or were age 50 or older as of June 30, 2010, can elect to participate in grandfathered DROP2 when they have 20 or more years of service.

Members who were not age 50 or older as of June 30, 2010, and also had less than 15 years of service on June 30, 2010, can participate in non-grandfathered DROP2 when they have 25 or more years of service.

Non-grandfathered members, who are not eligible for DROP or grandfathered DROP2, can take early retirement, with a reduced benefit. Prior to reaching normal retirement eligibility, these non-grandfathered members are assumed to take early retirement according to the following table:

Non-Grandfathered Early Retirement Rates for Police and Fire

Age	Service <10	10	11	12	13	14	15	16	17	18	19	20	21-24	25+
<45												5.00%	5.00%	
45												5.00%	5.00%	
46						Members Not Yet Eligible for Early Retirement						5.00%	5.00%	
47												5.00%	5.00%	
48												5.00%	5.00%	
49												5.00%	5.00%	
50	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	
51	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
52	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
53	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	
54	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	
55	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%								
56	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%								
57	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%								
58	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%								
59	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%								
60	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%					Members Eligible for Unreduced Benefits			
61	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%								
62	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%								
63	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%								
64	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%								
65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%								

Once members reach eligibility for normal retirement, they are expected to follow one of two paths: they either enter the DROP/DROP2 program and follow the appropriate post-DROP or post-DROP2 retirement assumptions for their group, or they never enter the DROP/DROP2 program and follow the appropriate non-DROP or non-DROP2 retirement assumptions for their group. Active members who are beyond their applicable DROP or DROP2 program eligibility as of the valuation date are assumed to have already made this decision and so are valuing only with the applicable DROP/DROP2 or non-DROP/non-DROP2 retirement assumptions. Those who are not yet normal retirement eligible are valued under both options and the resulting liabilities are blended according to the following probabilities table:

	Police and Fire
DROP Members	
DROP	80%
Non-DROP	20%
Grandfathered DROP2 Members	
Grandfathered DROP2	80%
Grandfathered Non-DROP2	20%
Non-Grandfathered DROP2 Members	
Non-Grandfathered DROP2	80%
Non-Grandfathered Non-DROP2	20%

<u>Non-DROP/Grandfathered Non-DROP2 Retirement Probabilities</u>

Members who do not join DROP or grandfathered DROP2 are assumed to have retirement rates that vary by service until age 50. After age 50, the rates are assumed to vary solely by age.

Ages Less Than 50	
Years of Service	Probability of Retirement
20	40%
21+	20%

Ages 50 and Higher	
Age	Probability of Retirement
50	10.00%
51	8.00%
52	8.00%
53	5.00%
54	4.00%
55	4.00%
56	4.00%
57	3.00%
58	6.00%
59	12.00%
60	18.00%
61	18.00%
62	25.00%
63	25.00%
64	35.00%
65	100.00%

<u>Non-Grandfathered Non-DROP2 Retirement Probabilities</u>

Assumptions vary between the rate applicable in the first year of eligibility for unreduced retirement and those for subsequent years for those who do not join non-grandfathered DROP2.

	Police and Fire	
Age	First Eligible	Subsequent
Less than 65	50.0%	30.0%
65 and up	100.0%	100.0%

DROP and Grandfathered/Non-Grandfathered DROP2 Retirement Probabilities

Years After Electing DROP	DROP and DROP2 Exit Rates	
	Police	Fire
1	12.00%	3.00%
2	12.00%	7.00%
3	15.00%	10.00%
4	16.00%	10.00%
5	17.00%	10.00%
6	20.00%	10.00%
7	23.00%	25.00%
8	25.00%	15.00%
9	10.00%	10.00%
10	13.00%	10.00%
11	16.00%	10.00%
12	19.00%	14.00%
13	20.00%	16.00%
14	20.00%	16.00%
15+	20.00%	20.00%

NOTE: In all cases once the member reaches age 65, there is 100% probability of leaving DROP to commence benefit receipt.

8. Line-of-Duty Disability:

Benefit Types: 1% of line-of-duty disability retirements are assumed to receive a pension equal to 100% of compensation at the time of retirement. The rest are assumed to receive a pension equal to 66 2/3% of Average Final Compensation.

Form of Payment: All future withdrawal benefits are assumed to be paid in the form of a lump sum refund of member contributions.

All future retirement benefits are assumed to be paid in the form of a 50% Joint and Survivor Annuity. In addition, members participating in DROP are assumed to receive their DROP account balance in the form of a lump sum upon retirement.

Future non-line-of-duty disability retirement benefits for current active members with fewer than five years of service (i.e., eligible only for the refund of member contributions) are assumed to be paid in the form of a lump sum. All other disability retirement benefits are assumed to be paid in the form of a 50% Joint and Survivor Annuity. In addition, members participating in DROP are assumed to receive their DROP account in the form of a lump sum upon disability retirement.

Future death benefits for current active members who have not reached service retirement eligibility are assumed to be paid in the form of a lump sum. Certain line of duty death benefits for refund of member contributions are assumed to be paid in the form of a lump sum. All other death benefits are assumed to be paid in the form of a single life annuity equal to the member's accrued benefit. Beneficiaries of members participating in DROP are assumed to additionally receive the member's DROP account in the form of a lump sum.

9. Cost-of-Living Adjustment Assumption:

Assumed to follow System provisions – 0%, 1%, or 2% depending on age and type of retirement

10. Percent Married: Males 70%, Females 70%

11. Spouse Age: A husband is assumed to be four years older than his wife.

12. Remarriage Rates: None

13. Children:

All benefits with Joint & Survivor Forms of Payments for retirees had their survivor benefits increased by 2.0% to account for children's benefits.

14. Benefit Loads:

Benefits to certain types of future beneficiaries receiving Line-of-Duty death benefits were increased by 7.0% to allow for contingent beneficiaries.

Benefits to certain types of future members receiving Line-of-Duty disability benefits were increased by 1.5% to allow for possible conversion to Line-of-Duty death benefits.

Benefits payable in the form of a Joint and Survivor 100% Pop Up or Joint and Survivor 50% Pop Up were valued, respectively, as 100% Joint and Survivor with a 2.70% load and 50% Joint and Survivor with a 1.50% load to account for the additional value of the Pop Up form of benefit in the absence of data on the amount to which the benefit would increase.

All future retirement benefits were increased by 1% to account for possible child beneficiaries.

15. Funding Policy:

The City's funding policy is to contribute the amount equal to the net normal cost, a provision for anticipated administrative expenses, plus the accrued liability contribution or less the amortization of the excess assets, as the case may be. However, the aggregate payment by the City must be sufficient, when combined with the amount in the Fund, to provide the pensions and other benefits payable out of the Fund during the then-current year.

16. Changes Since Last Valuation:

None.

17. Rationale for Assumptions:

The actuarial assumptions were chosen by the Board of Trustees, upon the recommendation of the actuaries, based on an experience study conducted on the System's experience from the 2011-2014 valuations. The results of this study were presented in September 2015 and went into effect starting with the June 30, 2015 valuation.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date June 30	Number	Annual Payroll	Annual Average Pay	% Increase In Average Pay
2008	4,615	$269,690,209	$58,438	5.1%
2009	4,690	281,423,808	60,005	2.7
2010	4,584	276,576,626	60,335	0.6
2011	4,575	275,647,861	60,251	(0.1)
2012	4,624	284,601,473	61,549	2.2
2013	4,439	277,524,356	62,520	1.6
2014	4,317	284,210,233	65,835	5.3
2015	4,248	298,354,900	70,234	6.7
2016	4,094	300,855,075	73,487	4.6
2017	4,012	296,356,741	73,868	0.5

Fire and Police Employees' Retirement Sytem
City of Baltimore, Maryland
SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

	Added to Rolls		Removed from Rolls		Rolls - End of Year			
Year Ended June 30	No.	Annual Allowances*	No.	Annual Allowances	No.	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
2008	264	$15,906,340	211	$4,699,524	5,881	$170,770,734	7.0%	$29,038
2009	232	7,709,875	184	4,049,841	5,929	174,430,768	2.1	29,420
2010	280	12,045,607	197	4,307,535	6,012	182,168,840	4.4	30,301
2011	267	11,885,471	179	4,215,749	6,100	189,838,563	4.2	31,121
2012	234	9,614,994	198	4,747,538	6,136	194,706,019	2.6	31,732
2013	291	10,232,591	221	3,318,082	6,206	201,620,528	3.6	32,488
2014	258	9,180,339	196	3,095,964	6,268	207,704,903	3.0	33,137
2015	236	8,840,349	236	3,780,142	6,268	212,765,110	2.4	33,945
2016	234	9,612,277	211	3,046,582	6,291	219,330,805	3.1	34,864
2017	264	10,870,255	236	4,279,497	6,319	225,921,564	3.0	35,753

* Includes post-retirement adjustments.
The annual allowances were adjusted to incorporate the $16,000 minimum benefit for certain beneficiaries under Ordinances 10-306 and 11-444.

