ERS
EMPLOYEES' RETIREMENT SYSTEM
of the CITY OF BALTIMORE

EMPLOYEES' RETIREMENT SYSTEM

City of Baltimore, Maryland

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Year Ended June 30, 2019

A Pension Trust of the City of Baltimore

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RETIREMENT
SYSTEM
of the CITY OF BALTIMORE

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Year Ended June 30, 2019

A Pension Trust of the
City of Baltimore

Prepared By

David A. Randall
Executive Director

Nichelle Lashley
Deputy Executive Director

Adetutu Talabi
Accounting Manager

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Employees' Retirement System

Mission Statement

The System is committed to protecting and prudently investing member assets and providing accurate and timely retirement benefits with quality service to members and beneficiaries.

Standards of Conduct

As Trustees and Staff, we are committed to:

Safeguard the members' assets.

Strive for continuous improvement.

Maintain confidentiality as appropriate.

Effectively communicate accurate information.

Provide accountable and proactive leadership.

Conduct all business in a fair and respectful manner.

Foster an atmosphere of cooperation and teamwork.

Value members as clients and advocate on their behalf.

Comply with the System's plan provisions, policies and guidelines.

Work efficiently, simplify procedures, and minimize bureaucratic hurdles.

Form alliances and partnerships to benefit the membership and the System.

We expect all who interact with us to adhere to these standards of conduct.

Approved by the Board of Trustees February 12, 2002

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INTRODUCTORY SECTION

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Employees' Retirement System

City of Baltimore, Maryland

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2018

Christopher P. Morrill

Executive Director/CEO

CITY OF BALTIMORE
BERNARD C. "JACK" YOUNG, Mayor

EMPLOYEE'S RETIREMENT SYSTEM,
ELECTED OFFICIALS' RETIREMENT SYSTEM
and RETIREMENT SAVINGS PLAN
DAVID A. RANDALL, Executive Director
7 E. Redwood Street
11th, 12th and 13th Floors
Baltimore, Maryland 21202

November 22, 2019

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

I am pleased to present the Comprehensive Annual Financial Report (CAFR) of the Employees' Retirement System of the City of Baltimore, Maryland (ERS), a pension trust of the City of Baltimore, Maryland, for the fiscal year ended June 30, 2019. Responsibility for the accuracy of the data and the completeness of the presentation, including all disclosures, rests with the management. We believe this report is accurate in all material respects and reported in a manner designed to present fairly, the financial position and results of ERS' operations.

For financial reporting purposes, the System adheres to accounting principles generally accepted in the United States, which requires that management provide a narrative introduction, overview and analysis of the financial statements of the System in the form of a Management Discussion and Analysis (MD&A).The System applies all applicable pronouncements of the Governmental Accounting Standards Board (GASB). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The MD&A can be found immediately following the Independent Auditor's Report in the Financial Section, on page 18.

Profile of the Plan

The ERS is a defined benefit contributory plan established January 1, 1926 by legislation, for eligible members who are employed in the general administrative service of the City and for certain non-teacher employees of the Baltimore City Public School System. All System-related administrative and benefit provisions are established by City Ordinance, as contained in Article 22 of the Baltimore City Code, and are amended only by the Mayor and City Council. A summary of Plan provisions is presented on pages 72 through 81. The number of active, retired and deferred members, as well as beneficiaries of the Plan can be found in the Notes to Basic Financial Statements starting on page 24.

Major Initiatives

Document Management System: The system's document management system was enhanced during the year. The new system is web-based, provides off-site back up, easier disaster recovery system and user-friendly interface. The document management system was extended to all the departments of the agency and is expected to substantially reduce storage space, provide easier retrieval of document and "peace of mind" for all stakeholders.

www.bcers.org: The agency's website was recently revamped and now includes a news feature to keep our members informed of the activities within the agency and the economy at large. The new website was designed with our members in mind; boasts of a responsive design, visually appealing and generally user-friendly. The new website is also more streamlined as the documents are better organized and search engine optimized.

Recap of Legislative Mandate: Ordinance 16-488 was signed into law on June 21, 2016. The Ordinance changed the assumed interest rate for the Plan investments for fiscal years beginning 7/1/16 and 7/1/17 from 7.75% (for assets covering active members), and 6.55% (for assets covering the liabilities of retired members) to 7.50% (pre-retirement) and 6.50% (post-retirement). In fiscal year beginning on 7/1/18 and thereafter, the assumed interest rate was reduced to 7.00% (pre-retirement) and 6.50% (post-retirement).

"Class C" Member's contributions intended to provide cost savings to the City was introduced by a legislative mandate to start at 1% in fiscal year 2014 and increase by 1% annually until fiscal year 2018; when it was planned to cap at 5%. Due to inconclusive union negotiations, the employee contributions peaked at 4.576% of pay at end of the fiscal year 2018. The contribution rate was subsequently increased to 5% for fiscal year 2019.

Investment Summary

The System's investment objective is to earn or exceed the actuarial assumption rate of 7.0% and to outperform its policy benchmark. The Board of Trustees (Board) who serves as fiduciary is responsible for investment of the System's assets in accordance with the approved asset allocation. Asset allocation for investment of the Plan's assets is comprised of: 22% fixed income, 27% US equity, 20% non-US equity, 3% defensive equity, 2% absolute return (hedge funds), 13% real estate and 13% private equity. The Board is also responsible for: establishing reasonable investment objectives and policy guidelines, selecting investment managers and evaluating performance results to assure adherence to guidelines, and achievement of the System's objectives. The Board has a fiduciary duty to exercise its investment authority prudently and solely in the interest of the System's participants and beneficiaries.

The System posted an overall return of 6.1%, performing slightly below its policy benchmark return of 6.2% and actuarial assumption rate of 7.0% for the fiscal year by 0.1% and 0.9% respectively. ERS' diverse investment strategy, designed to maximize returns for the long-term, is on the right track for achieving its objective. Current investment performance for the three, five and ten year periods are also strong with annualized returns of 8.9%, 6.9% and 9.6% respectively. The Board utilizes external portfolio managers in active and passive strategies for investment of the System's assets. The managers are monitored and evaluated by the Board and the Investment Consultants. Further analysis available in investment section beginning on page 45 of this report.

Actuarial and Funding Results

Government Finance Officers Association (GFOA) recommends that an actuarial experience study be performed at least every five years. The system's board of trustees however, adopted a policy to perform experience study every four years. An experience study is a review of demographic and economic assumptions. The study reviews the last four actuarial valuations, anticipates broader economic changes and proposes adjustments to the actuarial assumptions to be used for future valuations. The system conducted an actuarial study at the end of fiscal year 2018, as a result, some assumptions were changed.

An actuarial valuation report is prepared annually by the Board's Actuary, Cheiron Inc., to apply appropriate assumptions and determine funding requirements. As of June 30, 2019, the System's market value of assets increased from $1.7 billion to $1.8 billion, a 2% increase over the fiscal year 2018 net value of assets. The Total Pension Liability (TPL) at June 30, 2019 was $2.52 billion. Compared with the market value of assets of $1.76 billion, there is a Net Pension Liability (NPL) of $0.76 billion as provided on *page 34*. This represents an increase of $63 million in NPL from fiscal year 2018. Investment gains and contributions contributed to the decrease. The NPL is the Total Pension Liabilities (TPL) less the Plan Fiduciary Net Position (FNP). All data related to GASB 67 is provided in the required supplemental section and in the notes to the basic financial statements.

For funding purposes, the actuarial liability of $2.52 billion, was based on a discount rate assumption of 7.0% for active members and 6.5% for retired members. The actuarial value of assets, which is a smoothed asset value used for funding purposes was $1.8 billion as of June 30, 2019. When compared to the actuarial liability, there was an unfunded actuarial liability of $0.68 billion. The System's actuarial funded ratio, which is the ratio of actuarial assets to actuarial liability, decreased from 74.1% last year to 73.0%.

Normal cost, which is the cost for earning an additional year of pension service, increased from 7.27% to 7.52%. The board's adopted policy of a fixed 20-year amortization period to achieve 100% funding was scheduled through the plan year ending June 30, 2031 but a one-year, one-time extension was adopted as at June 30, 2019. There are now 13 years of amortization periods remaining and 100% funding target is June 30, 2032.

The required employer contribution is determined actuarially, based on the normal cost of accrual of benefits and amortization of the unfunded actuarial liability offset by employee contributions. The recommended net lump sum City contribution increased by $2.3 million from $87,541,882 in fiscal year 2018, to $89,866,171 for fiscal year 2019. The City's contribution is expected to decrease by $2.9 million to $86,953,791 for fiscal year 2020. Overall, this represents an increase as a percentage of payroll from 21.91% to 22.98% in fiscal year 2019 and then a decrease to 21.55% in fiscal year 2020.

Accounting Systems and Internal Control

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

The System's administration assumes full responsibility for establishing and maintaining adequate internal controls and for the financial information contained in this report. Proper internal accounting and control exists to provide reasonable, but not absolute, assurance regarding the security of assets and the fair presentation of the financial statements and supporting schedules. Documented procedures, use of control cycles of work duties and other internal control policies are available for major job functions and operating processes. They are implemented thoughtfully and consistently. Management also understands that executing reasonable assurance of an internal control framework, the cost of control should not exceed the anticipated benefits, and that the reasonable cost benefit framework requires management to make some estimates and/ or justifications.

Other Information

Independent Auditor: The Baltimore City Code requires that the City's Board of Estimates select an independent auditor for the Retirement System, and that the auditor report findings annually to the Board of Estimates and to the Board of Trustees. The Board of Estimates elected to have CliftonLarsonAllen, LLP render an opinion as to the fairness of the System's financial statements. The auditor's report is contained in the Financial Section of this report.

Professional Services: The Board appoints consultants and investment managers, subject to approval by the City's Board of Estimates. These professionals are chosen based on their ability to provide services that are essential to the effective and efficient operation of the System. Trustees are also required to monitor and terminate investment managers as necessary for underperformance, or for other material reasons as determined by the Board. All of the professionals that provide services to the Board are listed on pages 13 and 56 through 57 in the Introductory and Investment Sections of this report.

Awards and Acknowledgements

The Government Finance Officers Association of the United States and Canada (GFOA) awarded ERS a Certificate of Achievement for Excellence in Financial Reporting by for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2018. That was the 36th consecutive year (fiscal years 1983-2018) that the ERS has received this prestigious award. A Certificate of Achievement is valid for a period of one year only. We believe that our current annual financial report meets the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

This annual report was prepared by the System's staff, with contributions from our investment consultants and actuary. It is intended to provide complete and reliable information as a basis for making management decisions, and as a means of determining compliance with legal provisions.

Copies of this report are provided to the City's Elected Officials, Agency Heads and other interested parties. Copies are also filed with the Baltimore City Office of Legislative Reference. Other interested parties may obtain the report through the ERS website located at www.bcers.org.

Finally, my appreciation goes to the Board of Trustees, employees of ERS and advisors for their significant contributions in overseeing the successful management of the System.

Respectfully submitted,

David A. Randall
Executive Director

CITY OF BALTIMORE
BERNARD C. "JACK" YOUNG, Mayor

EMPLOYEE'S RETIREMENT SYSTEM,
ELECTED OFFICIALS' RETIREMENT SYSTEM
and RETIREMENT SAVINGS PLAN
DAVID A. RANDALL, Executive Director
7 E. Redwood Street
11th, 12th and 13th Floors
Baltimore, Maryland 21202

December 31, 2019

To: All Members, Retirees and Beneficiaries of the
City of Baltimore Employees' Retirement System (ERS)

Calendar year 2019 was a good year for the ERS. Investments for fiscal year ending June 30, 2019 returned 6.1%. The market value funded ratio is now 69.8%.

All eligible ERS retirees received their customary annual COLA of 1.5% for members and beneficiaries under age 65 and 2.0% for members and beneficiaries age 65 and older.

The ERS implemented new asset allocation initiatives during this fiscal year to achieve long-term return objectives while reducing risk. We transitioned our global bond portfolio to emerging markets debt. We repositioned the developed markets international equity allocation into emerging markets small-cap equity. We also initiated a low volatility equity search to reduce our overall exposure to U.S. large cap core equity.

There was a change to the Board of Trustees membership for fiscal year 2019. In 2019, we added a new member to the Board of Trustees. Former State Senator Joan Carter Conway brings her substantial legislative and leadership skills to the board. Also, there were two key staff additions to the Board. Mr. David A. Randall was selected to serve as the Executive Director and Ms. Nichelle Lashley was selected to serve as Deputy Director.

Notwithstanding our changes, the primary objectives of the Board remain the same: ensuring timely monthly pensioner payroll; protecting the asset with which we have been entrusted; and growing the assets prudently to reduce the overall City liability.

I would also like to thank the entire Retirement System staff for their faithful commitment to servicing the Board and the Plan participants. Due to staff dedication and Board commitment, ERS will continue to be a preeminent plan in its sector and to sustain the needs of our City pensions.

Sincerely,

Henry J. Raymond
Chair, Board of Trustees

BOARD OF TRUSTEES

Both appointed and elected trustees serve four-year terms. Appointed trustees continue to serve until replaced by the Mayor, or until the expiration of two consecutive full terms. There are no limitations on the number of terms an elected trustee may serve.

LEGAL COUNSEL, GENERAL COUNSEL, ACTUARY, AND INDEPENDENT AUDITOR

LEGAL COUNSEL

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

GENERAL COUNSEL

City of Baltimore
Employees' Retirement System
Ellen Williams, Esq.