SOLVENCY TEST

The Retirement System's funding objective is to meet long-term benefit promises through contributions which spread the cost over the employees' service base. If the contributions to the System are soundly executed, the System will pay all promised benefits when due - the ultimate test of financial soundness.

A short-term solvency test is one means of examining a system's progress under its funding program. In a short-term solvency test, the plan's present assets are compared with: 1) Active member contributions on deposit; 2) The liabilities for future benefits to present retired lives; and 3) The liabilities for service already rendered by active members. In a system which has been following the discipline of allocating cost on a consistent basis to valuation years, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) will be partially covered by the remainder of present assets. Generally, the funded portion of liability 3 will increase over time. Liability 3 being fully funded is rare.

The schedule below illustrates the System's history of liability 3.

	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Assets		
Valuation Date June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	(1)	(2)	(3)
2008	$233,169,334	$1,933,289,565	$837,934,859	$2,676,354,876	100%	100%	62.0%
2009	237,159,576	1,971,574,127	842,153,582	2,587,235,012	100	100	44.9
2010	246,799,329	1,977,520,610	809,403,584	2,524,753,505	100	100	37.1
2011	247,518,595	2,057,539,881	799,746,838	2,546,236,459	100	100	30.2
2012	261,776,304	2,134,597,319	792,288,436	2,475,874,446	100	100	10.0
2013	270,077,058	2,208,521,089	788,974,354	2,502,405,754	100	100	3.0
2014	283,377,044	2,266,741,330	810,330,710	2,492,544,399	100	97.5	0.0
2015	300,379,071	2,372,231,709	864,170,942	2,575,515,725	100	95.9	0.0
2016	314,005,394	2,440,488,840	887,902,841	2,602,544,409	100	93.8	0.0
2017	325,140,922	2,510,032,318	885,133,502	2,644,643,773	100	92.4	0.0

Gains and Losses in Accrued Liabilities During Fiscal Year
Resulting from Differences Between Assumed Experience and Actual Experience

Type of Activity	Gain or (Loss) for Fiscal Year 2016	Gain or (Loss) for Fiscal Year 2017
Age and Service Retirements If members retire at older ages or with lower final average pay than assumed, there is a gain. If younger ages or higher pays, a loss.	$ 3,968,188	$ 3,200,000
Disability Retirements If disability claims are less than assumed, there is a gain. If more claims, a loss.	5,802,908	3,480,000
Death-in-Service Benefits If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	732,606	(550,000)
Withdrawal From Employment If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	3,235,471	520,000
Pay Increases If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(13,560,572)	12,320,000
Investment Income If there is greater investment income than assumed, there is a gain. If less, a loss.	(75,657,453)	(64,770,000)
Death After Retirement If retirees live longer than assumed, there is a loss. If not as long, a gain.	(2,133,031)	3,410,000
New Entrants New entrants create a loss because they were not assumed in the previous evaluation.	(600,068)	(790,000)
Excess Contributions Gain created due to contributions that are not designated to reduce the BIF and ERF.	-	-
Continuing Inactives Gains and losses from continuing inactives from causes other than death.	(3,750,928)	250,000
Other Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, valuation methods, etc.	(5,049,678)	(4,170,000)
Loss During Year From Financial Experience	$ (87,012,557)	$ (47,100,000)

1. **EFFECTIVE DATE:**

The System was established July 1, 1962, and has been amended periodically.

2. **ELIGIBILITY:**

Any uniformed officer of the Police or Fire Departments shall become a member as a condition of employment.

3. **MEMBER CONTRIBUTIONS:**

Prior to July 1, 2010, members contributed at the rate of 6% of regular compensation. Effective July 1, 2010, the rate increased to 7% of regular compensation; effective July 1, 2011, the rate increased to 8% of regular compensation; effective July 1, 2012, the rate is 9% of regular compensation; and, effective July 1, 2013, the rate will be 10% of regular compensation.

Contributions are treated as made by the employer and are made to the System pre-tax according to Section 414(h)(2) of the Internal Revenue Code.

Members of the Baltimore City Employees' Retirement System who transferred to this System after July 1, 1967, and did not make up the contributions which would have been made from July 1, 1962, are to have their retirement allowance reduced by the actuarial equivalent of the deficient contributions with interest.

4. **AVERAGE FINAL COMPENSATION:**

Average Final Compensation (AFC) shall mean the average annual compensation based on eighteen consecutive months of service during which the member's compensation was highest.

Effective July 1, 2010, for members hired on or after July 1, 2010, and for members who, as of June 30, 2010, did not meet the eligibility requirements for a service retirement benefit and had fewer than 15 years of service, AFC means the average annual compensation based on 36 consecutive months of service during which the member’s compensation was highest.

5. **MILITARY SERVICE CREDIT:**

(A) **Military Service Prior to Employment:** A maximum of three years service credit is granted provided the member has acquired:

(1) 10 years of service and attained the age of 50; or

(2) 20 years of service, regardless of age; or

(3) 15 years of service, regardless of age for a member removed from his/her position.

Effective July 1, 2010, eligible military service credit prior to employment also can be used to satisfy the eligibility requirements for a normal service retirement benefit, early service, DROP, or DROP 2. To qualify to receive F&P service credit, a member may not be eligible to receive retirement benefits for the military service from any other retirement system except for a Reserve Component Retirement benefit for Reserve service and National Guard members nor be eligible for a regular military pension.

(B) **Military Service Within Employment:** Upon retirement or death, any member who had a break in employment due to military duty, shall receive service credit for the period of absence as provided by the Uniformed Services Employment and Reemployment Rights Act, provided the member leaves his/her accumulated contributions and interest on deposit with the F&P, does not take any other employment, and returns to F&P covered employment within 1 year following the military service.

6. **SERVICE RETIREMENT BENEFIT:**

(A) **Normal Retirement Eligibility Requirements:**

(1) Effective June 30, 2010, members who entered the System on or before June 30, 2003, and who had acquired 15 or more years of service as of June 30, 2010, or who met the following age or service requirements as of June 30, 2010, may retire based on the following eligibility requirements:

(a) age 50, regardless of years of service credit; or

(b) regardless of age, 20 years of service credit.

(2) Effective June 30, 2010, members who entered the System on or after July 1, 2003, and who had acquired 15 or more years of service as of June 30, 2010, or who met the following age and service requirements as of June 30, 2010, may retire based on the following eligibility requirements:

:

(a) age 50, with at least 10 years of service as a contributing member of this System; or

(b) regardless of age, 20 years of service with at least 10 years as a contributing member of this System.

(3) Effective July 1, 2010, members who, as of June 30, 2010, did not meet the applicable eligibility requirements in (1) or (2) above and had fewer than 15 years of service, are eligible for a normal retirement benefit upon the earlier of:

(a) age 55, with at least 15 years of service as a contributing member of this System; or

(b) regardless of age, 25 years of service with at least 15 years as a contributing member of this System.

(B) **Normal Retirement Benefit Amount:** The sum of:

(1) an annuity of the actuarial equivalent of the member's accumulated contributions and interest; and

(2) a pension, which together with the annuity, shall be equal to 2.5% of the member’s average final compensation for each of the first 20 years of service; plus

(3) 2.0% of the member’s average final compensation for each year of service in excess of 20 years.

(C) **Early Retirement Eligibility Requirements:**

Effective July 1, 2010, members who, as of June 30, 2010, did not meet the applicable eligibility requirements (A)(1) or (2) above and had fewer than 15 years of service, are eligible for an early retirement benefit upon attaining the applicable eligibility requirements in (A)(1) or (2) above.

(D) **Early Retirement Benefit Amount:**

(1) The amount determined under (B) above, reduced by:

(2) The applicable percentage shown below for each month (or fraction of a month) by which the member’s benefit commencement date proceeds the date the member would have first met eligibility requirements for a normal retirement benefit under (A)(3) above had the member continued in employment with the City:

(a) 6.5/12% per month for the first 60 months or fraction of a month immediately preceding the member’s normal service retirement date;

(b) 4.5/12% per month for the next 60 months or fraction of a month;

(c) ¼% per month for the next 60 months or fraction of a month; and

(d) 1/6% per month for any additional month or fraction of a month.

7. **NON-LINE-OF-DUTY DISABILITY RETIREMENT BENEFIT:**

(A) **Non-Line-of-Duty Disability Eligibility Requirements:** Five years of membership service and determined by a hearing examiner to be mentally or physically incapacitated for the further performance of duty and that such incapacity is likely to be permanent.

(B) **Non-Line-of-Duty Disability Benefit Amount:** The sum of:

(1) an annuity of the actuarial equivalent of the member's accumulated contributions and interest; and

(2) a pension, which together with the annuity, shall be equal to 2.5% of the member’s average final compensation for each year of service up to 20 years; plus

(3) 2.0% of the member’s average final compensation for each year of service in excess of 20 years.

(4) the total of this benefit shall not be less than 25% of the member’s average final compensation.

(C) **Offset to Retirement Allowance:** This allowance is offset by workers’ compensation, if the member entered the System after July 1, 1970.

8. **LINE-OF-DUTY DISABILITY RETIREMENT BENEFIT:**

(A) **Line-of-Duty Disability Eligibility Requirements:** Immediate eligibility upon membership in the System and determined by a hearing examiner to be incapacitated for the further performance of duty, and the incapacity resulted from an injury occurring while in the actual performance of such duty without willful negligence on the part of the member.

Should such disability further result in extensive brain damage causing total incapacity or in the loss of or the use of both hands or both arms or both feet or both legs or both eyes or any two thereof, an additional pension will be payable.

(B) **Line-of-Duty Disability Benefit Amount:**

(1) The sum of:

(a) an annuity of the actuarial equivalent of the member's accumulated contributions and interest; plus

(b) a pension equal to 66.667% of the member’s average final compensation.

(2) If the member’s disability results in extensive brain damage causing total incapacity or in the loss of or the use of both hands or both arms or both feet or both legs or both eyes or any two thereof, an additional pension is paid so that the retirement allowance is equal to 100% of the member’s current annual

compensation at the time of retirement. The member will also receive a lump-sum refund of the member's accumulated contributions and interest.

(C) **Offset to Retirement Allowance:** This allowance is offset by workers' compensation, if the member entered the System after July 1, 1970.

9. **TERMINATION OF EMPLOYMENT:**

(A) **Eligibility Requirements:** If removed from a position without fault upon acquiring 15 years of service, the member is eligible for an immediate benefit; otherwise a refund of accumulated contributions and interest if not eligible for any other benefits.

(B) **Benefit Amount:** The sum of:

(1) an annuity of the actuarial equivalent of the member's accumulated contributions and interest; plus

(2) a pension, which together with the annuity, shall be equal to 2.5% of the member's average final compensation for each of the first 20 years of service; plus

(3) 2.0% of the member's average final compensation for each year of service in excess of 20 years.

10. **MAXIMUM ALLOWANCE AND OPTIONAL METHODS OF RECEIVING BENEFIT PAYMENTS:**

(A) **Maximum Allowance:** Upon retiree's death, 50% of the retiree's maximum allowance is paid to the spouse provided they had been married for at least one year prior to retirement or five years beginning before or after retirement. A spouse remains eligible for the maximum benefit unless she or he remarries or until death. If there is no eligible spouse, the allowance will be paid to any minor and unmarried children until the last child marries, dies, or attains age 18 or age 22 if a full-time student. All other options will result in a lesser amount paid.

(B) **Reserve Guarantee Option:** Upon retiree's death, a cash refund to retiree's designated beneficiary based on present value of allowance at retirement less payments made.

(C) **100% Joint and Survivor Option:** Upon retiree's death, 100% of retiree's allowance to continue to designated beneficiary until death.

(D) **50% Joint and Survivor Option:** Upon retiree's death, 50% of retiree's allowance to continue to designated beneficiary until death.

(E) **100% Pop-up Joint and Survivor Option:** Upon retiree's death, 100% of retiree's allowance to continue to designated beneficiary until death. If the beneficiary predeceases member, the member's benefit "pops-up" to the maximum allowance.

(F) 5**0% Pop-up Joint and Survivor Option:** Upon retiree's death, 50% of retiree's allowance to continue to designated beneficiary until death. If the beneficiary predeceases member, the member's benefit "pops-up" to the maximum allowance.

(G) **Specific Benefit Option:** Upon retiree's death and subject to the approval of the Board of Trustees, the member's designated beneficiary will receive:

(1) a specific lump sum amount; or

(2) a specific periodic allowance.

These options are available for service, termination, non-line-of-duty disability, and line-of-duty disability retirement. The option and/or beneficiary may be changed within thirty days after retirement.

11. **NON-LINE-OF-DUTY DEATH BENEFIT:**

(A) **Non-Line-of-Duty Death Benefit Eligibility Requirements:** Member who dies while actively employed but whose death does not qualify as a line-of-duty death.

(B) **Non-Line-of-Duty Death Benefit Amount:**

(1) Lump-sum benefit: The member's accumulated contributions and interest and if the member has one or more years of service, 50% of the greater of the member's current annual compensation or average final compensation shall be payable to the member's designated beneficiary or as specified by the plan provisions.

(2) 25% plus benefit: In lieu of (1) above, if the member had at least two years of continuous service, an annual sum equal to 25% of the member's current annual compensation, plus 1.5% of the member's current annual compensation for each year of service in excess of two years. This benefit is not to exceed 50% of the member's current annual compensation. This benefit shall be payable to:

(a) the member's spouse until the spouse remarries or dies; or

(b) the member's minor and unmarried children equally until the last child marries, dies, or attains age 18 or age 22 if a full-time student.

(3) 100% survivorship benefit: If the member was eligible for a service retirement and the member's designated beneficiary is his/her spouse to whom she/he was married for at least one year prior to the date of death, or surviving parent, such beneficiary may elect to receive in lieu of (1) and (2) above, an allowance equal to the amount that would have been paid under the 100% Joint and Survivor Option.

(C) **Offset to Retirement Allowance:** This allowance is offset by workers' compensation, if the member entered the System after July 1, 1970.

12. **LINE-OF-DUTY DEATH BENEFIT:**

(A) **Line-of-Duty Death Benefit Eligibility Requirements**:

(1) Immediate eligibility upon membership in the System and determined by a hearing examiner that the member's death arose out of and in the course of the actual performance of duty, without willful negligence on the part of the member; or

(2) A member had been granted a line-of-duty disability and dies within five years as a result of the last injury that resulted in a line-of-duty disability retirement.

(B) **Line-of-Duty Death Benefit Amount:** This benefit will consist of:

(1) A refund of the member's accumulated contributions and interest to the member's designated beneficiary or as specified by the plan provisions, and

(2) A pension of 100% of member's current annual compensation to be paid to:

(a) the member's surviving spouse to continue for life; or

(b) if no surviving spouse or the spouse dies, then equally to the member's minor and unmarried children equally until the last child marries, dies, or attains age 18 or age 22 if a full-time student; or

(c) if no surviving spouse or eligible minor child or children, then to the member's surviving dependent parents to continue for life.

(C) **Offset to Retirement Allowance:** This allowance is offset by workers' compensation, if the member entered the System after July 1, 1970.

13. **DEFERRED RETIREMENT OPTION PLAN (DROP):**

The Deferred Retirement Option Plan became effective July 1, 1996.

(A) **Eligibility: a member who did not meet the following eligibility requirements as of December 31, 2009, is not eligible for DROP participation and is not entitled to DROP benefits effective January 1, 2010. Such member may be eligible for participation in the Deferred Retirement Option Plan 2 (DROP 2) that became effective January 1, 2010.**

(1) For members who entered the System on or before June 30, 2003, a member must acquire 20 or more years of service, regardless of age on or before December 31, 2009. Eligible military service credit prior to employment also can be used to satisfy the eligibility requirements.

(2) For members who entered the System on or after July 1, 2003, a member must acquire 20 or more years of service with at least 10 years of service as a contributing member of this System, regardless of age, on or before December 31, 2009. Eligible military service credit prior to employment also can be used to satisfy the eligibility requirements.

(3) An application must be filed not less than 30 days nor more than 90 days prior to the date the DROP participation will begin.

(4) A member who terminates employment immediately becomes ineligible to participate or to continue to participate in the DROP.

(B) **Term of DROP:**

The maximum period of time that a member can participate in the DROP is a single term of three consecutive years beginning on the member's DROP start date.

(C) **No Service Credit While in DROP:**

A DROP participant remains a member of the F&P but is not credited with F&P service.

Except for Intermediate DROP Retirement Benefits, compensation during the member's DROP participation period shall be disregarded in calculating the member's AFC.

(D) **Discontinuation of DROP Participation:**

(1) If a member terminates service anytime during or at the end of the three year DROP period, participation in the DROP ends automatically.

(2) A member may elect to end participation in the DROP on either the first or second anniversary of the DROP participation start date. The election must be made by filing an application with the System not less than 30 days nor more than 90 days prior to the first or second anniversary of the member's DROP start date.

(3) A member who continues employment after terminating participation in the DROP shall resume earning service credit in the F&P.

(4) Once a member terminates participation in the DROP, the member cannot again participate in the DROP at a later date.

(5) If a member retires at the end of the DROP participation period, begins receiving DROP retirement benefits, and is then reemployed in a position covered by the F&P or any Baltimore City sponsored retirement system, all DROP retirement benefit payments will be suspended until the member's later retirement.