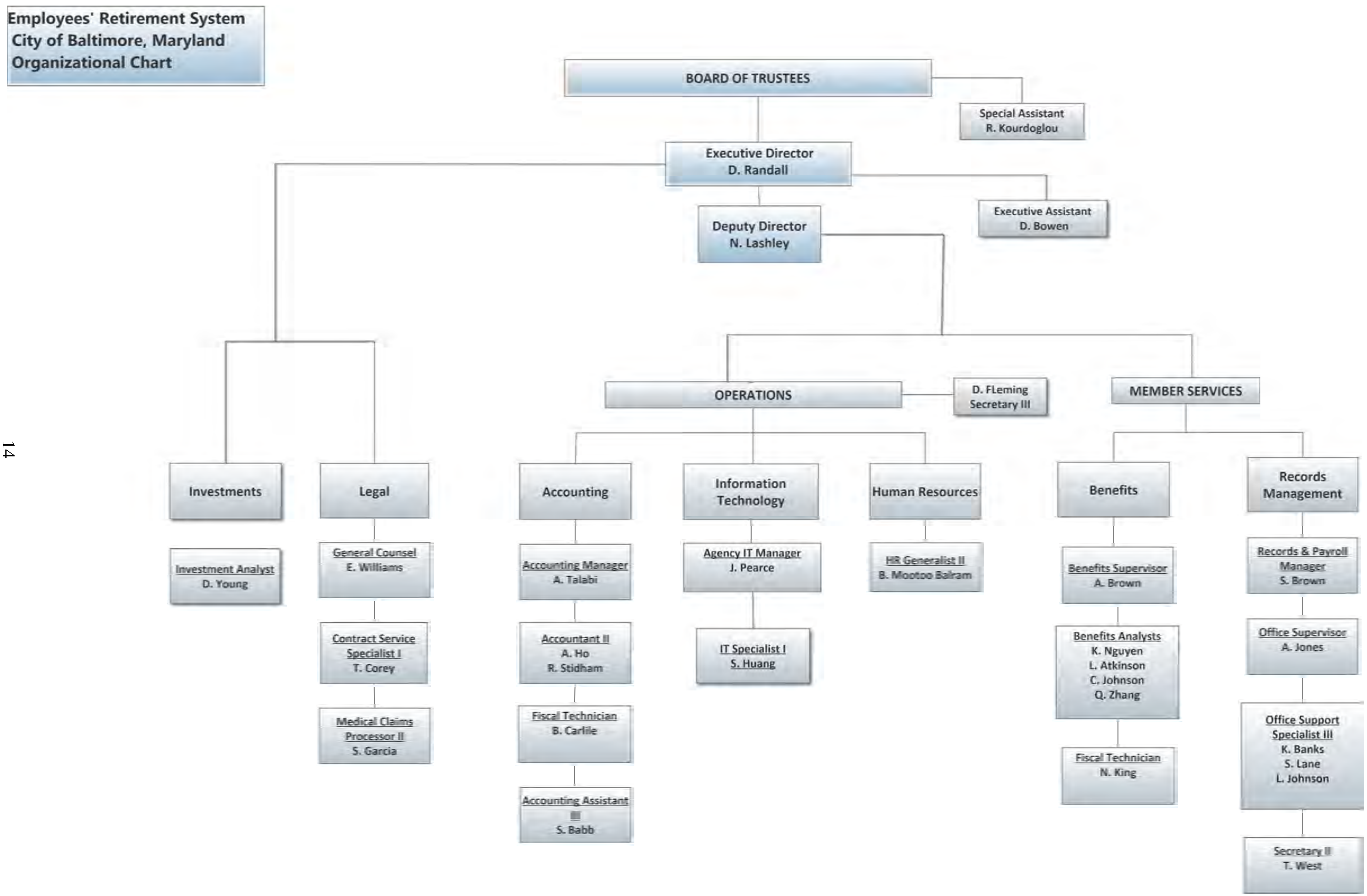
ACTUARY

Cheiron, Inc.
Anu Patel, FSA, MAAA, EA
Matt Deveney, FSA, MAAA, EA
McLean, Virginia

INDEPENDENT AUDITOR

CliftonLarsonAllen, LLP
Jason Ostroski, CPA

See pages 56 to 57 in the Investment Section for a list of investment professionals.



Employees' Retirement System
City of Baltimore, Maryland
Organizational Chart
BOARD OF TRUSTEES
Special Assistant R. Kourdoglou
Executive Director D. Randall
Executive Assistant D. Bowen
Deputy Director N. Lashley
OPERATIONS
D. FLeming Secretary III
MEMBER SERVICES
Investments
Investment Analyst D. Young
Legal
General Counsel E. Williams
Contract Service Specialist I T. Corey
Medical Claims Processor II S. Garcia
Accounting
Accounting Manager A. Talabi
Accountant II A. Ho R. Stidham
Fiscal Technician B. Carlile
Accounting Assistant III S. Babb
Information Technology
Agency IT Manager J. Pearce
IT Specialist I S. Huang
Human Resources
HR Generalist II B. Mootoo Balram
Benefits
Benefits Supervisor A. Brown
Benefits Analysts K. Nguyen L. Atkinson C. Johnson Q. Zhang
Fiscal Technician N. King
Records Management
Records & Payroll Manager S. Brown
Office Supervisor A. Jones
Office Support Specialist III K. Banks S. Lane L. Johnson
Secretary II T. West

FINANCIAL SECTION

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 Employees' Retirement System
Baltimore, Maryland

Report on the Financial Statements

We have audited the accompanying financial statements of the Employees' Retirement System of the City of Baltimore (the System), which comprise the statement of fiduciary net position as of June 30, 2019, 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 fiduciary net position of the System as of June 30, 2019, and the respective changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

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 Employees' Retirement System

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, employer contributions and investment returns 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 and the introductory, investment, actuarial and statistical sections, 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 them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 22, 2019 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 22, 2019

We are pleased to provide this overview of the financial activities of the Employees' Retirement System (ERS) for the fiscal year ended June 30, 2019 and 2018. ERS is the administrator of a cost-sharing multiple employer defined benefit local government retirement plan (the Plan). Readers are encouraged to consider the information presented here in conjunction with additional information furnished in the transmittal letter, which begins on page 7 of this report.

Financial Highlights

- The net position restricted for pensions at the close of the fiscal year 2019 was $1.8 billion. The net position is available to meet the Plan's ongoing obligations to plan participants and their beneficiaries.

- The Plan's total net position restricted for pensions increased by $41.3 million during fiscal year 2019. The increase was due to positive investment returns, as well as contributions from both employer and employees.

- Revenues (Additions to Fiduciary Net Position) for the year were $199.9 million. Revenues include employer contributions of $89.9 million, plan member contributions of $17.2 million, net investment income of $92.3 million, and net securities lending income of $0.5 million.

- Expenses (Deductions from Fiduciary Net Position) were $158.6 million. Expenses include retirement allowances, refund of member contributions, death benefits and lump sum payments of $154.9 million as well as administrative expenses of $3.7 million.

- The time-weighted rate of return for the fiscal year ended June 30, 2019 was 6.1% compared to the fiscal year ended June 30, 2018 return of 8.5%. The 2.4% decrease from 2018 attributed to lower performance of all funds with the exception of fixed income and defensive equity asset classes.

- The Plan's funding objective is to meet long-term benefit obligations through contributions and investment income. As of June 30, 2019, the System's funded ratios are 73.0% and 69.8% based on actuarial and market values of assets, respectively. These funded ratios decreased by 1.1% and 1.3%, respectively, when compared with their June 30, 2018 values. The plan's net position as a percentage of the total pension liability of 69.8% indicates that the Plan has approximately $0.70 of assets to cover every dollar of benefits due.

Overview of Financial Statements

The following discussion and analysis intended to serve as an introduction to the Plan's financial statements and the financial section of this report.

The **Statement of Fiduciary Net Position** presents the Plan's assets and liabilities and the net position restricted for pensions at June 30, 2019. The assets comprise cash and cash equivalents, receivables (mainly from investment activities), investments at fair market value, securities lending collateral and net capital assets; while the liabilities comprise of payables, also mainly from investment activities.

The **Statement of Changes in Fiduciary Net Position**, presents information showing how the Plan's net position changed during the year. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when a formal commitment has been made by the City to provide the contributions. All investment gains and losses are shown at trade date. Both realized and unrealized gains and losses are reported in investments. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

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 statements and the notes are in conformity with the 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, as well as revenues and expenses.

The **Statement of Fiduciary Net Position** and the **Statement of Changes in Fiduciary Net Position** are on pages 22 and 23 of this report.

The **Required Supplementary Information** that follows immediately after the notes to the basic financial statements includes the Schedules of Changes in Net Pension Liability and Related Ratios, Employer Contributions, Investment Returns and Notes to Required Supplementary Information. See the Required Supplementary Information beginning on page 37 of this report. The remaining supplemental schedules provide additional detailed information concerning administrative expenses, investment expenses and payments to consultants. All of this information is considered useful in understanding and evaluating the financial activities of the Plan.

Financial Analysis

Net position may serve over time as a useful indicator of the Plan's financial position. As at June 30, 2019, assets exceeded liabilities by $1.8 billion. The net position is available to meet the Plan's ongoing obligation to Plan participants and their beneficiaries. As of June 30, 2019, total net position increased by 2% from $1.7 billion to $1.8 billion. The increase in total net position when compared with last fiscal year ended June 30, 2018 is mainly from net investment income. Management believes that the Plan remains in a strong financial position to meet its obligations to the members, retirees, and their beneficiaries.

Fiduciary Net Position	Fiscal Year 2019	Fiscal Year 2018	Increase / (Decrease)	Percentage Change
Cash and Receivables	$111,183,719	$187,792,797	($76,609,078)	-41%
Investments	1,724,376,372	1,610,271,251	114,105,121	7%
Securities Lending	74,443,578	118,686,125	(44,242,547)	-37%
Capital Assets	341,632	437,383	(95,751)	-22%
Total assets	1,910,345,301	1,917,187,556	(6,842,255)	-0.4%
Total liabilities	154,749,716	202,934,836	(48,185,120)	-24%
Total net position	1,755,595,585	1,714,252,720	41,342,865	2%

Investment Assets

ERS is a long-term investor and manages the Plan's assets with long-term objectives in mind. A primary element of the Plan's investment philosophy is to employ a diversification of assets as the best possible way to achieve its goals. After conducting an asset-liability study with the Plan's investment consultant, the Board of Trustees established an asset allocation plan taking into account the risk associated with each asset class as well as the financial objectives of the Plan. Investments are stated at fair value rather than at cost and include the recognition of unrealized gains and losses in the current period.

The rate of return on investments for the year ended June 30, 2019 was 6.1%, a decrease of 2.4% compared to the fiscal year 2018 rate of return of 8.5%. The decline in investment return is attributable to equity and real estate portfolios that performed lower than fiscal year 2018. Despite the decline in returns, domestic equity outperformed its benchmark. The annualized rate of return for the last three, five and ten year periods ended June 30, 2019 were 8.9%, 6.9% and 9.6% respectively. The Plan's long-term actuarial investment return assumption was reduced to 7.0% for fiscal year 2019 in line with the City's Ordinance 16-488.

The Investment Section beginning on page 45 gives detailed information on the Plan's Investment Policies. See page 52 of this report for charts showing the asset allocation targets established by the Board of Trustees and the actual asset allocation of System assets at June 30, 2019.

Liabilities

The liabilities are payables incurred by the transaction activity of the investment assets, securities lending, the retirement benefit expenses, and administrative expenses of the Plan.

Changes in Fiduciary Net Position	Fiscal Year 2019	Fiscal Year 2018	Increase / (Decrease)	Percentage Change
Additions				
Net investment income	$92,280,356	$139,091,994	($46,811,638)	-34%
Employer contribution	89,866,171	87,541,882	2,324,289	3%
Employee contribution	17,246,258	12,942,622	4,303,636	33%
Net Securities Lending Income	534,616	420,277	114,339	27%
Total additions	199,927,401	239,996,775	(40,069,374)	-17%
Deductions				
Retirement allowances	152,947,832	148,219,211	4,728,621	3%
Administrative expenses	3,716,362	3,616,054	100,308	3%
Death benefits	988,038	497,011	491,027	99%
Refund of member's contribution	815,394	410,189	405,205	99%
Lump Sum cash payments	116,910	28,088	88,822	316%
Total deductions	158,584,536	152,770,553	5,813,983	4%
Net increases (decreases)	41,342,865	87,226,222	(45,883,357)	-53%

Contributions and Investment Income

Employer contributions increased by $2.3 million (3%) over last year's contributions. The employer's contributions are determined by the actuary and are calculated two fiscal years in advance. Plan member contributions increased by $4.3 million (33%). Net investment income decreased by $46.8 million (34%), primarily due to lower overall market returns as well as the funds exposure to emerging markets and bank loans. Net investment income includes investment expenses as a deduction. Investment expenses were $9.6 million for fiscal year 2019, 12% higher than fiscal year 2018.

Retirement Benefits and Administrative Expenses

The Plan was created to provide lifetime service retirement benefits, survivor benefits and disability benefits to eligible members and their beneficiaries. The cost of such programs include recurring benefit payments, lump sum death benefits, payments to terminated members, and the administrative expenses of the Plan. The primary source of expense during fiscal year 2019 was for the payment of continuing retirement benefits totaling $152.9 million, compared to $148.2 million for fiscal year 2018. Retirement allowances increased $4.7 million due to an increase in the number of benefit recipients as well as the annual cost of living adjustment of 1.5% for participants under age 65 and 2.0% for participants age 65 and over.