(E) **DROP Account:** The member's DROP account shall consist of:

(1) For each full year of a member's DROP participation, an amount equal to the maximum annual service retirement allowance the member would have received had the member retired from service and began receiving the maximum retirement allowance;

(2) For each partial year of a member's DROP participation, an amount equal to a member's pro-rated maximum annual service retirement allowance;

(3) A separate sub-account consisting of the member's regular mandatory contributions made during the member's DROP participation period; and

(4) Interest compounded annually at 8.25% until the member terminates from service.

(F) **DROP Retirement Benefit:**

(1) BASIC DROP:

A member who terminates service during or at the conclusion of the DROP participation period will receive:

(a) the service retirement benefit the member would have received if the member had retired on the date the DROP participation began; and

(b) the balance in the member's DROP account.

(2) INTERMEDIATE DROP:

A member who continues working following the conclusion of the DROP participation period and terminates service within 18 months following the DROP participation period will receive:

(a) all benefits under the Basic DROP Benefit; plus

(b) 2.0% of the member's AFC, calculated as of the member's date of termination from employment covered by this System, for each year of service credit, prorated for partial years, earned by employment following the DROP participation period (taking into account the member's annual compensation while in DROP), not to exceed 18 months; plus

(c) a recovery rate of 1.5% of the member's AFC, calculated as of the member's date of termination from employment covered by this System, for each year of service credit, prorated for partial years, earned by employment following the DROP participation period (taking into account the member's annual compensation while in DROP), not to exceed 18 months, but limited to a "recovery" of 2.0% if the member discontinued participation in DROP after 1 year or limited to a "recovery" of less than 2.25% if the member discontinued participation in DROP after 2 years; plus

(d) 2.0% of the member's AFC, calculated as of the member's termination date from employment covered by this System, for each year of service not already included in the calculation of the member's retirement benefit under (a) and (b).

(3) FULL DROP:

A member who continues working following the conclusion of the DROP participation period and terminates service 18 or more months following the DROP participation period will receive:

(a) an annuity of the actuarial equivalent of the member's accumulated contributions and interest; plus

(b) a pension, which together with the annuity, shall be equal to 2.5% of the member's AFC, calculated as of the member's date of termination from employment covered by this System for each of the first 20 years of service; plus

(c) 2.0% of the member's AFC, calculated as of the member's date of termination from employment covered by this System for each year of service in excess of 20 years; plus

(d) a recovery rate of 1.5% of the member's AFC, calculated as of the member's date of termination from employment covered by this System, for each year of service credit, prorated for partial years, earned by employment following the DROP participation period, not to exceed 4 years, but limited to a "recovery" of 2.0% if the member discontinued participation in DROP at 1 year or limited to a "recovery" of 4.0% if the member discontinued participation in DROP at 2 years; plus

(e) the balance in the member's DROP account.

(G) **Non-Line-of-Duty Disability:**

(1) any member who retires on account of a non-line-of-duty disability during or at the end of the DROP participation period will receive the Basic DROP Retirement Benefit.

(2) any member who retires on account of a non-line-of-duty disability within 18 months following the DROP participation period will receive the Intermediate DROP Retirement Benefit.

(3) any member who retires on account of a non-line-of-duty disability 18 or more months following the DROP participation period will receive the Full DROP Retirement Benefit.

(H) **Line-of-Duty Disability**:

Any member who retires on account of a line-of-duty disability during or following the DROP participation period will receive the line-of-duty disability retirement benefit consisting of: an annuity of the member's accumulated contributions and interest, plus 66.667% of current AFC. This benefit will be paid instead of any DROP retirement benefits and the member will not receive the balance in the DROP account.

(I) **Non-Line-of-Duty Death:**

Due to the non-line-of-duty death of a member who dies during or following the DROP participation period, the beneficiary will receive the non-line-of-duty death benefit according to the DROP provisions. The member's DROP account is payable according to the form of the non-line-of-duty death benefit as follows:

(1) Lump-sum benefit: The beneficiary of a deceased DROP participant will receive the balance of the deceased member's DROP account in a lump sum payment.

(2) 25% plus benefit: The beneficiary can elect to receive the balance of the deceased member's DROP account in a lump sum payment or in periodic payments.

(3) 100% survivorship benefit: The beneficiary can elect to receive the balance of the deceased member's DROP account in a lump sum payment or in periodic payments.

(J) **Line-of-Duty Death:**

The line-of-duty death benefit payable due to the death of a member who dies during or following the DROP participation period will equal either of the following as elected by the member's beneficiary:

(1) the non-line-of-duty death benefit including DROP benefits as described above; or

(2) the line-of-duty death benefit payable as though the member had never participated in the DROP.

(K) **Benefits for Reemployed DROP Participants:**

(1) if a member receiving DROP retirement benefits is reemployed in a position covered by the F&P, the member's DROP retirement benefits shall be suspended. When the member later retires again on a service or non-line-of-duty disability retirement, the member will resume receiving the DROP benefits which had been suspended at the time of reemployment, plus, the member will receive 2.0% (prorated for partial years) of the member's current AFC for each year of service credit earned during the reemployment period.

(2) if a member receiving DROP retirement benefits is reemployed in a position covered by the F&P, and then dies during the reemployment period, beneficiary eligibility for either non-line-of-duty death benefits or line-of-duty death benefits will be determined according to the DROP provisions.

(3) if a member receiving DROP retirement benefits is reemployed in a position covered by another Baltimore City sponsored retirement system, the member's DROP retirement benefits shall be suspended. When the member later retires again, the member will resume receiving the DROP retirement benefits which had been suspended at the time of reemployment,

(L) **DROP Post-Retirement Benefit Increases:**

(1) A member who retires during or at the end of the DROP participation period will have that DROP participation period credited toward the eligibility requirement for post-retirement benefit increases.

(2) A member who continues working following the DROP participation period will not have that DROP

participation period credited toward the eligibility requirement for post-retirement benefit increases.

(3) Post-retirement benefit increases for former DROP participants are applied prospectively.

(M) **Form of Payment of Benefits from DROP Account:**

A member (or a beneficiary after the death of the member in service) can choose to receive the total balance of the DROP account as:

(1) One lump sum which can be:

(a) rolled over to an IRA or similar account; or
(b) taken in pocket; or

(2) Periodic payments in the same form as the retirement benefit.

14. **DEFERRED RETIREMENT OPTION PLAN 2 (DROP 2):**

DROP 2 became effective January 1, 2010. A member who is a DROP participant or who is entitled to DROP benefits is not entitled to DROP 2 participation or DROP 2 benefits. DROP 2 provisions differ for fire department and police department personnel.

(A) **Eligibility:**

(1) For members who entered the System on or before June 30, 2003, a member must acquire 20 or more years of service regardless of age.

(2) For members who entered the System on or after July 1, 2003, and on or before December 31, 2009, a member must acquire 20 or more years of service with at least 10 years of service as a contributing member of this System, regardless of age.

(3) For members who entered the System on or after January 1, 2010, a member must acquire 20 or more consecutive years of service credit through City employment and as a contributing member of the System, regardless of age.

(4) Effective July 1, 2010, members who had 15 or more years of service as of June 30, 2010, must acquire 20 or more years of service, and members who had less than 15 years of service as of June 30, 2010, must acquire 25 or more years of service as a contributing member of this System.

(5) For members who entered the System on or after July 1, 2010, a member must acquire 25 or more years of service credit as a contributing member of the System, regardless of age.

(6) An application must be filed not less than 30 days nor more than 90 days prior to the date the DROP 2 participation will begin.

(7) A member who terminates employment immediately becomes ineligible to participate or to continue to participate in the DROP 2.

(B) **Term of DROP 2:**

The maximum period of time that a member can participate in the DROP 2 is a single term of three consecutive years beginning on the member's DROP 2 start date.

A member must remain in DROP 2 for a minimum of 1 year to be eligible for DROP 2 benefits.

(C) **No Service Credit While in DROP 2:**

A DROP 2 participant remains a member of the F&P but is not credited with F&P service.

Except for Mid DROP 2 retirement benefits, compensation during the member's DROP 2 participation period shall be disregarded in calculating the member's AFC.

(D) **Discontinuation of DROP 2 Participation:**

(1) If a member terminates service anytime during or at the end of the three year DROP 2 period, participation in the DROP 2 ends automatically.

(2) A member may elect to end participation in the DROP 2 on either the first or second anniversary of the DROP 2 participation start date. The election must be made by filing an application with the System not less than 30 days nor more than 90 days prior to the first or second anniversary of the member's DROP 2 start date.

(3) A member who continues employment after terminating participation in the DROP 2 shall resume earning service credit in the F&P.

(4) Once a member terminates participation in the DROP 2, the member cannot again participate in the DROP 2 at a later date.