Requests for Information

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

David A. Randall
Executive Director,
Employees' Retirement System,
7 E. Redwood Street, 12th Floor,
Baltimore, Maryland 21202.

Employees' Retirement System
City of Baltimore, Maryland
STATEMENT OF FIDUCIARY NET POSITION
June 30, 2019

Assets		
Cash and cash equivalents		$ 54,599,963
Receivables and other assets:		
Investments sold	$ 44,514,038	
Foreign currency contracts	7,867,412	
Accrued income	3,564,721	
Other receivables	637,585	
Total receivables and other assets		56,583,756
Investments:		
Domestic equities	498,585,652	
Domestic fixed income	399,932,089	
International equities	375,203,603	
Real estate	218,183,280	
Private equities	109,150,191	
Defensive equities	77,739,139	
Hedge funds	45,582,418	
Total investments		1,724,376,372
Securities lending collateral		74,443,578
Capital assets	2,501,977	
Accumulated depreciation of capital assets	(2,160,345)	
Net capital assets		341,632
Total assets		1,910,345,301
Liabilities		
Obligations under securities lending	74,443,578	
Investments purchased	69,866,742	
Foreign currency contracts	7,836,075	
Investment management fees payable	1,078,001	
Other accounts payable	795,121	
Administrative expenses payable	730,199	
Total liabilities		154,749,716
Net position restricted for pensions		$ 1,755,595,585

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

Employees' Retirement System
City of Baltimore, Maryland
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
For the Year Ended June 30, 2019

Additions		
Contributions:		
Employers	89,866,171	
Plan members	17,246,258	
Total contributions		107,112,429
Investment income:		
Net appreciation in value of investments	64,633,338	
Interest & dividend income	30,967,859	
Real estate income	3,459,032	
Defensive equity income	2,739,183	
Other Income	69,698	
Private equity income	60,613	
Less: Investment expenses	(9,649,367)	
Net investment income		92,280,356
Securities lending income:	733,012	
Less: Securities lending fees	(198,396)	
Net securities lending income		534,616
Total additions		199,927,401
Deductions		
Retirement allowances	152,947,832	
Adminstrative expenses	3,716,362	
Death benefits	988,038	
Refund of members contributions	815,394	
Lump sum cash payments	116,910	
Total deductions		158,584,536
Net increase		41,342,865
Net position restricted for pensions		
Beginning of year		1,714,252,720
End of year		1,755,595,585

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

1. Plan Description:

The Employees' Retirement System of the City of Baltimore (ERS) is the administrator of a cost-sharing multiple employer defined benefit local government retirement plan (the Plan). Established January 1, 1926, the Plan covers City employees and the Baltimore City Public School System's employees with the exception of those required to join the Maryland State Retirement System, or the two other Baltimore City retirement systems, the Fire and Police Employees' Retirement System and the Elected Officials' Retirement System. Based on criteria established by the Governmental Accounting Standards Board, the ERS is a pension trust of the City of Baltimore and is included in the City's financial report as a Public Employees' Retirement System (PERS).

At June 30, 2019, the ERS membership consisted of:

Membership Status as at June 30, 2019	Class A	Class C	Class D	Total
Active Plan Members	9	6,135	2,060	**8,204**
Retirees and Beneficiaries (currently receiving benefits	410	8,856	1	**9,267**
Terminated Plan members (entitled but not yet reciving benefits)	3	1,021	-	**1,024**
Total	**422**	**16,012**	**2,061**	**18,495**

The Plan provides service retirement benefits as well as death and disability benefits in accordance with the Plan Provisions, Article 22 of the Baltimore City Code. Only the Mayor and City Council may amend the Plan Provisions. The reduction of benefits is precluded by the City Code. The ERS Plan is divided into three Classes: A, C, and D for amendments of membership and benefit changes of the Plan Provisions.

The Class "A" contributory plan consists of all members hired prior to July 1, 1979 who did not elect to transfer to Class C, the non-contributory class at the time it was created. Membership was mandatory on the member's second anniversary of employment. However,the member could voluntarily enroll within the first two years of employment.

The Class "C" Plan consists of all employees hired on or after July 1, 1979 who automatically become members on the first anniversary of employment, and all members hired prior to July 1, 1979 who elected to transfer from the Class "A" contributory class. Effective July 1, 2013, Ordinance 13-144 was enacted by the Mayor and City Council introducing contributions for active ERS non-contributory members and eliminating the post retirement variable benefit increase. The Ordinance provides that effective July 1, 2013 members will contribute 1% of pay, to continue each year at 1% increments provided that 2% compensation is received for each year of contribution until employee contributions reaches 5% of compensation. The ERS defined benefit class "C" Plan was closed to new members on June 30, 2014 to establish the City of Baltimore's Retirement Savings Plan (RSP).

The RSP consists of a 401a contributory non-hybrid and a hybrid contributory defined benefit "D" Plan. The Class "D" Plan consists of all employees hired on or after July 1, 2014. The waiting period of entry for the contributory non-hybrid plan is 180 days. The hybrid contributory defined benefit Plan's waiting period is one year. Employees hired as of July 1, 2014, have 150 days of employment to select between the two Plans. Employees who do not select a Plan after 150 days of employment automatically default into the hybrid contributory defined benefit "D" plan. The mandatory contribution to each of the Plan's is 5%.

All Members in any of the City's Plan have an option to contribute to the City of Baltimore's 457 Deferred Compensation Plan. However, only non-hybrid members get a match of 50% subject to a maximum of 1% on their contributions to the 457 plan.

2. Summary of Significant Accounting Policies:

Basis of Presentation:
For accounting and financial reporting purposes, the Plan conforms with 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 (Public Employee Retirement System). This report includes solely the accounts of the Plan, a pension trust of the City of Baltimore. There are no component units of the Plan 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. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

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, hedge, and risk parity funds, where no readily ascertainable fair value exists, management, in consultation with the general partner and investment advisors, has determined these investments be measured at net asset value per share. The values for these investments are determined by the Plan's proportionate share of the partnership’s most recent available financial information. Foreign exchange contracts are marked-to-fair value daily based on published fair value 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 value of investments. Initial margin requirements for such financial instruments are provided by investment securities pledged as collateral or by cash.

Net investment income consists of realized and unrealized appreciation (depreciation) in the value of investments, 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.

Tax Status:
The System is a tax-exempt governmental plan qualified under Section 401 and exempt under Section 501(a) of the Internal Revenue Code. IRS qualification letters have been received.

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.

3. Contributions:

Article 22 of the Baltimore City Code grants the authority to establish and amend the contributions of the active plan members to the Mayor and City Council of Baltimore.

The contributions required by the Plan provisions for each membership class are as follows:

Membership class	Percentage of compensation
A	4.0%
C	5.0%
D	5.0%

The employer contributions are determined through an actuarial valuation. The valuation method is stipulated in the Plan provisions.

All contributions are transferred to BNY Mellon, the ERS custodian for safekeeping and investment.

4. Post retirement increases:

Post-retirement benefit increases are granted each year to eligible retirees and beneficiaries in pay status for 12 months as at year end. The minimum guaranteed benefit increase is 1.50% for participants in pay status under age 65 and 2.00% for participants in pay status age 65 and over, effective June 22, 2010. Eligible retired members and beneficiaries with a pension entry date on or before June 30, 2018 will receive the minimum guaranteed benefit increase and is payable on January 1, 2020.

5. Cash and Investments:

The Plan's cash deposits are covered up to statutory limits by the federal depository insurance at all times.

The Board of Trustees (the Board) 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 Plan’s investments through external investment advisors who act as fiduciaries for the Plan and through external investment managers. The Board invests the assets of the Plan 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. Investments of the Plan are held under custodial agreement with BNY Mellon Financial Corporation.

ERS Plan investments as of June 30, 2019, are listed below:

Investment type	
Debt Securities:	
Commingled fixed income	$ 251,127,362
Corporate Bonds	80,361,363
U.S. Quasi and Foreign Government	60,549,442
US Treasury	7,893,922
Total Debt Securities	399,932,089
Domestic equities	498,585,652
International equities	375,203,603
Real estate	218,183,280
Private equities	109,150,191
Defensive equities	77,739,139
Hedge funds	45,582,418
Sub-total	1,324,444,283
Total Investments	$ 1,724,376,372

The long-term expected rate of return on pension plan investments was determined using a building block method in which best-estimate ranges of expected future real rates (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rate of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

Assets Class	Asset Allocation	Long-Term Expected Real rate of Return
Domestic Equity	27%	7.5%
Fixed Income	22%	2.6%
International Equity	20%	7.7%
Real Estate	13%	6.6%
Private Equity	13%	10.8%
Defensive Equity	3%	6.7%
Risk Premia	2%	5.4%
	100%	

Rate of Return

For the year ended June 30, 2019, the annual money-weighted rate of return of the Plan was 5.7%. The money-weighted rate of return expresses the Plan's investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of investments. The Plan has selected the duration method to disclose the debt securities exposure to changes in interest rates for all debt securities. The Plan fixed income interest rate policy limits the average duration of the portfolio within one to two years of the Barclay's Capital Bond index benchmark.

Investment Type	*Fair Value*	*Option Adjusted Duration (in years)*
Debt Securities:		
Commingled Fixed Income	$ 251,127,362	8.05
Corporate Bonds	80,361,363	3.00
US Quasi and Foreign Government	60,549,442	2.23
US Treasury	7,893,922	15.19
Total Debt Securities	$ 399,932,089	

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. ERS-rated debt investments as of June 30, 2019, were rated by Standard & Poor's (S&P) and for securities with no S&P rating, the Moody's quality ratings were used.

Investments at Fair Value / Credit Risk by Quality Rating

Investment Type	*AAA-A*	*BBB-B*	*CCC-C*	*Not Rated*	*Total*
Commingled Fixed Income	$ -	$ 182,370	$ -	$ 250,944,992	$ 251,127,362
Corporate Bonds	41,093,981	20,144,883	590,909	18,531,590	80,361,363
US Quasi and Foreign Government	34,157,080	1,920,943	-	24,471,419	60,549,442
US Treasury	7,893,922	-	-	-	7,893,922
Total Debt Securities	$ 83,144,983	$ 22,248,196	$ 590,909	$ 293,948,001	$ 399,932,089

Foreign Currency Exposure Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. At June 30, 2019, the Employees' Retirement System did not hold any hedging foreign investment positions. ERS does not have a formal policy to limit foreign currency risk.

ERS' foreign currency risk as of June 30, 2019 is presented in the following table:

Currency Name	Domestic Fixed Income	International Equity	Real Estate	Total Foreign Currency Exposure
Euro Currency Unit	$ 46,141	$ 75,832,048	$ -	$ 75,878,189
Japanese Yen	8,202	51,767,623	-	51,775,825
Pound Sterling	3,561	40,725,322	-	40,728,883
Canadian Dollar	(217)	22,836,452	19,942	22,856,177
Hong Kong Dollar	-	20,850,152	-	20,850,152
Swiss Franc	-	18,740,663	-	18,740,663
Australian Dollar	-	15,432,308	-	15,432,308
Singapore Dollar	-	11,855,383	-	11,855,383
Swedish Krona	-	11,237,612	-	11,237,612
New Zealand Dollar	-	5,328,344	-	5,328,344
South Korean Won	-	2,570,972	-	2,570,972
New Taiwan Dollar	-	2,204,519	-	2,204,519
South African Rand	-	1,912,646	-	1,912,646
Danish Krone	-	1,832,919	-	1,832,919
Brazil Real	-	1,752,167	-	1,752,167
Norwegian Krone	-	1,494,092	-	1,494,092
Indonesian Rupiah	-	839,459	-	839,459
Thailand Baht	-	796,807	-	796,807
Israeli Shekel	-	796,796	-	796,796
Mexican Peso	(3,451)	547,240	-	543,789
Polish Zloty	-	436,497	-	436,497
Russian Ruble (New)	-	126,865	-	126,865
UAE Dirham	-	47,366	-	47,366
Turkish Lira	-	23,350	-	23,350
Czech Koruna	-	1,090	-	1,090
Colombian Peso	112	-	-	112
Chinese Yuan Renminbi	-	(888,778)	-	(888,778)
Total Foreign Currency Exposure	$ 54,348	$ 289,099,914	$ 19,942	$ 289,174,204

Fair Value Measurements

The Plan 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 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

Level 1	Unadjusted quoted prices for identical instruments in active markets.
Level 2	Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.
Level 3	Valuations derived from valuation techniques in which significant inputs are unobservable.

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

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The Plan's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset. The table on page 32 shows the fair value leveling on the investments for the Plan.

Equity securities classified in Level 1 are valued using prices quoted in active markets for those securities. Debt securities classified in Level 1, Level 2 and Level 3 are valued using either a bid evaluation, mid evaluation, last trade or official close. Bid evaluations are an estimated price at which a dealer would pay for a security. Mid evaluations are when a bid and ask evaluation are both present. Last trade is the most recent trade price of a security at market close time. Official close is the closing price as defined by the exchange.

The Employees' Retirement System's invested assets measured at fair value as at June 30, 2019 are presented below:

Investments by fair value level	Base Amount	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	$ 80,361,363	$ -	$ 80,342,103	$ 19,260
U.S. Quasi and Foreign Government	60,549,442	-	60,405,468	143,974
US Treasury	7,893,922	7,893,922	-	-
Total debt securities at fair value level	$ 148,804,727	$ 7,893,922	$ 140,747,571	$ 163,234
Equity securities				
International equities	$ 339,908,108	$ 339,908,108	$ -	$ -
Domestic equities	303,206,223	303,206,223	-	-
Total equity securities at fair value level	$ 643,114,331	$ 643,114,331	$ -	$ -
Total investments by fair value level	$ 791,919,058	$ 651,008,253	$ 140,747,571	$ 163,234
Investments measured at the net asset value (NAV)				
Commingled fixed income	$ 251,127,362			
Real estate	218,183,280			
Domestic equities	195,379,429			
Private equity	109,150,191			
Defensive Equity	77,739,139			
Hedge Funds	45,582,418			
International equities	35,295,495			
Total investments measured at the NAV	$ 932,457,314			
Total investments	$ 1,724,376,372			
Investment derivative instruments				
Foreign currency contract receivable	$ 7,867,412	$ 7,867,412	$ -	$ -
Foreign currency contract payable	(7,836,075)	(7,836,075)	-	-
Total investment derivative instruments	$ 31,337	$ 31,337	$ -	$ -

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

Investment Measured at the NAV	Market Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Commingled fixed income	$ 251,127,362	$ -	Daily, weekly & monthly	0 - 30 days
Real estate	218,183,280	-	Quarterly	90-100 days
Domestic equities	195,379,429	-	Daily, weekly & monthly	0 - 30 days
Private equity	109,150,191	144,900,000	Not eligible	N/A
Defensive Equity	77,739,139	-	Quarterly	90-100 days
Hedge Funds	45,582,418	-	Quarterly	90-100 days
International equities	35,295,495	-	Daily, weekly & monthly	0 - 30 days
Total investments measured at the NAV	$ 932,457,314	$ 144,900,000		

(1) Commingled fixed income includes three funds. The first investment is in high quality corporate bond securities with long durations in line with the profile of invested funds; a fundamentals-based, quantitative credit modeling process is used to screen out riskier securities and determine credit quality. The second investment is in a fund whose philosophy is to participate in the upside while seeking to mitigate downside risk through a selective approach focused on the larger issuers. The last fund was added in fiscal year 2019 and it targets a 150bp alpha above the EMBI Global Diversified over a market cycle.

(2)The System's real estate investments are in core, partnerships and closed-end commingled funds . The partnerships consist of non-core, value added and opportunistic strategies; which are often illiquid and redemptions are restricted. The core funds are liquid and the redemption frequency is quarterly with a 90-100 days notice period. The closed-end commingled fund seeks to invest in a mix of core, value-add and opportunistic assets.

(3) Domestic equity investments include actively managed and commingled funds. The active accounts invest in stocks of small, mid and large capitalizations seeking to outperform the S&P 500 index while maintaining a similar level of market risk over the long term. The commingled funds invest in high growth and index funds.

(4)The System's private equity investments are in managers that are invested in diversified, venture capital, distressed debt, buyouts, international and special situations strategies. These investments are considered illiquid as redemptions are restricted over the life of the investment.

(5) The defensive equity investment is in a fund that seeks long-term growth of capital. The fund employs a strategy of writing collateralized put options on the S&P 500 Index. The collateral generally consists of short duration, high quality fixed income positions with a focus on U.S. Treasuries

(6) The hedge funds investment is in a fund that seeks to deliver stable returns uncorrelated to traditional asset classes in a liquid and cost efficient structure. It also seeks to offer exposure to multiple alternative risk premia by investing long/short across asset classes in developed markets.

(7) International equity investments are in actively managed funds. About half of the investments are in securities where rigorous dividend discount analysis is used to identify value in terms of long term flow of income. The other half of the investments are in funds which employs strategy that seeks to outperform the MSCI World index (half-hedged) while maintaining a similar level of market risk over the long term.

6. Securities Lending:

The Plan's Securities Lending Authorization Agreement with BNY Mellon Bank (the Custodian) was reviewed during fiscal year 2018. Cash collateral received by the custodian is held and maintained in a separately managed cash collateral account. The cash collateral account is operated on a cost basis and the Plan assumes responsibility for the risk of loss arising from the difference between the cost and market value of securities in the collateral account.

Approved Investments:

- Obligations of the U.S. treasury as well as agencies and instrumentalities and establishments of the U.S. Government.
- Repurchase transactions (including tri-party repurchase transactions). Collateralized at 102% or greater at the time of purchase and marked to market on each business day.
- Obligations issued by the central government of any OECD country and any of their respective agencies, instrumentalities or establishments.
- Obligations issued by supranational organizations.
- Commercial paper, notes, bonds and other debt obligations, whether or not registered under the Securities Act of 1933, as amended.
- Certificates of deposit, time deposits and other bank obligations.
- Asset-backed securities, including asset-backed commercial paper.
- Shares of money market funds registered with the Securities and Exchange Act of 1940, including affiliated funds of the Bank.
- Units of unregistered, collective investment vehicles sponsored or advised by the lending agent or an affiliate of the lending agent.

All approved investments may have fixed or floating interest rate provisions. Floating rate notes will reset no less frequently than quarterly. Cash collateral may be deposited at a central bank at the prevailing overnight interest rate (which may be negative or zero).

Credit Quality: The new guidelines as of 2018 provide that repurchase transaction counterparties must have executed a written agreement with custodian and will be limited to those counterparties on the custodian's approved repo counterparty list. Obligations of supranational organizations should be rated minimum AAA by at least one NRSRO. Asset-Backed securities must be rated AAA by at least one NRSRO, if rated by more than one NRSRO the rating must AAA, Aaa, or AAA by two. Short-term ratings must be A-1, P-1, or F1 or equivalent by an NRSRO or two of these ratings if rated by more than one NRSRO.

All other obligations must have short-term ratings of A-1, P-1, or F1 or equivalent by an NRSRO or two of these ratings if rated by more than one NRSRO and long-term ratings of A, A2, or A or equivalent by an NRSRO or two of these ratings if rated by more than one NRSRO.
U.S Government Securities do not require a rating by NRSRO and registered money market funds must be rated in the highest category available.

Concentration guidelines: Concentration of any approved investment in the cash collateral account does not exceed 5% per issuer with the exception of U.S Government securities, repurchase agreements, shares of money market funds and collective investment vehicles.

Maturity: Investments have a maximum final maturity of 397 days except U.S Government securities that have maturity not to exceed 762 days. The weighted average of investments in cash collateral account for shorter maturities does not exceed 60 days while longer maturity does not exceed 120 days.

Liquidity: All approved investments are deemed to be liquid at the time of purchase with the exception of time deposits and repurchase agreements with maturity greater than 7 days, which are deemed illiquid. Illiquid approved investments does not exceed 5% of the total amount of approved investments in the cash collateral account.

The following table presents the fair values of the underlying loaned securities, and the fair value of collateral pledged at June 30, 2019.

Securities Lent	Fair Value of Loaned Securities	Collateral Fair value	Collateral Percentage %
Lent for cash collateral:			
Domestic Equity	$ 58,684,901	$ 60,054,287	102
International Equity	8,798,891	9,939,281	105
Corporate Bonds	2,875,159	2,952,010	103
U.S. Notes and Bonds	1,457,494	1,488,000	102
Total Cash Collateral	71,816,445	74,433,578	
Lent for non cash collateral:			
Equity	15,361,263	15,686,641	102
International Equity	4,103,695	4,473,809	109
U.S. Notes and Bonds	495,898	507,657	102
Total non cash collateral	19,960,856	20,668,107	
Total Securities on Loan	$ 91,777,301	$ 95,101,685	

7. Derivatives Instruments:

A derivative is a unique and often complex financial arrangement entered with another party, typically a private-sector financial firm. The value or cash flows of a derivative are determined by how the fair value prices of the hedged item change. The System has classified the following as hedging investment instruments.

The System enters into forward currency contracts to manage exposure to fluctuations in foreign currency exchange rates on portfolio holdings. The System also enters into forward exchange contracts to settle future obligations. A forward exchange contract is a commitment to purchase or sell a foreign currency at a future date at a negotiated forward rate. A contract is classified as forward contract when the settlement date is more than two days after the contract date. Risk associated with such contracts includes movement in the value of a foreign currency relative to the U.S. dollar. The contracts are valued at forward exchange rates and include net appreciation/depreciation in the statement of plan position. Realized gain or loss on forward currency contracts is the difference between the original contract and the closing value of such contract and is included in the statement of changes in fiduciary net position.

The table below summarizes the fair value of foreign currency contracts as of June 30, 2019:

Currency	Receivable at Cost	Receivable at Fair Value	Payable at Cost	Payable at Fair Value	Net Unrealized Gain/(Loss)
Canadian Dollar	2,801	2,801	(2,801)	(2,814)	(13)
Chinese Yuan Renminbi	880,671	880,671	(880,671)	(888,778)	(8,107)
Euro Currency Unit	2,752,868	2,765,250	(2,752,868)	(2,773,959)	(8,709)
Hong Kong Dollar	74,060	74,060	(74,060)	(74,091)	(31)
Japanese Yen	27,923	27,923	(27,923)	(27,963)	(40)
Pound Sterling	1,901	1,901	(1,901)	(1,906)	(5)
U.S. Dollar	4,066,564	4,114,806	(4,066,564)	(4,066,564)	48,242
Grand Total	7,806,788	7,867,412	(7,806,788)	(7,836,075)	31,337

8. Net Pension Liability:

The following schedules include the Net Pension Liability (NPL) as of June 30, 2019, and the sensitivity of the NPL to the discount rate.

The components of the net pension liability of the Plan at June 30, 2019 were as follows:

Total Pension Liability	$ 2,515,137,395
Less: Plan Fiduciary Net Position	1,755,595,585
Net pension Liability	$ 759,541,810
Plan fiduciary net position as a percentage of total pension liability	69.8%

The discount rates used to measure the total pension liability were 7.0% and 6.50%, for active and retired members, respectively. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the contribution rate and that Employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The sensitivity of the pension liability schedule presents the net pension liability of the Plan calculated using the discount rate 7.0% for active participants and 6.5% for retired participants as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.0 percent) or 1-percentage-point higher (8.0 percent) than these current discount rates.

Sensitivity of the pension liability to changes in the discount rate.

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate - Active Participants	6.0%	7.0%	8.0%
Discount Rate - Retired Participants	5.5%	6.5%	7.5%
Plan's Net Pension Liability	$1,038,979,600	$759,541,810	$522,948,082
Plan fiduciary net position as a percentage of total pension liability	62.8%	69.8%	77.0%

The actuarial methods and assumptions presented below are determined as part of the actuarial valuation dated June 30, 2019. The information presented below is in the required supplementary schedules of this report starting on page 37.

Actuarial funding method:	Entry Age Normal Method.	
Actuarial assumptions date:	Effective 7/1/1989, Revised 6/30/2019	
Interest	7.00%	Pre-Retirement
	6.5%	Post-Retirement
Investment return:	7.00%	Actives
	6.50%	Retirees
	6.72%	Weighted
Projected salary increases:	Inflation rate approximately 2.55%.	
Cost-of-living adjustments:	1.5% for participants in pay status under age 65 and 2.0% for participants in pay status age 65 and over.	

Pre-Retirement Mortality:

1. Non-line-of-Duty - Pub-2010 Total General Employee Below-Median mortality tables adjusted by 125% for males and 185% for females with future mortality improvement through 2022 using scale MP-2018.
2. Line-of-Duty - 0.005% at all ages (effective 6/30/1999).

Post-Retirement Mortality:

1. Retirees and Beneficiaries – Pub-2010 General Retiree Below-Median Weighted mortality tables adjusted by 115% for males and 125% for females with future mortality improvement through 2022 using SOA's Scale MP-2018.
2. Disabled members - Pub-2010 General Disabled Annuitant mortality tables adjusted by 163% for males and 145% for females with future mortality improvement through 2022 using SOA's Scale MP-2018.

The last actuarial experience study covered the period 7/1/2014 through 6/30/2018. Generally, an experience study is conducted every four years, unless requested by the ERS Board of Trustees.

9. Capital Assets:

The capital assets purchased as of the fiscal year ending June 30, 2018 consist of leasehold improvements, office equipment and office furniture. All capital assets are recorded at cost less accumulated depreciation.