(5) If a member retires at the end of the DROP 2 participation period, begins receiving DROP 2 retirement benefits, and is then reemployed in a position covered by the F&P or any Baltimore City sponsored retirement system, all DROP 2 retirement benefit payments will be suspended until the member's later retirement.

(E) **DROP 2 Account:** The member's DROP 2 account shall consist of:

(1) For each full year of a member's DROP 2 participation, an amount equal to the maximum annual service retirement allowance the member would have received had the member retired from service and began receiving the maximum retirement allowance;

(2) For each month of a member's DROP 2 participation, an amount equal to one-twelfth of a member's maximum annual service retirement allowance;

(3) For each day not included in (1) or (2), an amount equal to 1/365 of the member’s maximum annual service retirement allowance;

(4) Documentation requirements must be met prior to the member’s DROP 2 start date for inclusion of pre-employment military service credit in the DROP 2 benefit calculation.

(5) A separate sub-account consisting of the member's regular mandatory contributions made during the member’s DROP 2 participation period; and

(6) Interest compounded annually at 5.50% until the member terminates from service. Effective July 1, 2010, for members who had fewer than 15 years of service as of June 30, 2010, interest is compounded annually at 3.0%

until the member terminates from service.

(F) **DROP 2 Retirement Benefit - FIRE DEPARTMENT MEMBERS:**

(1) EARLY DROP 2:

A member must complete a minimum of 1 year of DROP 2 participation to be eligible for Early DROP 2 benefits. A member who terminates service during year 2 or year 3 or at the conclusion of the DROP 2 participation period will receive:

(a) the following percentages of the member's AFC calculated as of the day before the member's DROP 2 start date:

(i) 2.5% for each of the first 20 years of service, plus
(ii) 2.0% for each full year of service in excess of 20 years, prorated for partial years, prior to the member's DROP 2 start date; no service credit is earned during the member's DROP 2 participation period; plus

(b) the balance in the member's DROP 2 account.

(2) MID DROP 2:

A member who continues working, resumes earning service credit for employment covered by this System following the conclusion of the member's DROP 2 participation period, and terminates service anytime within 5 years following the member's DROP 2 participation period will receive:

(a) the following percentages of the member's AFC calculated as of the day before the member's DROP 2 start date:

(i) 2.5% for each of the first 20 years of service, plus
(ii) 2.0% for each full year of service in excess of 20 years, prorated for partial years, prior to the member's DROP 2 start date, plus
(iii) 2.0% for each full year of service, prorated for partial years, purchased during or following the member's DROP 2 participation period, if any; no service credit is earned during the member's DROP 2 participation period; plus

(b) the following percentages of the member's AFC calculated as of the member's termination date from employment covered by this System:

(i) 2.0% for each full year of service, prorated for partial years, for up to 5 years of employment as a contributing member of this System following the member's DROP 2 participation period; no service credit is earned during the member's DROP 2 participation period, plus
(ii) A recovery rate of 1.5% for each of the first four years of employment covered by this System immediately following the member's DROP 2 participation period, subject to the following limitations:

1. if the member discontinued DROP 2 participation at 1 year, the recovery rate is limited to 2.0%.

2. if the member discontinued DROP 2 participation at 2 years, the recovery rate is limited to 4.0%.

plus,

(c) the balance in the member's DROP 2 account.

(3) COMPLETE DROP 2:

A member who continues working, resumes earning service credit for employment covered by this System following the conclusion of the member's DROP 2 participation period, and terminates service 5 or more years following the DROP 2 participation period will receive:

(a) the following percentages of the member's AFC calculated as of the member's termination date from employment covered by this System:

(i) 2.5% for each of the first 20 years of service, plus
(ii) 2.0% for each full year of service, prorated for partial years, for service in excess of 20 years, excluding employment covered by this System during the member's DROP 2 participation period, plus
(iii) A recovery rate of 1.5% for each of the first four years of employment covered by this System immediately following the member's DROP 2 participation period, subject to the following limitations:

1. if the member discontinued DROP 2 participation at 1 year, the recovery rate is limited to 2.0%.

2. if the member discontinued DROP 2 participation at 2 years, the recovery rate is limited to 4.0%.

plus,

(b) the balance in the member's DROP 2 account.

(G) **DROP 2 Retirement Benefit – POLICE DEPARTMENT MEMBERS:**

(1) EARLY DROP 2:

A member must complete a minimum of 1 year of DROP 2 participation to be eligible for Early DROP 2 benefits. A member who terminates service during year 2 or year 3 or at the conclusion of the DROP 2 participation period will receive:

(a) the following percentages of the member's AFC as of the day before the member's DROP 2 start date:

(i) 2.5% for each of the first 20 years of service, plus
(ii) 2.0% for each full year of service in excess of 20 years, prorated for partial years, prior to the member's DROP 2 start date; no service credit is earned during the member's DROP 2 participation period; plus

(b) the balance in the member's DROP 2 account.

(2) MID DROP 2:

A member who continues working, resumes earning service credit for employment covered by this System following the conclusion of the member's DROP 2 participation period, and terminates service anytime within 3½ years following the DROP 2 participation period will receive:

(a) the following percentages of the member's AFC as of the day before the member's DROP 2 start date:

(i) 2.5% for each of the first 20 years of service, plus
(ii) 2.0% for each full year of service in excess of 20 years, prorated for partial years, prior to the member's DROP 2 start date, plus
(iii) 2.0% for each full year of service, prorated for partial years, purchased during or following the member's DROP 2 participation period, if any; no service credit is earned during the member's DROP 2 participation period; plus

(b) the following percentage of the member's AFC calculated as of the member's termination date from employment covered by this System:

2.0% for each full year of service, prorated for partial years, for up to 3½ years of employment as a contributing member of this System following the member's DROP 2 participation period; no service credit is earned during the member's DROP 2 participation period; and

(c) the balance in the member's DROP 2 account.

(3) COMPLETE DROP 2:

A member who continues working, resumes earning service credit for employment covered by this System following the conclusion of the member's DROP 2 participation period, and terminates service 3½ or more years following the DROP 2 participation period will receive:

(a) the following percentages of the member's AFC calculated as of the member's termination date from employment covered by this System:

(i) 2.5% for each of the first 20 years of service, plus
(ii) 2.0% for each full year of service, prorated for partial years, for service in excess of 20 years excluding employment covered by this System during the member's DROP 2 participation period; plus

(b) the balance in the member's DROP 2 account.

(H) **Non-Line-of-Duty Disability:**

(1) the member must complete a minimum of 1 year of the DROP 2 participation period to be eligible for any DROP 2 benefits.

(2) any member who retires prior to the first anniversary of the member's DROP 2 start date is not entitled to any benefits under DROP 2. The benefit will be calculated as though the member had never participated in DROP 2.

(3) any member who retires on account of a non-line-of-duty disability during or at the end of the DROP 2 participation period will receive the Early DROP 2 retirement benefit.

(4) any Fire department member who retires within 5 years following the end of the DROP 2 participation period or any Police department member who retires within 3½ years following the end of the DROP 2 participation period on account of a non-line-of-duty disability will receive the Mid DROP 2 Retirement Benefit.

(5) any Fire department member who retires with 5 or more years following the end of the DROP 2 participation period or any Police department member who retires with 3½ or more years following the end of the DROP 2 participation period on account of a non-line-of-duty disability will receive the Complete DROP 2 Retirement Benefit.

(I) **Line-of-Duty Disability:**

Any member who retires on account of a line-of-duty disability during or following the DROP 2 participation period will receive the line-of-duty disability retirement benefit consisting of: an annuity of the member's accumulated contributions and interest, plus 66.667% of current AFC. This benefit will be paid instead of any DROP 2 retirement benefits and the member will not receive the balance in the DROP 2 account.

(J) **Non-Line-of-Duty Death:**

Due to the non-line-of-duty death of a member who dies after completing a minimum of one year of DROP 2 participation or following the DROP 2 participation period, the beneficiary will receive the non-line-of-duty death benefit according to the DROP 2 provisions. The member's DROP 2 account is payable according to the form of the non-line-of-duty death benefit as follows:

(1) Lump-sum benefit: The beneficiary of a deceased DROP 2 participant will receive the balance of the deceased member's DROP 2 account in a lump sum payment.

(2) 25% plus benefit: The beneficiary can elect to receive the balance of the deceased member's DROP 2 account in a lump sum or in periodic payments.

(3) 100% survivorship benefit: The beneficiary can elect to receive the balance of the deceased member's DROP 2 account in a lump sum payment or in periodic payments.

If the member dies within the first year of the DROP 2 participation period, the benefit will be calculated as though the member had never participated in DROP 2.