Capital Assets	July 1, 2018 Balance	Capital Acquisitions	Capital Dispositions	June 30, 2019 Balance
Leasehold Improvements	$ 1,660,538	$ 3,914	$ -	$ 1,664,452
Office Furniture	411,360	12,571	-	423,931
Office Equipment	385,987	18,019	-	404,006
Computer & Computer Equipment	9,588	-	-	9,588
Totals	$ 2,467,473	$ 34,504	$ -	$ 2,501,977

Accumulated Depreciation	July 1, 2018 Balance	Increases	Decreases	June 30, 2019 Balance
Leasehold Improvements	$ 1,277,532	$ 110,964	$ -	$ 1,388,496
Office Furniture	368,232	11,848	-	380,080
Office Equipment	382,408	5,525	-	387,933
Computer & Computer Equipment	1,918	1,918	-	3,836
Totals	$ 2,030,090	$ 130,255	-	$ 2,160,345

Net Capital Assets	$ 437,383	$ (95,751)	$ -	$ 341,632

REQUIRED SUPPLEMENTARY INFORMATION AND SUPPORTING SCHEDULES

Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
For the year Ended June 30

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost (MOY)	$ 26,666,815	$ 28,939,927	$ 25,736,202	$ 25,507,759	$ 26,107,551	$ 26,483,854
Interest (includes interest on service cost)	163,000,392	159,875,336	157,784,730	155,822,464	152,621,503	148,861,690
Changes of benefit terms	-	-	-	-	-	(1,001,048)
Difference between expected and actual experience	4,243,214	11,347,778	(6,869,329)	11,578,209	2,052,377	13,956,452
Changes of assumptions	65,481,090	-	-	20,850,001	(3,828,646)	-
Benefit payments, including refund of members contributions	(154,868,174)	(149,154,499)	(144,608,910)	(139,197,716)	(134,270,657)	(129,973,970)
Net change in pension liability	104,523,337	51,008,542	32,042,693	74,560,717	42,682,128	58,326,978
Total pension liability - beginning	**2,410,614,058**	**2,359,605,516**	**2,327,562,823**	**2,253,002,106**	**2,210,319,978**	**2,151,993,000**
Total pension liability - ending	**$ 2,515,137,395**	**$ 2,410,614,058**	**$2,359,605,516**	**$2,327,562,823**	**$2,253,002,106**	**$ 2,210,319,978**
Plan fiduciary net position						
Contributions - employer	$ 89,866,171	$ 87,541,882	$ 84,474,451	$ 77,100,573	$ 97,170,796	$ 94,917,886
Contributions - members	17,246,258	12,942,622	10,656,243	10,350,709	6,728,131	3,623,467
Net investment income	92,814,972	139,512,271	163,156,838	40,260,042	66,818,040	209,647,169
Benefit payments, including refund of member contributions	(154,868,174)	(149,154,499)	(144,608,910)	(139,197,716)	(134,270,658)	(129,973,970)
Administrative expense	(3,716,362)	(3,616,054)	(3,584,506)	(3,515,492)	(3,748,434)	(3,711,975)
Net change in plan fiduciary net position	$ 41,342,865	$ 87,226,222	$ 110,094,116	$ (15,001,884)	$ 32,697,875	$ 174,502,577
Plan fiduciary net position - beginning	**1,714,252,720**	**1,627,026,498**	**1,516,932,382**	**1,531,934,266**	**1,499,236,391**	**1,324,733,814**
Plan fiduciary net position - ending	**1,755,595,585**	**1,714,252,720**	**1,627,026,498**	**1,516,932,382**	**1,531,934,266**	**1,499,236,391**
Net pension liability - ending	**$ 759,541,810**	**$ 696,361,338**	**$ 732,579,018**	**$ 810,630,441**	**$ 721,067,840**	**$ 711,083,587**
Plan fiduciary net postion as a percentage of the total pension liability	69.80%	71.10%	68.95%	65.17%	68.00%	67.83%
Covered payroll	$ 419,686,035	$ 403,454,892	$ 391,121,606	$ 399,465,753	$ 408,095,216	$ 401,291,783
Net pension liability as a percentage of covered payroll	180.98%	172.60%	187.30%	202.93%	176.69%	177.20%

Note: This schedules is intended to present information for 10 years. However until a full 10-year trend is compiled, the System will present information for those years for which information is available.

Employees' Retirement System
City of Baltimore, Maryland
Required Supplementary Information
SCHEDULE OF EMPLOYER CONTRIBUTIONS AND INVESTMENT RETURNS
Year ended June 30

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarial determined contribution	$ 89,866,171	$ 87,541,882	$ 84,474,451	$ 75,862,000	$ 90,489,000	$ 91,286,000	$ 88,300,214	$ 77,995,003	$ 62,374,396	$ 48,748,397
Contributions in relations to actuarially determined contribution	89,866,171	87,541,882	84,474,451	77,100,573	97,170,796	94,917,886	88,300,214	77,995,003	62,374,396	48,748,397
Contribution deficiency (excess)	$ -	$ -	$ -	$ (1,238,573)	$ (6,681,796)	$ (3,631,886)	$ -	$ -	$ -	$ -
Covered payroll	$ 419,686,035	$ 403,454,892	$ 391,121,606	$ 399,465,753	$ 408,095,216	$ 401,291,783	$ 392,868,271	$ 390,557,576	$ 392,941,135	$ 401,328,980
Contributions as a percentage of payroll	21.41%	21.70%	21.60%	19.30%	23.81%	23.65%	22.48%	19.97%	15.87%	12.15%

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Annual money-weighted rate of return, net of investment expense	5.7%	8.1%	11.7%	2.7%	4.6%	15.2%	12.8%	-1.7%	19.9%	-11.3%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

1. The total recommended contribution increased by 25.0% from $62,374,396 for fiscal year 2011 to $77,995,003 for fiscal year 2012 as a reflection of the prior years' experience and increased unfunded actuarial liability as of June 30, 2011. This represents a projected increase in a cost as a percent of pay from 15.67% to 19.43%.

2. The total recommended contribution increased by 13.2% from $77,995,003 for fiscal year 2012 to $88,300,214 for fiscal year 2013 as a reflection of the prior years' experience and increased unfunded actuarial liability as of June 30, 2011. The experience study changes increased the recommended contributions by $10,305,211. This represents a projected increase in cost as a percent of pay from 19.43% to 22.47%.

   The newly adopted funding policy of the Board provides for the unfunded actuarial liability to be amortized over a fixed period of 20 years targeting 100% funding by the fiscal year ending 2032.

3. The total recommended contribution increased by 7.5% from $88,300,214 for fiscal year 2013 to $94,917,886 for fiscal year 2014 as a reflection of the prior years' experience and increased unfunded actuarial liability as of June 30, 2012.

   The actuarial funding method was changed from the Projected Unit Cost Method to the Entry Age Normal Method to make funding measures consistent with anticipated accounting measures required under new accounting standards issued by the Governmental Accounting Standard Board (GASB). This change resulted in an increase of the unfunded actuarial liability of $100.2 million.

4. The total recommended contribution increased by 2.4% from $94,917,886 for fiscal year 2014 to $97,170,796 for fiscal year 2015 as a reflection of the prior years' experience and increased unfunded actuarial liability as of June 30, 2013. Fiscal year 2013 contributions were paid in two installments. Interest receivable on the installments will be calculated with the actuarial results.

   Ordinance 13-144 was enacted by the Mayor and City Council introducing contributions for active ERS members and eliminating the post retirement variable benefit increase. The Ordinance provides that effective July 1, 2013 members will contribute 1% of pay, to continue each year at 1% increments provided that 2% compensation is received for each year of contribution until employee contributions reach 5% of compensation.

5. Plan C member contributions were contingent upon increases in pay which were yet to be negotiated at the time the July 1, 2013 valuation was completed and when the City made the contribution for fiscal year 2014, the City contribution was not offset for Plan C member contributions. To account for member contributions and credits to the City funding requirement, the fiscal year 2015 contribution of $97,170,796 previously calculated as of July 1, 2013 valuation was adjusted to account for expected Plan C member contributions of 2% of pay resulting in a net City contribution of 90,489,236. The City contribution is further reduced for payments made in excess of required contribution after adjusting for member contributions actually received. This results in a net recommended City contribution of $86,857,159 for FYE 2015.

6. The actuarial value of assets is offset by the normal cost reserve from plan change, due to the continued recognition of prior year's investment losses; the rate of return is below expectation with an asset rate of return for the year of 6.10%, which is compared to the expected investment return of 7.75% for the prior year. As of June 30, 2016, previous investment losses are partially being recognized and further offset by investment gains, which are being deferred for recognition in the future.

7. The unfunded actuarial liability (Actuarial Liability minus Actuarial Assets) decreased from $670.38 million on June 30, 2016 to $644.11 million on June 30, 2017. This decrease is primarily attributable to contributions toward the unfunded actuarial liability of $70.6 million and the liability gain of $11.3 million offset by the asset loss of $14.2 million (based on actuarial assets) and interests costs of the unfunded. The total recommended

contribution for FYE 2018 was revised from $87,541,882 to $90,743,732 because the expected member contribution rate increase of 1% did not occur since the City did not increase pay by the required 2%. This resulted in a shortfall of contributions of $3.2 million for FYE 2018. The revision represents an increase in cost as a percent of pay from 21.91% to 22.72% for FYE 2018.

8. The unfunded actuarial liability (Actuarial Liability minus Actuarial Assets) decreased from $644.11 million on June 30, 2017 to $625.26 million on June 30, 2018. This decrease is primarily attributable to contributions being paid into the system to pay down the unfunded liability. The total recommended contributions decreased from $89,866,171 for FYE 2019 to $86,953,791 for FYE 2020. This represents a decrease in cost as a percent of payroll from 22.98% to 21.55% for FYE 2020.

9. The unfunded actuarial liability (Actuarial Liability minus Actuarial Assets) increased from $625.26 million on June 30, 2018 to $679.98 million on June 30, 2019. The increase is primarily attributable to changes in actuarial assumptions including the reduction in the pre-commencement Regular Interest Rate. The total recommended contribution increased from $86,953,791 for FYE 2020 to $92,637,053 for FYE 2021. This represents an increase in cost as a percent of payroll from 21.55% to 22.07% for FYE 2021.

10. 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 the contribution rates reported in the schedule:

Valuation Date	June 30, 2017
Timing	Actuarial determined contribution rates are calculated based on the actuarial valuation two years prior to the beginning of the plan year.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal Cost Method
Asset valuation method	Market Value
Amortization method	Level percent of pay closed period with 14 years remaining as of June 30, 2017
Discount rate	7.50% until retirement, 6.5% after retirement.
Investment return	7.50%, which is net of all expenses. While this is the same rate used for funding purposes which includes administrative expenses, for consistency in measurement, we have used the same rate for the expected future asset return.
Social Security Wage Base	3.00%
Inflation	2.65%
Salary increases	Age based salary scale
Mortality	RP 2000 Combined Mortality Table set forward 2 years with projections using 50% of the AA scale projected 15 years for healthy lives. RP 2000 Combined Mortality Table set forward 4 years with projections using 50% of the AA scale projected 15 years for disabled lives.

A complete description of the methods and assumptions used to determine contribution rates for the fiscal year ending June 30, 2019 can be found in June 30, 2017 actuarial valuation report.

Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF ADMINISTRATIVE EXPENSES
For the Year Ended June 30, 2019

Salaries and wages:		
Permanent full-time salaries	$ 1,751,054	
Overtime & Contracts	26,197	
Total salaries and wages		$ 1,777,251
Other personnel costs:		
Social security	382,213	
Medical insurance and health care	254,143	
Other employee benefits	16,865	
Total other personnel costs		653,221
Contractual services:		
Retirement payroll processing	325,342	
Office lease payments	266,653	
Actuarial services	127,961	
Computer network services and supplies	166,325	
Professional services	64,289	
Audit Fees	39,600	
Telephone systems	25,086	
Postage	23,975	
Business machines rental	22,666	
Printing	18,044	
Total contractual services		1,079,941
Others:		
Depreciation expense	130,255	
Maintenance and repairs	23,047	
Trustee Education and meetings	22,424	
Miscellaneous	19,019	
Office Supplies	11,204	
		205,949
Total administrative expenses		$ 3,716,362

Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF INVESTMENT EXPENSES
SCHEDULE OF PAYMENTS TO CONSULTANTS
For the Year Ended June 30, 2019

Schedule of Investment Expenses

Investment expenses:		**Fees**
Investment management fees	$	9,148,487
Investment consultant fees		394,357
Custodial fees		106,523
Subtotal		9,649,367
Securities lending fees		198,396
Total investment expenses	**$**	**9,847,763**

Schedule of Payments to Consultants

Firm		**Fees**	**Nature of Service**
Cheiron, Inc.	$	127,961	Actuarial Services
Pension Technology, Inc.		125,920	Benefits Adminstration System
W&K Systems Inc.		101,660	Computer Network Services
CliftonLarsonAllen, LLP		39,600	Financial Audit
DocPoint Solutions		4,701	Document management
RSM US Product Sales		3,224	Accounting System Maintenance
Total of payments to consultants	**$**	**403,066**	

Note: A schedule of fees and commissions is also illustrated in the Investment Section on page 55.

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INVESTMENT SECTION

INVESTMENT CONSULTANT'S REPORT

Introduction

This report, prepared for the City of Baltimore Employees' Retirement System (ERS) by Marquette Associates, Inc. is based on information supplied by the System's custodian, Mellon Bank, N.A (Mellon). Mellon provides Marquette Associates, Inc. with beginning and ending market values, cash flows, transactions, and positions for the ERS as well as each manager, where applicable. Mellon audits the information contained in its accounting reports monthly. The rates of return are calculated using a time-weighted rate of return methodology based upon market values. The returns are reported on both net of fees and gross of fees to provide comparisons with the appropriate benchmarks. Investment information is reported to the greatest degree possible in conformance with the presentation standards of Global Performance Investment Standards (GIPS) formerly known as AIMR.

Distinction of Responsibilities

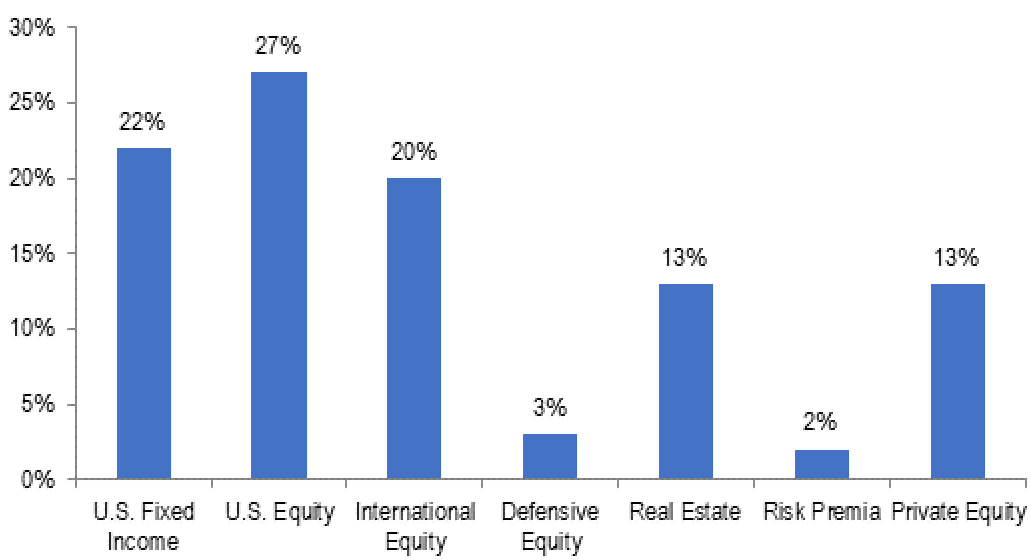
In recognition of the importance of prudent investment of System assets to both the City and the System's members, the Board, as primary fiduciary of the System, shall periodically review the asset management and actuarial characteristics of the System to ensure that investments are managed in a manner that is consistent with the retirement objectives of the System's members. These responsibilities are detailed in the Investment Guidelines.

The primary investment objectives of the System are to preserve the capital value of the System assets adjusted for inflation, to ensure adequate liquidity to meet benefit liabilities as they fall due, to meet the actuarial interest rate assumptions, and without unduly jeopardizing the above objectives, to exceed the investment return objective by the astute management of System assets.

The investment managers appointed to execute the policy will invest ERS assets in accordance with the policy guidelines and with their judgment concerning relative investment values. In particular, the investment managers are accorded full discretion to: (1) select individual securities, (2) make periodic strategic adjustments to the mix of the common stock and fixed income securities, where applicable and (3) diversify their portfolios.

Investment Asset Allocation Structure

The goal of the asset allocation structure is to provide a favorable rate of return coupled with a prudent level of risk. The System implemented new asset allocation initiatives during the year to achieve long term return objectives while reducing risk. Over the past fiscal year, the System implemented strategies within the fixed income, public and private equity, and real estate programs. In an effort to increase exposure risk reducing strategies, a risk premia portfolio was also implemented. The following table outlines the ERS's investment policy targets:



Prepared by Marquette Associates, Inc.

Investment Objective

The investment return is evaluated against a policy benchmark consisting a pro rata representation of the asset allocation utilizing indices outlined in the Investment Policy. In addition, the ERS's performance is evaluated relative to the Investment Metrics Public Fund Universe, a universe representing the performance of 249 Public Funds. Marquette utilizes the InvestorForce Performance Reporting network, an advanced and comprehensive analysis and performance management platform, comprised of over 40 different investment consulting firms located throughout the United States.

Market Overview

The overall markets experienced increased volatility over the past fiscal year but strong economic growth and a healthy job market resulted in gains for both fixed income and equities. The stock market, as proxied by the Russell 3000 Index, posted a return of 9.0%. A more risk averse market resulted in large-cap outpacing small-cap across both domestic and international markets. As bond yields fell at the end of the fiscal year, the bond market posted a strong gain of 7.9%. Real estate performed in line with expectations with a solid return of 6.5% mostly generated from income. Private equity posted returns above public markets also meeting long term return expectations.

Investment Performance

For the fiscal year ending June 30, 2019, the System posted an 6.1% return which performed in line with the policy benchmark of 6.2% and ranked in the 56th percentile. The overall allocation to core investment grade fixed income positively impacted returns as bond yields fell and high quality securities experienced solid price appreciation. The domestic equity portfolio benefited from outperformance of the investment managers in mid-cap growth and large-cap value equity. Within international equity, an allocation to emerging markets detracted from returns. The real estate portfolio posted strong results due to portfolio activity within the industrial sector as well as greater exposure to high quality retail properties. The private equity portfolio also produced strong results compared to the benchmark through several of the direct private equity exposures.

The market value of the ERS assets increased from the prior year to finish at $1,758.2 billion. The Total Fund market value for this report included both capital appreciation and cash flow activity. At the end of fiscal year 2019, the System's assets were allocated as follows:

	Fair Value (in millions)	Percent of Total	Fiscal Year Rate of Return ERS	Fiscal Year Rate of Return Benchmark
U.S. Equity	$507.3	28.9%	9.7%	9.0%
International Equity	$386.9	22.0%	-0.7%	1.8%
U.S. Fixed Income	$389.1	22.1%	7.0%	7.9%
Real Estate	$218.9	12.4%	7.6%	6.5%
Defensive Equity	$77.7	4.4%	4.6%	0.1%
Private Equity*	$109.4	6.2%	14.1%	10.3%
Risk Premia	$45.6	2.6%	2.1%	7.4%
Cash Equivalents	$23.3	1.3%	---	---
Total Fund	$1,758.2	100.0%	6.1%	6.2%

*Private Equity returns are one year through March 31, 2019.

Nichole Roman-Bhatty

Nichole Roman-Bhatty
Managing Partner
Marquette Associates, Inc.

Prepared by Marquette Associates, Inc.

Employees' Retirement System
City of Baltimore, Maryland
OUTLINE OF INVESTMENT OBJECTIVES AND POLICIES

Investment Objectives

The primary investment objectives of the Employees' Retirement System (the Plan) 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 following investment objectives are given in descending order of priority:

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

General Investment Policy

The Employees' Retirement System 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. The Plan's investment managers are expected to familiarize themselves with these laws.

Investment policy for the Plan relates to the portfolio of all assets that comprise the total holdings of the Plan. The Board of Trustees (Board) recognizes that the objective of a sound and prudent policy is to produce investment results that will preserve the assets of the Plan, as well as, to maximize earnings of the Plan 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 Plan and its projected benefit payments. Should the projected finances of the Plan change significantly, the applicable Federal or State statutes be amended, or changes in the Plan'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.

In general, the Board recognizes that large pools of assets must be diversified over several different security classifications in order to reduce risk. The following asset allocation has been established as an overall objective for the total holdings of the Plan:

Asset Category	Target Allocation
Domestic equity	27%
Fixed Income	22%
International equity	20%
Private Equity	13%
Real Estate	13%
Defensive equity	3%
Hedge Funds	2%

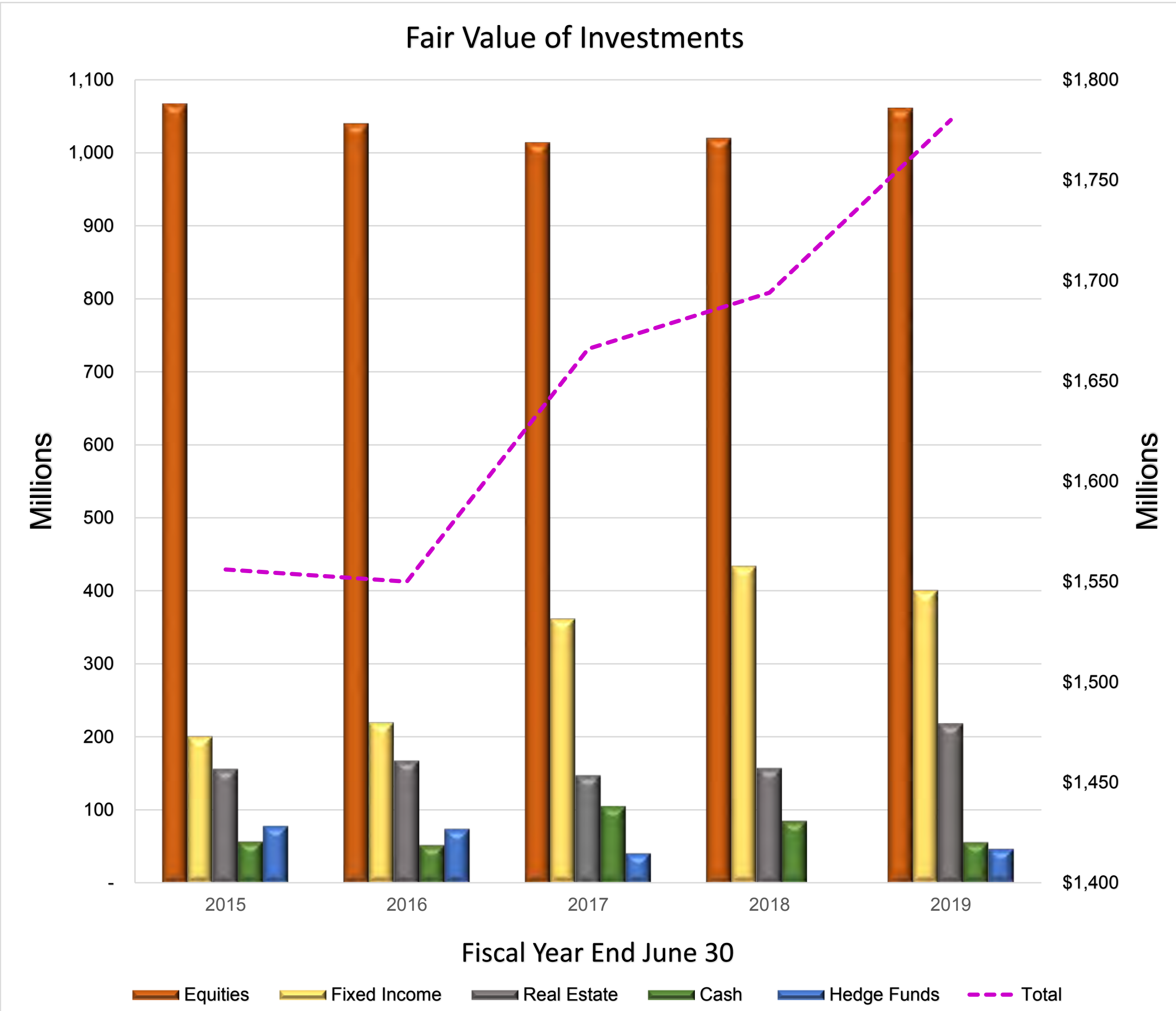
Within each major security classification, investments should be diversified and excessive concentration in any particular security, company or industry is to be avoided. Detailed guidelines in this regard have been supplied to each of the Plan's investment managers. Additionally, each is expected to be familiar with the investment provisions in Article 22 of the Baltimore City Code. Subject to these objectives and guidelines, and the Plan laws referenced herein, the investment managers shall have full discretion of investment decisions. Managers are advised to notify the Board in writing if these objectives cannot be met or if the guidelines constrict performance, and are encouraged to suggest changes in these guidelines at any time.

Proxy Voting

Pursuant to a U.S. Department of Labor directive, the Board of Trustees 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 Plan 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.

PORTFOLIO COMPOSITION



(amounts expressed in millions)

	2015		2016		2017		2018		2019	
Equities	$ 1,067	69%	$ 1,040	67%	$ 1,014	61%	$ 1,020	60%	$ 1,061	60%
Fixed Income	200	13%	219	14%	361	22%	433	26%	400	22%
Real Estate	156	10%	167	11%	147	9%	157	9%	218	12%
Cash	56	3%	51	3%	104	6%	84	5%	55	3%
Hedge Funds	77	5%	73	5%	40	2%	0	0%	46	3%
Total	$ 1,556	100%	$ 1,550	100%	$ 1,666	100%	$ 1,694	100%	$ 1,780	100%

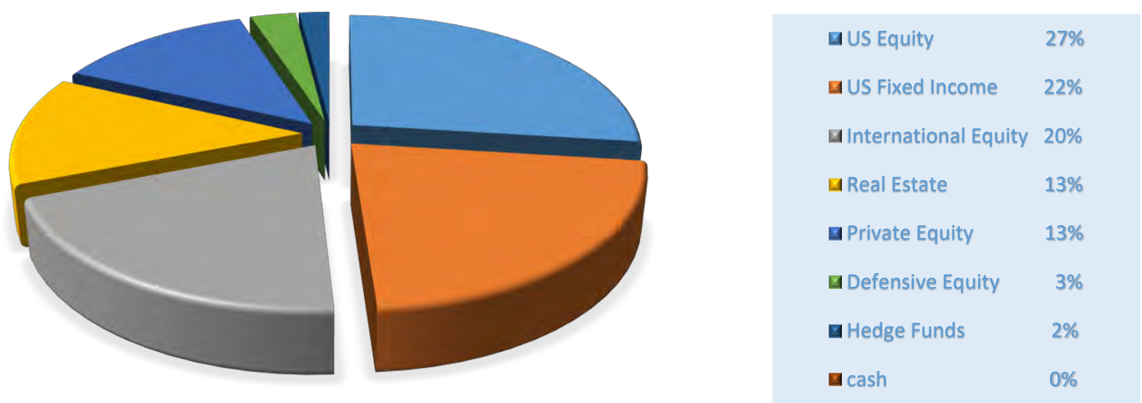
Employees' Retirement System
City of Baltimore, Maryland
INVESTMENT RESULTS
TIME WEIGHTED RATE OF RETURN, CURRENT VALUE BASIS