(K) **Line-of-Duty Death:**

The line-of-duty death benefit payable due to the death of a member who dies after completing a minimum of one year of DROP 2 participation or following the DROP 2 participation period will equal either of the following as elected by the member's beneficiary:

(1) the non-line-of-duty death benefit including DROP 2 benefits as described above; or

(2) the line-of-duty death benefit payable as though the member had never participated in the DROP 2.

If the member dies within the first year of the DROP 2 participation period, the benefit will be calculated as though the member had never participated in DROP 2.

(L) **Benefits for Reemployed DROP 2 Participants:**

(1) if a member receiving DROP 2 retirement benefits is reemployed in a position covered by the F&P, the member's DROP 2 retirement benefits shall be suspended. When the member later retires again on a service or non-line-of-duty disability retirement, the member will resume receiving the DROP 2 benefits which had been suspended at the time of reemployment, plus, the member will receive 2.0% (prorated for partial years) of the member's current AFC for each year of service credit earned during the reemployment period.

(2) if a member receiving DROP 2 retirement benefits is reemployed in a position covered by the F&P, and then dies during the reemployment period, beneficiary eligibility for either non-line-of-duty death benefits or line-of-duty death benefits will be determined according to the DROP 2 provisions.

(3) if a member receiving DROP 2 retirement benefits is reemployed in a position covered by another Baltimore City sponsored retirement system, the member's DROP 2 retirement benefits shall be suspended. When the member later retires again, the member will resume receiving the DROP 2 retirement benefits which had been suspended at the time of reemployment,

(M) **Pre-employment Military Service Credit for DROP 2 Participants:**

A member may receive up to 3 years of membership service credit for military service prior to employment with the City of Baltimore if the requirements are met according to the plan provisions. Credit for pre-employment military service may be used in the calculation of the member's maximum service retirement benefit credited to the member's DROP 2 account.

The member must apply and provide the F&P proper and complete documentation of pre-employment military service prior to the member's DROP 2 participation start date in order for the pre-employment military service to be used in the calculation of the members DROP 2 benefit credited to the DROP 2 account.

If the member fails to properly apply and provide the F&P with complete documentation of pre-employment military service prior to the member's DROP 2 participation start date, the pre-employment military service credit will not be included in the calculation of the member's maximum service retirement benefit that is credited to the member's DROP 2 account.

(N) **Form of Payment of Benefits from DROP 2 Account:**

A member (or an eligible beneficiary after the death of the member in service) can choose to receive the total balance of the DROP 2 account as:

(1) One lump sum which can be:

(a) rolled over to an IRA or similar account; or
(b) taken in pocket; or

(2) Periodic payments in the same form as the retirement benefit.

15. **POST-RETIREMENT BENEFIT INCREASES:**

Effective June 30, 2010, post-retirement benefit increases are fixed rather than based on investment performance. Retirees and beneficiaries who have been receiving periodic benefit payments for two or more years as of the June 30 determination date may be eligible for such an increase. An exception exists for DROP participants who retire during or at the end of their DROP participation period. Basic DROP retirees will have their DROP participation period credited toward the eligibility requirements for post-retirement benefit increases. The increase is payable commencing in the January following the June 30 determination date.

The amount and eligibility of the post-retirement benefit increase is as follows:

(1) Eligible retirees (or their beneficiaries) who have not attained age 55 as of the June 30 determination date will not receive an increase payable the following January.

(2) Eligible retirees (or their beneficiaries) who have attained age 55 but have not attained age 65 and have been retired for two or more years as of the June 30 determination date will receive a 1.0% increase payable the following January. This increase was first payable in January 2012.

(3) Eligible retirees (or their beneficiaries) who have attained age 65 and have been retired for two or more years as of June 30 determination date will receive a 2.0% increase payable the following January. This increase was first payable in January 2011.

(4) Eligible retirees (or their beneficiaries) who are receiving a 100% line-of-duty disability regardless of age and have been retired for two or more years as of the June 30 determination date will receive a 2.0% increase payable the following January. This increase was first payable in January 2011.

16. **MINIMUM BENEFIT FOR CERTAIN SPOUSAL BENEFICIARIES**

Effective July 1, 2010, a minimum annual benefit of $16,000 is provided to the spousal beneficiary of a sworn member who, before August 1, 1996, retired or died in service with 20 or more years of service.

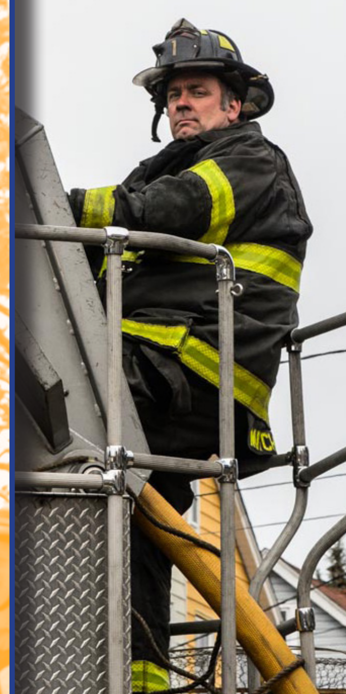
Effective January 1, 2012, a minimum annual benefit of $16,000 is provided to the spousal beneficiary of a sworn member who, prior to August 1, 1996, retired on account of line-of-duty disability with less than 20 years of service.

17. **BENEFIT PAYMENTS**

Effective January 1, 2016:

A.	**Monthly Payments:**	All retirement allowances or other benefits paid by this System shall be paid monthly rather than bi-weekly.
B.	**Retirement Allowances:**	Service retirements for all members and beneficiaries of this System take effect on the 1st day of a calendar month and shall be paid on the 15th day of that calendar month.
C.	**Death and Survivorship Benefits:**	(1) Death and survivorship benefits for beneficiaries take effect on the 1st day of the calendar month following the month in which the member dies and shall be paid on the 15th day of that calendar month. (2) For the calendar month in which the death of a retired member or beneficiary occurs, this System shall owe and pay the entire monthly allowance due to a retired member or beneficiary.

Statistical Section

STATISTICAL SECTION NARRATIVE

The Statistical Section of this Comprehensive Annual Financial Report presents information to add historical perspective, context, and detail to the financial statements, notes to financial statements, and required supplementary information presented in the preceding sections. To provide historical perspective and a sense of trends, most exhibits in this Section are presented in multiple-year formats. The information is categorized into two topical groups: Financial Trends and Demographic and Economic Information.

Financial Trends

These schedules contain trend information to help the reader understand how the F&P's financial performance has changed over time.

Statement of Changes in Fiduciary Net Position - Fiscal Years 2008 - 2017
Revenues by Source - Fiscal Years 2008 - 2017
Expenses by Type - Fiscal Years 2008 - 2017
Benefit Expenses by Type - Fiscal Years 2008 - 2017
Average Monthly Service Retirement Benefit Payments - Fiscal Years 2008 - 2017

Demographic and Economic Information

These schedules offer demographic indicators to help the reader understand trends in F&P membership.

Active Members by Years of Service - Fiscal Years 2008 – 2017
Active Members and Active DROP / DROP 2 Members by Years of Service and Department
Active DROP / DROP 2 Members by Fiscal Year of DROP / DROP 2 Entry and Department – Fiscal Years 1997 – 2017
Retirees and Beneficiaries by Attained Age and Type of Retirement
DROP / DROP 2 Retirees and DROP / DROP 2 Beneficiaries by Attained Age and Type of Retirement

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
CHANGES IN FIDUCIARY NET POSITION

	2008	2009	2010	2011	2012
Additions					
Net investment income	$ (97,529,998)	$(357,730,702)	$ 252,146,101	$ 366,713,890	$ 80,339,513
Employer contributions	72,687,585	69,513,236	94,097,743	107,539,873	107,488,403
Member contributions	16,547,425	17,661,252	17,254,515	19,586,155	22,866,939
Net securities lending income	2,049,347	1,801,369	500,376	452,113	594,933
Total Additions	(6,245,641)	(268,754,845)	363,998,735	494,292,031	211,289,788
Deductions					
Retirement allowances	166,119,977	173,547,075	176,660,415	186,002,569	193,082,852
Lump sum DROP payments	14,118,642	10,379,493	18,078,701	17,039,089	10,816,700
Administrative expenses	3,264,028	3,334,851	3,311,686	4,241,753	3,672,958
Refunds of member contributions	1,627,871	1,114,334	1,372,214	1,490,557	1,309,010
Death benefits	63,151	251,544	154,775	254,630	385,167
Total Deductions	185,193,669	188,627,297	199,577,791	209,028,598	209,266,687
Net Increase (Decrease)	$ (191,439,310)	$(457,382,142)	$ 164,420,944	$ 285,263,433	$ 2,023,101

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
CHANGES IN FIDUCIARY NET POSITION (Concluded)

	2013	2014	2015	2016	2017
Additions					
Net investment income	$ 200,073,582	$ 313,953,904	$ 53,442,809	$ 2,533,389	$ 273,800,787
Employer contributions	107,778,859	113,843,250	119,020,291	121,115,085	129,688,977
Member contributions	25,381,635	28,265,556	30,341,796	30,549,801	29,901,791
Net securities lending income	463,706	495,366	459,490	469,337	586,818
Total Additions	333,697,782	456,558,076	203,264,386	154,667,612	433,978,373
Deductions					
Retirement allowances	198,640,360	205,591,968	210,318,274	217,821,498	223,772,460
Lump sum DROP payments	13,625,797	12,373,388	11,477,573	17,062,244	17,790,724
Administrative expenses	3,568,855	3,907,539	4,297,773	4,407,296	4,328,135
Refunds of member contributions	2,393,838	3,129,650	2,796,110	3,094,838	3,069,464
Death benefits	163,838	344,230	342,353	863,933	447,433
Total Deductions	218,392,688	225,346,775	229,232,083	243,249,809	249,408,216
Net Increase (Decrease)	$ 115,305,094	$ 231,211,301	$ (25,967,697)	$ (88,582,197)	$ 184,570,157

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
REVENUES BY SOURCE

Fiscal Year	Net Investment Income	Employer Contributions Amount	Employer Contributions % of Covered Payroll	Member Contributions	Total
2008	$ (95,480,651)	$72,687,585	27.0%	$16,547,425	$ (6,245,641)
2009	(355,929,333)	69,513,236	24.7	17,661,252	(268,754,845)
2010	252,646,477	94,097,743	34.0	17,254,515	363,998,735
2011	367,166,003	107,539,873	39.0	19,586,155	494,292,031
2012	80,934,446	107,488,403	37.8	22,866,939	211,289,788
2013	200,537,288	107,778,859	38.8	25,381,635	333,697,782
2014	314,449,270	113,843,250	40.1	28,265,556	456,558,076
2015	53,902,299	119,020,291	39.9	30,341,796	203,264,386
2016	3,002,726	121,115,085	40.3	30,549,801	154,667,612
2017	274,387,605	129,688,977	43.8	29,901,791	433,978,373

Notes: Employer contributions were made in accordance with actuarially determined contribution requirements.

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
EXPENSES BY TYPE

Fiscal Year	Retirement Benefits	DROP Payments	Refunds	Administrative Expenses	Total
2008	$166,183,128	$14,118,642	$1,627,871	$ 3,264,028	$ 185,193,669
2009	173,798,619	10,379,493	1,114,334	3,334,851	188,627,297
2010	176,815,190	18,078,701	1,372,214	3,311,686	199,577,791
2011	186,257,199	17,039,089	1,490,557	4,241,753	209,028,598
2012	193,468,019	10,816,700	1,309,010	3,672,958	209,266,687
2013	198,804,198	13,625,797	2,393,838	3,568,855	218,392,688
2014	205,936,198	12,373,388	3,129,650	3,907,539	225,346,775
2015	210,660,627	11,477,573	2,796,110	4,297,773	229,232,083
2016	218,685,431	17,062,244	3,094,838	4,407,296	243,249,809
2017	224,219,893	17,790,724	3,069,464	4,328,135	249,408,216

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
BENEFIT EXPENSES BY TYPE

						Disability Benefits			
Year	Age and Service Benefits		Death Benefits			Retirees			
Ending	Retirees	Beneficiaries	Duty	Non-Duty	Lump Sum	Duty	Non-Duty	Beneficiaries	Total
2008	$131,942,122	$10,116,092	$2,914,432	$3,142,188	$63,151	$21,797,015	$5,331,204	$4,995,566	$180,301,770
2009	133,001,464	10,862,644	3,608,486	3,242,417	251,544	22,751,656	5,481,123	4,978,778	184,178,112
2010	143,638,241	11,219,469	3,066,579	3,215,249	154,775	23,209,880	5,262,840	5,126,858	194,893,891
2011	148,265,914	13,292,721	3,063,434	3,311,818	254,630	23,759,543	5,291,033	6,057,195	203,296,288
2012	147,421,816	13,916,530	3,010,331	3,269,163	385,167	24,626,399	5,192,927	6,462,386	204,284,719
2013	154,203,276	14,539,747	2,972,662	3,238,196	163,838	25,229,266	5,136,984	6,946,026	212,429,995
2014	158,233,244	15,372,751	2,908,705	3,229,061	344,230	25,992,206	5,061,399	7,167,990	218,309,586
2015	160,757,738	16,006,666	2,870,887	3,289,067	342,353	26,604,387	5,025,575	7,241,527	222,138,200
2016	173,404,322	16,629,410	2,893,842	3,202,861	863,933	26,937,043	4,895,300	6,920,964	235,747,675
2017	179,232,723	17,497,593	2,880,489	3,188,438	447,433	27,142,330	4,986,095	6,635,516	242,010,617

Fire and Police Employees' Retirement System
City of Baltimore, Maryland

AVERAGE MONTHLY SERVICE RETIREMENT BENEFIT PAYMENTS

Retirement Effective Dates	Years of Credited Service				
From July 1, 2007 to June 30, 2017	≤15	16-20	21-25	26-30	31+
Period 7/1/07 to 6/30/08					
Average Monthly Benefit	1,659	2,521	3,336	4,502	4,793
Average-Average Final Compensation	54,859	61,500	68,243	72,421	69,277
Number of Active Retirees	2	35	57	21	12
Period 7/1/08 to 6/30/09					
Average Monthly Benefit	1,575	2,665	3,486	4,634	5,425
Average-Average Final Compensation	58,129	65,460	68,713	77,044	71,716
Number of Active Retirees	1	27	50	20	20
Period 7/1/09 to 6/30/10					
Average Monthly Benefit	1,536	2,628	3,523	4,378	5,857
Average-Average Final Compensation	62,502	62,799	71,305	70,529	81,313
Number of Active Retirees	5	32	54	30	26
Period 7/1/10 to 6/30/11					
Average Monthly Benefit	1,770	2,658	3,452	4,384	5,877
Average-Average Final Compensation	68,688	65,078	72,061	71,739	81,707
Number of Active Retirees	1	37	62	26	22
Period 7/1/11 to 6/30/12					
Average Monthly Benefit	2,940	3,035	3,417	4,395	5,188
Average-Average Final Compensation	61,719	69,233	70,981	72,633	75,409
Number of Active Retirees	11	36	33	24	14

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
AVERAGE MONTHLY SERVICE RETIREMENT BENEFIT PAYMENTS (Concluded)

	Years of Credited Service				
	≤15	16-20	21-25	26-30	31+
Period 7/1/12 to 6/30/13					
Average Monthly Benefit	3,011	2,921	3,532	4,762	5,222
Average-Average Final Compensation	58,539	65,514	71,254	76,472	69,186
Number of Active Retirees	19	45	76	36	16
Period 7/1/13 to 6/30/14					
Average Monthly Benefit	2,905	3,086	3,724	4,525	5,275
Average-Average Final Compensation	59,037	71,445	74,337	74,591	76,000
Number of Active Retirees	21	49	60	22	10
Period 7/1/14 to 6/30/15					
Average Monthly Benefit	3,380	3,282	3,587	5,031	6,411
Average-Average Final Compensation	63,848	73,791	75,700	78,631	83,835
Number of Active Retirees	12	43	58	17	16
Period 7/1/15 to 6/30/16					
Average Monthly Benefit	3,388	3,169	3,983	5,180	6,689
Average-Average Final Compensation	64,470	74,099	81,995	84,253	92,377
Number of Active Retirees	8	21	68	26	23
Period 7/1/16 to 6/30/17					
Average Monthly Benefit	2,954	3,045	3,919	6,127	6,645
Average-Average Final Compensation	67,871	80,469	82,694	93,907	91,020
Number of Active Retirees	23	35	45	32	29
Period 7/1/07 to 6/30/17					
Average Monthly Benefit	2,918	2,913	3,603	4,824	5,881
Average-Average Final Compensation	62,358	68,956	73,800	77,608	80,881
Number of Active Retirees	103	360	563	254	188

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF ACTIVE MEMBERS BY YEARS OF SERVICE

Years of Credited Service	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0-4	1,088	1,142	1,079	1,047	987	824	787	801	640	670
5-9	946	900	873	873	982	997	934	883	854	689
10-14	814	759	726	770	770	791	765	739	742	821
15-19	757	904	872	890	853	763	686	651	688	693
20-24	515	513	572	536	504	575	668	633	650	625
25-29	329	291	264	251	313	294	275	334	313	290
30+	166	181	198	208	215	195	202	207	207	224
Total Members	4,615	4,690	4,584	4,575	4,624	4,439	4,317	4,248	4,094	4,012
Average Service Credit	12.34	12.45	12.71	12.64	12.73	13.09	13.42	13.62	13.98	14.06
Average Age	38.91	38.99	39.21	39.14	39.23	39.62	39.94	40.24	40.69	40.95