		Annualized		
	FY 2019	**3 Years**	**5 Years**	**10 Years**
TOTAL PORTFOLIO	6.1 %	8.9 %	6.9 %	9.6 %
Median Public Pension Fund	6.2	8.4	6.4	9.3
Target Rate of Return 7%	7.0	7.0	7.0	7.0
DOMESTIC EQUITIES	9.7	13.8	9.9	14.5
Russell 3000	9.0	14.0	10.2	14.7
DEFENSIVE EQUITIES	4.6	-	-	-
CBOE Put Write Index	0.1	5.9	5.4	8.5
50% S&P 500/50% 91 Day T-Bill	6.7	7.8	5.9	7.6
INTERNATIONAL EQUITIES	(0.7)	9.7	4.2	7.7
MSCI ACWI ex-US	1.8	9.9	2.6	7.0
FIXED INCOME	7.0	3.0	3.3	4.9
Barclays Aggregate	7.9	2.3	2.9	3.9
REAL ESTATE	7.6	8.0	10.6	9.1
NPI	6.5	6.9	8.8	9.2
CPI + 5%	6.7	7.1	6.5	6.8
PRIVATE EQUITY COMPOSITE	14.1	15.0	13.6	12.7
Private Equity Benchmark	7.3	13.8	10.8	12.0
CPI + 6%	7.7	8.2	7.5	7.8
RISK PREMIA COMPOSITE	2.1	-	-	-
T-Bills +5	7.4	6.5	5.9	5.5
FIS FUNDS MANAGEMENT	(1.6)	6.5	4.0	11.0
FIS Benchmark	0.7	8.4	4.3	11.6

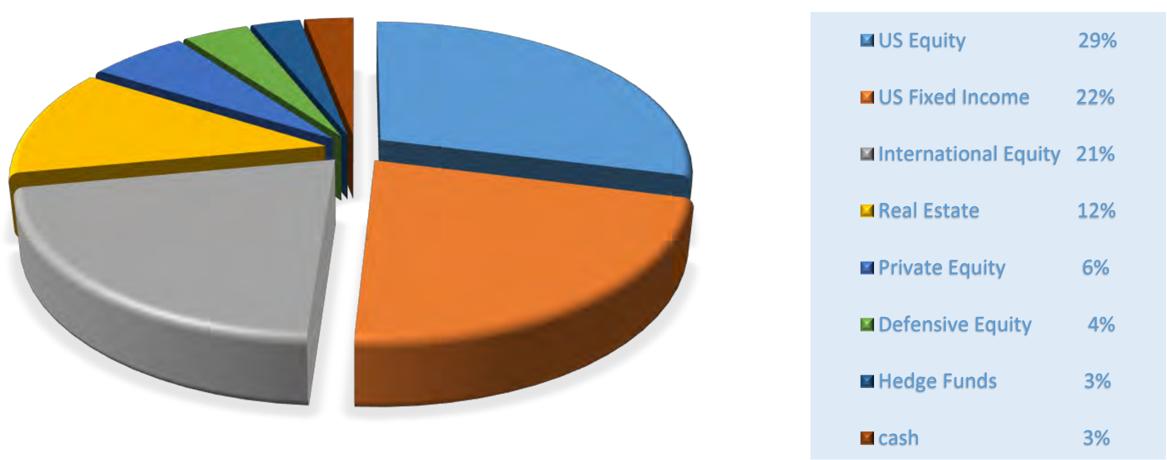
Note: The calculations above were prepared by the Employees' Retirement System's investment advisor, Marquette Associates, Inc. using a time weighted rate of return, based on market rate of return. The performance shown for the Total Portfolio does not include "Other Assets" dedicated to the payment of post-retirement benefit increases. The Median Public Pension Fund exhibits the overall rate of return for the average Public Pension Plan as measured by the Investorforce Public Universe.

Employees' Retirement System
City of Baltimore, Maryland
ASSET ALLOCATION - ACTIVELY MANAGED ACCOUNTS
June 30, 2019

TARGET ASSET ALLOCATION



ACTUAL ASSET ALLOCATION



Employees' Retirement System
City of Baltimore, Maryland
TOP EQUITY AND FIXED INCOME HOLDINGS BY FAIR VALUE
June 30, 2019

		Shares	Fair Value
TOP TEN DOMESTIC EQUITY HOLDINGS			
1	Target Corp	69,500	6,019,395
2	Chevron Corp	42,800	5,326,032
3	Exxon Mobil Corp	67,100	5,141,873
4	Allstate Corp/The	48,800	4,962,472
5	Pfizer Inc	109,408	4,739,555
6	Southern Co/The	71,260	3,939,253
7	Walt Disney Co/The	27,924	3,899,307
8	Verizon Communications Inc	66,900	3,821,997
9	Walgreens Boots Alliance Inc	68,000	3,717,560
10	Walmart Inc	32,500	3,590,925
	Total		45,158,369
TOP TEN INTERNATIONAL EQUITY HOLDINGS			
1	Fielmann AG	42,755	3,106,383.34
2	Nestle SA	28,604	2,964,833.20
3	Deutsche Boerse AG	20,746	2,939,017.77
4	AIA Group Ltd	265,600	2,864,230.40
5	Sats Ltd	692,600	2,672,214.05
6	Nifco Inc/Japan	106,600	2,640,759.27
7	Sap SE	18,925	2,588,940.00
8	Roche Holding AG	9,182	2,586,498.77
9	Mercury Nz Ltd	813,064	2,539,339.13
10	Rubis SCA	44,893	2,531,667.83
	Total		27,433,884
TOP TEN DOMESTIC FIXED INCOME HOLDINGS			
1	Pacific Asset Mgmt Bk Ln Fd Lp	70,326,924	70,326,923.59
2	Commit To Pur FNMA Sf Mtg	6,600,000	6,746,322.00
3	FNMA Pool #0MA3495	4,565,782	4,717,913.49
4	FNMA Pool #0CA1359	3,694,290	3,801,091.84
5	Commit To Pur GNMA II Jumbos	3,400,000	3,541,814.00
6	Federal Home Ln Bk Cons Disc	3,300,000	3,296,817.33
7	Commit To Pur FNMA Sf Mtg	3,020,000	3,087,587.60
8	FNMA Pool #0MA3692	2,400,000	2,456,952.00
9	Commit To Pur FNMA Sf Mtg	2,241,000	2,316,163.14
10	FNMA Pool #0MA3442	1,731,312	1,776,048.79
	Total		102,067,634

A complete list of portfolio holdings is available on request.

Employees' Retirement System
City of Baltimore, Maryland
INVESTMENT SUMMARY
June 30, 2019

	Fair Value	Percentage of Fair Value	Percentage of Total Fair Value
Equities - Corporate Stock			
Financial	$ 133,807,053	12.1%	
Science and Technology	112,504,768	10.2%	
Consumer and Capital Goods	93,108,698	8.4%	
Energy	57,320,162	5.2%	
Industrial and Machinery	47,188,394	4.3%	
Health Care and Pharmateuticals	41,919,844	3.8%	
Engineering & Construction	30,443,505	2.8%	
Commercial Services	29,097,675	2.6%	
Transportation	26,993,103	2.4%	
Telecommunications	24,360,288	2.2%	
Aerospace/Defense	17,773,518	1.6%	
Media and Entertainment	16,908,645	1.5%	
Agriculture	5,216,094	0.5%	
Others	4,911,350	0.4%	
Advertising	1,561,234	0.1%	
Total Equties - Corporate Stocks	643,114,331	58.1%	
Others			
Commingled Domestic Equity	195,379,429	17.7%	
Commingled International Equity	35,295,495	3.2%	
Defensive Equity	77,739,139	7.0%	
Hedge Funds	45,582,418	4.1%	
Private Equity	109,150,191	9.9%	
Total Others	463,146,672	41.9%	
Total equities	**1,106,261,003.0**	100.0%	**64.2%**
Fixed Income:			
U.S. Treasury	7,893,922	2.0%	
US Quasi and Foreign Government	60,549,442	15.1%	
	68,443,364	17.1%	
Corporate:			
Financial	73,214,065	18.3%	
Industrial and Machinery	2,399,062	0.6%	
Consumer and Capital Goods	1,549,669	0.4%	
Health Care and Pharmateuticals	1,143,810	0.3%	
Energy	950,014	0.2%	
Science and Technology	617,424	0.2%	
Telecommunications	487,319	0.1%	
Total corporate	80,361,363	20.1%	
Commingle fixed income fund	251,127,362	62.8%	
Total fixed income	**399,932,089**	**100.0%**	**23.2%**
Other investments:			
Real estate	218,183,280	100.0%	
Total other investments	**218,183,280**	**100.0%**	**12.7%**
Total investments	**$ 1,724,376,372**		**100.0%**

Employees' Retirement System
City of Baltimore, Maryland
SUMMARY SCHEDULE OF FEES AND COMMISSIONS
For the Year Ended June 30, 2019

Investment managers' fees	Assets Under Management	Fees
Domestic Equities	$ 498,585,652	$ 1,890,268
Domestic Fixed Income	399,932,089	1,055,180
International Equities	375,203,604	1,963,547
Real Estate	218,183,280	2,032,630
Private Equities	109,150,190	2,206,863
Defensive Equities	77,739,139	
Total investment managers' fees		**$ 9,148,487**
Other investment service fees:		
Securities Lending Collateral		198,396
Custodial fees		106,523
Investment consultant fees		394,357
Total other investment service fees		**$ 699,276**

Brokerage Fees
Broker's fees on investment transactions for the year ended June 30, 2019 amounted to **$409,101**. The highest 30 paid brokers are listed below.

Brokerage Firms	Amount of Commissions	Number of Shares Traded	Commission per Share	Brokerage Firms	Amount of Commissions	Number of Shares Traded	Commission per Share
NATIONAL FINL SVCS CORP, NEW YORK	$ 39,481	48,213,148	$ 0.0008	BAIRD, ROBERT W & CO INC, MILWAUKEE	$ 5,493	89,097	$ 0.0617
COWEN AND COMPANY, LLC, JERSEY CITY	35,438	1,256,124	0.0282	STIFEL NICOLAUS	5,363	209,620	0.0256
BNY CONVERGEX EXECUTION SOL, NEW YORK	25,949	2,204,944	0.0118	EUROCLEAR BANK SA NV, BRUSSELS	5,278	24,199,000	0.0002
PERCIVAL FINL PARTNERS LTD,LAKE SUCCESS	25,625	849,070	0.0302	GOLDMAN SACHS & CO, NY	5,086	855,070	0.0060
PERSHING LLC, JERSEY CITY	17,200	670,601	0.0257	RAYMOND JAMES & ASSOC INC, ST PETERSBURG	5,028	316,082	0.0159
BNY CAPITAL MARKETS INC, NEW YORK	11,715	390,500	0.0300	RBC CAPITAL MARKETS LLC, NEW YORK	5,016	299,894	0.0167
CREDIT SUISSE, NEW YORK (CSUS)	9,789	697,130	0.0140	KEEFE BRUYETTE + WOODS INC, NEW YORK	4,709	128,103	0.0368
JEFFERIES & CO INC, NEW YORK	8,611	293,028	0.0294	MERRILL LYNCH PIERCE FENNER SMITH INC NY	4,423	258,366	0.0171
INSTINET EUROPE LIMITED, LONDON	8,359	695,963	0.0120	KEYBANC CAPITAL MARKETS INC, NEW YORK	4,310	109,430	0.0394
CREDIT LYONNAIS SECS (ASIA), HONG KONG	6,923	6,913,713	0.0010	UBS EQUITIES, LONDON	4,219	4,801,673	0.0009
CAP INSTL SVCS INC - EQUITIES, NEW YORK	6,505	178,750	0.0364	MERRILL LYNCH INTL LONDON EQUITIES	4,083	1,057,256	0.0039
BNP PARIBAS SEC SRVS SA, SINGAPORE	6,356	663,883	0.0096	MIRAE ASSET SECURITIES, SEOUL	3,957	75,879	0.0522
CREDIT SUISSE (EUROPE), LONDON	6,199	1,619,499	0.0038	YUANTA SECURITIES CO., LTD., TAIPEI	3,757	840,000	0.0045
BROADCORT CAPITAL CORPORATION, NEW YORK	5,879	285,300	0.0206	J P MORGAN SECS LTD, LONDON	3,320	561,997	0.0059
MORGAN STANLEY & CO INC, NY	5,746	378,741	0.0152	ARQAAM CAP S AFRICA LTD, JOHANNESBURG	3,218	916,402	0.0035

Brokerage Commissions
Because of the highly visible nature of the Employees' Retirement System, it is important that the investment managers have as a primary objective in investment transactions to obtain the best execution in all cases. While the investment managers are permitted to direct a portion of 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 first 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.