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF CURRENT ACTIVE MEMBERS BY YEARS OF SERVICE AND DEPARTMENT
SCHEDULE OF CURRENT ACTIVE DROP AND DROP 2 MEMBERS BY YEARS OF SERVICE AND DEPARTMENT
For the Year Ended June 30, 2017

Schedule of Current Active Members By Years of Service and Department

Years of Credited Service	Police Department	Fire Department	School Crossing Guards	Airport Employees	Total
0-4	465	205			670
5-9	443	246			689
10-14	436	385			821
15-19	464	229			693
20-24	459	166			625
25-29	150	140			290
30+	87	133	1	3	224
Total Members	2,504	1,504	1	3	4,012

Schedule of Current Active DROP Members By Years of Service and Department

Years of Credited Service	Police Department	Fire Department	School Crossing Guards	Airport Employees	Total
25-29	19	25			44
30+	86	132	1	3	222
Total DROP Members	105	157	1	3	266

Schedule of Current Active DROP 2 Members By Years of Service and Department

Years of Credited Service	Police Department	Fire Department	Total
20-24	211	88	299
25-29	120	113	233
30+			
Total DROP 2 Members	331	201	532

SCHEDULE OF CURRENT ACTIVE DROP AND DROP 2 MEMBERS BY FISCAL YEAR OF DROP / DROP 2 ENTRY AND DEPARTMENT

Year of	Police	Fire	School Crossing Guards	Airport	Total
7/1/96 - 6/30/97	7	8			15
7/1/97 - 6/30/98	1	1			2
7/1/98 - 6/30/99	1	1	1		3
7/1/99 - 6/30/00	7	7			14
7/1/00 - 6/30/01	5	6			11
7/1/01 - 6/30/02	6	11			17
7/1/02 - 6/30/03	5	10			15
7/1/03 - 6/30/04	8	3			11
7/1/04 - 6/30/05	9	12		1	22
7/1/05 - 6/30/06	15	17		1	33
7/1/06 - 6/30/07	9	19			28
7/1/07 - 6/30/08	16	39			55
7/1/08 - 6/30/09	6	10		1	17
7/1/09 - 6/30/10	9	12			21
7/1/10 - 6/30/11		1			1
7/1/11 - 6/30/12	1				1
7/1/12 - 6/30/13					
7/1/13 - 6/30/14					
7/1/14 - 6/30/15					
7/1/15 - 6/30/16					
7/1/16 - 6/30/17					
Total DROP Members	105	157	1	3	266

Year of DROP 2 Entry	Police Department	Fire Department	Total
7/1/09 - 6/30/10	9	18	27
7/1/10 - 6/30/11	25	76	101
7/1/11 - 6/30/12	34	12	46
7/1/12 - 6/30/13	69	20	89
7/1/13 - 6/30/14	78	41	119
7/1/14 - 6/30/15	34	8	42
7/1/15 - 6/30/16	53	26	79
7/1/16 - 6/30/17	29		29
Total DROP 2 Members	331	201	532

Fire and Police Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF RETIREES BY ATTAINED AGE AND TYPE OF RETIREMENT
For the Year Ended June 30, 2017

		TYPE OF RETIREMENT*					
Age	Number of Recipients	0	1	2	3	4	9
Under 25							
25-29							
30-34	21				3	18	
35-39	42				8	34	
40-44	124	29	1		15	79	
45-49	347	221	7	1	27	91	
50-54	571	405	4	8	32	121	1
55-59	575	485		2	20	67	1
60-64	638	556	2	1	20	59	
65-69	793	715		1	20	57	
70-74	703	612			28	63	
75-79	435	361			21	53	
80-84	304	241			21	42	
85-89	179	129			18	31	1
90 and up	70	54			7	9	
Totals	4,802	3,808	14	13	240	724	3
Average Annual Benefit	$40,679	$42,738	$28,264	$31,627	$19,870	$37,034	$69,633

<u>*Type of Retirement</u>
0 - Normal retirement for age and service
1 - Early Retirement
2 - Discontinued service
3 - Non-line-of-duty disability
4 - Line-of-duty disability
9 - Line-of-duty disability, 100% of compensation

Fire and Police Employees' Retirement System
City of Baltimore, Maryland

SCHEDULE OF BENEFICIARIES BY ATTAINED AGE AND TYPE OF RETIREMENT

For the Year Ended June 30, 2017

		TYPE OF RETIREMENT*						
Age	Number of Recipients	0	3	4	6	7	8	9
Under 20	13	1	1	3		5	3	
20-24	4	2	1				1	
25-29	1						1	
30-34	2			1		1		
35-39	2			1			1	
40-44	10	5				4	1	
45-49	33	20	1	1	2	3	6	
50-54	64	42	7	7	2	3	3	
55-59	105	81	2	9	7	4	2	
60-64	131	92	8	14	7	4	6	
65-69	176	115	10	16	16	10	9	
70-74	190	123	16	28	7	7	9	
75-79	223	132	31	41	8	5	5	1
80-84	251	145	39	48	11	5	3	
85-89	205	111	26	54	8		6	
90 and up	107	65	12	22	3	2	3	
Totals	1,517	934	154	245	71	53	59	1
Average Annual Benefit	$20,158	$19,243	$14,535	$17,904	$30,838	$18,117	$47,326	$39,589

*Type of Retirement
0 - Normal retirement for age and service
3 - Non-line-of-duty disability
4 - Line-of-duty disability
6 - Non-line-of-duty death, member eligible for service retirement at death
7 - Non-line-of-duty death with 25% of compensation
8 - Line-of-duty death
9 - Line-of-duty disability, 100% of compensation

SCHEDULE OF DROP RETIREES BY ATTAINED AGE AND TYPE OF RETIREMENT

SCHEDULE OF DROP BENEFICIARIES BY ATTAINED AGE AND TYPE OF RETIREMENT

For the Year Ended June 30, 2017

Schedule of DROP Retirees by Attained Age and Type of Retirement

Age	Number of Recipients	TYPE OF RETIREMENT* 0	4
40-44			
45-49	37	37	
50-54	247	244	3
55-59	406	395	11
60-64	455	445	10
65-69	517	507	10
70-74	329	325	4
75-79	118	117	1
80-84	24	24	
85+	8	8	
Totals	2,141	2,102	39
Average Annual Benefit	$48,208	$48,245	$46,231

Schedule of DROP Beneficiaries by Attained Age and Type of Retirement

Age	Number of Recipients	TYPE OF RETIREMENT* 0	4	6	7	8
40-44	1	1				
45-49	10	8		2		
50-54	34	29	1	4		
55-59	63	57	1	3		2
60-64	73	60	1	10		2
65-69	50	46		2	1	1
70-74	39	38		1		
75-79	27	27				
80-84	13	12		1		
85+	2	2				
Totals	312	280	3	23	1	5
Average Annual Benefit	$21,655	$19,271	$21,778	$38,651	$27,161	$75,807

*Type of Retirement

0 - Normal retirement for age and service

4 - Line-of-duty disability: Member not eligible for DROP benefits

6 - Non-line-of-duty death, member eligible for service retirement at death

7 - Non-line-of-duty death with 25% of compensation

8 - Line-of-duty death: Beneficiary not eligible for DROP benefits

SCHEDULE OF DROP 2 RETIREES / BENEFICIARIES BY ATTAINED AGE AND TYPE OF RETIREMENT

For the Year Ended June 30, 2017

Schedule of DROP 2 Retirees by Attained Age and Type of Retirement

		TYPE OF RETIREMENT*		
Age	Number of Recipients	0	3	4
40-44	9	9		
45-49	76	74	1	1
50-54	54	51		3
55-59	17	17		
60-64	13	13		
65-69	3	3		
70-74				
75+				
Totals	172	167	1	4
Average Annual Benefit	$37,653	$37,389	$30,469	$50,480

Schedule of DROP 2 Beneficiaries by Attained Age and Type of Retirement

		TYPE OF RETIREMENT*		
Age	Number of Recipients	0	6	7
40-44	1	1		
45-49	8	6	2	
50-54	4	3		1
55-59	2	2		
60-64	1	1		
65-69				
70-74				
75+				
Totals	16	13	2	1
Average Annual Benefit	$14,246	$10,599	$28,893	$32,358

*Type of Retirement
0 - Normal retirement for age and service
3 - Non-line-of-duty disability
4 - Line-of-duty disability
6 - Non-line-of-duty death, member eligible for service retirement at death
7 - Non-line-of-duty death with 25% of compensation

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FIRE & POLICE
EMPLOYEES' RETIREMENT SYSTEM

FIRE & POLICE EMPLOYEES' RETIREMENT SYSTEM

City of Baltimore, Maryland

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