INVESTMENT PROFESSIONALS

EQUITY MANAGERS

The Edgar Lomax Company
Randall Eley
Springfield, Virginia

Rothschild Asset Mgmt. Inc.
Mirka Luoto
New York, New York

TimesSquare Capital Mgt.LLC
Joseph B. DeVera, Sr.
New York, New York

DEFENSIVE EQUITY MANAGER

Neuberger Berman
Carter Reynolds
New York, New York

EQUITY FUND OF FUNDS

Group Advisor

FIS Funds Management, Inc.
Shalonda Epps
Philadelphia, Pennsylvania

Ativo Capital Management
Michael Brooks
Chicago, Illinois

Algert Global
Michael Wolpert
San Francisco, California

Aubrey Capital Management
Barry McCorkell
Edinburgh, Scotland

Change Global Investment
Nicole Kelleher
Camas, Washington

Decatur Capital Management
Elizabeth Crenshaw
Decatur, Georgia

Denali Advisors
Mike Munson
San Diego, California

Metis Global Partners
Antoinette Bing
San Diego, California

Redwood Investments
Mike Mufson
Newton, Massachusetts

Osmosis Investment Management
Ben Dear
London, England

INTERNATIONAL EQUITY MANAGERS

Ariel Capital Management
Gary L. Rozier
Chicago, Illinois

Harding Loevner, LP
Alec Walsh, CFA
Bridgewater, New Jersey

Lazard Asset Management, LLC
Eric B. McKee
New York, New York

Mondrian Investment Partners
Laura Conlon
Philadelphia, Pennsylvania

HEDGE FUND MANAGERS

Corbin Capital Partners
Craig Bergstrom, CFA
New York, New York

ALTERNATIVE RISK PREMIA

Lombardia Odier
Alkesh Gianchandani
New York, New York

Employees' Retirement System
City of Baltimore, Maryland
INVESTMENT PROFESSIONALS

FIXED INCOME MANAGERS

Manulife Asset Management
Nancy C. Irving
Boston, Massachusetts

Pacific Asset Management
Michael Spitler
Newport Beach, California

PIMCO
Ignatio Galae
New York, New York

Semper Capital Mgt. (UCM Partners) .
Thomas Mandel
New York, New York

REAL ESTATE MANAGERS

American Realty Advisors
Stanley Iezman
Glendale, California

Ares Capital Mgt. (AREA)
Steven M. Wolf
Atlanta, Georgia

Barings
Pamela McKoin
Hartford, Connecticut

Thor Urban
Joseph J. Sitt
New York, New York

PRIVATE EQUITY & VENTURE CAPITAL MANAGERS

Abbott Capital, Inc.
Charles H. VanHorne
New York, New York

Adams Street Partners, LLC
Eric R. Mansell
Chicago, Illinois

Fairview Capital, LP
Laurence C. Morse
West Hartford, Connecticut

I Squared Capital
David Velasquez
New York, New York

Landmark Partners
Francisco L. Borger
Simsbury, Connecticut

RCP Advisors, LLP
William F. Souder
Chicago, Illinois

Summit Partners
James M. Freeland
Boston, Massachusetts

Warburg Pincus
James W. Wilson, CFA
New York, New York

SECURITIES LENDING

BNY Mellon Global Securities Lending
Michael McDermott
Pittsburgh, Pennsylvania

PASSIVE MANAGEMENT

Mellon Capital Management Corp.
Brian Hock
Pittsburgh, Pennsylvania

GLOBAL CUSTODIAN

BNY Mellon Asset Servicing
Sarah Baulch
Pittsburgh, Pennsylvania

INVESTMENT ADVISOR

Marquette Associates, Inc.
Nichole Roman-Bhatty
Chicago, Illinois

Meketa Investment Group
Judy Chambers
New York

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ACTUARIAL SECTION

October 25, 2019

Board of Trustees
Employees' Retirement System
7 East Redwood Street, 12th Floor
Baltimore, Maryland 21202-3470

***Re:* 2019 CAFR**

Honorable Members of the Board of Trustees:

Cheiron Inc. performs an actuarial valuation of the System at the end of each fiscal year. The most recent valuation, as of June 30, 2019, determined the employer's contribution for the plan year beginning June 30, 2020. The contribution is determined for the following year and therefore, it is our understanding the contribution plus interest is historically made during the fiscal year ending 2021.

The Employees' 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.

The funding method used in the annual valuation is the Entry Age Normal Cost method. This method tends to compute level contributions as a percentage of pay over the entire working lifetime of the plan participant. The employer's contribution is increased or decreased to amortize the difference between the actuarial value of assets and the actuarial accrued liability as a level dollar amount over 20 years as of July 1, 2011. The Board of Trustees adopted a one-time change to the amortization period by adding a one-year extension to the period for the June 30, 2019 valuation, targeting 100% funding by the fiscal year ending 2033.

The valuation is based on a closed group of membership; no new hires are assumed. The actuarial value of assets for this disclosure is equal to the market value adjusted for investment performance above or below the assumed rate of return. Such gains or losses are aggregated and recognized at the rate of 20% each year. Membership data used for the actuarial valuation is supplied by the Retirement System. The data is examined by the actuary for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. Asset information is provided on an unaudited basis.

The valuation is based on actuarial assumptions recommended by the Actuary and approved by the Board of Trustees and are subject to formal review every five years. The assumptions and methods used for funding purposes meet the parameters set forth in the disclosures presented in the financial section by Governmental Accounting Standards Board (GASB) Statement No. 67 and the Actuarial Standards of Practice. Some actuarial assumptions are incorporated into Article 22 of the Baltimore City Code. The City Code requires a periodic review of the assumptions by the Actuary. The most recent review examined experience from 2014 to 2018 and resulted in changes that were incorporated in the June 30, 2019 valuation. The current assumptions are a reasonable estimate of the anticipated experience of the System.

www.cheiron.us 1.877.CHEIRON (243.4766)

The assumptions and methods used in determining the assets, liabilities, and the annual required contributions of the employer as defined by the Governmental Accounting Standards Board meet the parameters set by GASB Statement No. 67, *Financial Reporting for Pension Plans.* The supporting schedules that were prepared by Cheiron and reviewed by the System include Actuarial Funding Methods and Actuarial Assumptions, Schedule of Active Member Valuation Data, Schedule of Retirees and Beneficiaries Removed from Rolls, Solvency Test, Analysis of Financial Experience in the Actuarial Section and the Schedule of Employer Contributions and the Schedule of Funding Progress in the Financial Section. The undersigned meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained in this letter and the actuarial report.

These results were prepared solely for the Employees' Retirement System of the City of Baltimore for the purposes described herein, except that the plan auditor may rely on these results solely for the purpose of completing an audit related to the matters herein. Other users of these results are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

The exhibits that make up the actuarial section of this report and its contents, including the methods and assumptions used for funding purposes, when taken in context with our full valuation report as of June 30, 2019, have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. 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.

Sincerely,
Cheiron

Anu Patel

Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary

Matt Deveney, FSA, MAAA, EA
Consulting Actuary

Actuarial Funding Methods and Assumptions

Method of Funding: (Effective 7/1/1989, Revised 6/30/2019)	Liabilities and contributions shown in this report are computed using the Entry Age Normal method of funding. The Plan's normal cost is computed as the level percentage of pay required to fund the retirement benefits between each member's date of hire and assumed retirement. The actuarial accrued liability is the difference between the present value of future benefits and the present value of future normal cost. The current Unfunded Actuarial Liability, which is the difference between the actuarial liability and the actuarial value of assets, is amortized as a level dollar amount over 20 years initially plus a one-year extension approved by the Board for the June 30, 2019 valuation. The 20-year period decreases each year (with the exception of 2019) from 2011 until 2032, at which time the unfunded liability will be fully paid each year.
Asset Valuation: (Effective 6/30/1982, Revised 6/30/2011)	The actuarial value of assets is equal to the market value, adjusted for investment surpluses and deficits over a five-year period. The actuarial value of assets is the market value less cumulative unallocated earnings. Any contribution receivable for the upcoming fiscal year (as determined in the prior year's valuation) is added to the result. The actuarial value of assets will not be greater than 120% nor less than 80% of the market value of assets as of the valuation date.
Post Retirement Benefit Increases: (Effective 6/30/2011)	Annual post-retirement benefit increases are 1.5% for retirees under age 65 and 2.0% for retirees over age 65.

Interest: (Effective 6/30/2019)	7.00% compounded annually until retirement except employee accumulations; 6.50% compounded annually after retirement.
Expenses: (Effective 6/30/2015)	Administrative expenses are expected to be equal to the prior years' actual expenses rounded up to the next hundred thousand dollars and added as part of the annual normal cost for the year. Investment expenses are assumed to be paid out of investment earnings.
Investment Return:	A liability weighted return on assets is expected on the basis that a 7.00% return is achieved on the portion of assets attributable to active and terminated vested participants, and a 6.50% return is assumed for retiree based assets. The weighted expected return this year is 6.72%. The liability weighted return on assets for next year's valuation will be based on the rates listed in the interest rate section above.

Salary Scale:
(Effective 6/30/2019)

Salary increases are assumed to vary with age. Sample rates are as follows:

Age	Annual Rate of Salary Increase
20	0.0620
25	0.0570
30	0.0520
35	0.0460
40	0.0400
45	0.0360
50	0.0340
55	0.0340
60	0.0340
65	0.0340
69	0.0340

The interest rate and salary assumptions are based on an inflation rate of approximately 2.55% (Effective 6/30/2019).

Social Security:
(Effective 6/30/2011)

3.00% per year compounded annually.

Additional Assumptions:

Inflation: (Effective 6/30/2019)	2.55%
Cost of Living Adjustment: (Effective 7/1/2010)	1.50% for current retirees under age 65 and 2.0% for current retirees over age 65
Percent Married: (Effective 7/1/2011)	Males 90%, Females 80%
Spouse Age:	A husband is assumed to be 4 years older than his wife.
Remarriage rates:	None
Job Elimination Benefit:	A liability load of 1.75% is applied to active retirement benefits
Inactive Liabilities:	A liability reduction of 5.00% is applied to inactive benefits to account for the election rate of joint and survivor forms of payments when compared to actual experience (effective 6/30/2019).
New Entrant Assumption:	A liability load of 0.5% is applied to active benefits for future new entrants who may have previous service restored or transferred into the System (effective 6/30/2015)

Active decrements and service retirement rates are the same as presented in the June 30, 2019 actuarial valuation report. (Effective 6/30/2019) Sample rates follow:

Rates of Retirement

AGE	< 30 yos	30 yos	30 + yos
45 -49	0.00	0.00	0.05
50-54	0.00	0.10	0.05
55	0.05	0.10	0.05
56-57	0.05	0.10	0.05
58	0.05	0.10	0.05
59	0.05	0.10	0.07
60	0.05	0.10	0.07
61	0.07	0.15	0.15
62	0.15	0.15	0.25
63	0.10	0.15	0.15
64	0.10	0.15	0.15
65	0.20	0.15	0.25
66	0.25	0.20	0.25
67	0.20	0.20	0.15
68	0.15	0.20	0.15
69	0.20	0.20	0.15
70	1.00	1.00	1.00

Withdrawals

Service	Rate
0	0.1700
1	0.1550
2	0.1450
3	0.1075
4	0.1050
5	0.0900
6	0.0800
7	0.0650
8	0.0650
9	0.0650
10	0.0400
11	0.0400
12	0.0400
13	0.0400
14	0.0400
15+	0.0250

Mortality and Disablity Rates

AGE	Non-Line-of-Duty Disability	Line-of Duty Disability (Classes A&B)	Line-of Duty Disability (Class C)	Non-Line-of-Duty Death * Male	Non-Line-of-Duty Death * Female	Line-of Duty Death*
25	0.00050	0.00004	0.00008	0.000518	0.000226	0.00005
30	0.00060	0.00004	0.00008	0.000674	0.000363	0.00005
35	0.00101	0.00006	0.00013	0.000902	0.000583	0.00005
40	0.00129	0.00002	0.00006	0.001271	0.000908	0.00005
45	0.00283	0.00006	0.00014	0.001832	0.001348	0.00005
50	0.00692	0.00020	0.00040	0.002678	0.001944	0.00005
55	0.00963	0.00022	0.00043	0.003878	0.002850	0.00005
60	0.00947	0.00048	0.00093	0.005721	0.004393	0.00005
65	0.00079	0.00000	0.00000	0.008472	0.007007	0.00005
69	0.00079	0.00000	0.00000	0.011665	0.010285	0.00005

** Rates for individuals who are the age shown as of June 30, 2019*

Mortality Rates for Retired and Disabled Members and Beneficiaries

1. Retirees and Beneficiaries – Pub-2010 General Retiree Below-Median Weighted mortality tables adjusted by 115% for males and 125% for females with future mortality improvement through 2022 using SOA's Scale MP-2018.
2. Disabled Members – Pub-2010 General Disabled Annuitant mortality tables adjusted by 163% for males and 145% for females with future mortality improvement through 2022 using SOA's Scale MP-2018.

	Retirees and Beneficiaries *		Disabled Members	
AGE	Male	Female	Male	Female
55	0.010045	0.005765	0.033406	0.024785
60	0.012233	0.006648	0.040073	0.028299
65	0.014949	0.008659	0.049310	0.032604
70	0.023702	0.014508	0.062827	0.040508
75	0.038893	0.025035	0.082293	0.055942
80	0.065591	0.044199	0.115647	0.084194

** Rates for individuals who are the age shown as of June 30, 2019*

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average	% Increase/ (Decrease) in Average Pay
6/30/2008	9,280	$367,517,242	$39,603	3.3%
6/30/2009	9,719	398,009,475	40,952	3.4
6/30/2010	9,680	401,328,980	41,460	1.2
6/30/2011	9,393	392,941,135	41,833	0.9
6/30/2012	9,107	390,557,576	42,885	2.5
6/30/2013	9,004	392,868,271	43,633	1.7
6/30/2014	8,904	401,291,783	45,069	3.3
6/30/2015	8,673	408,095,216	47,054	4.4
6/30/2016	8,274	399,465,753	48,280	2.6
6/30/2017	8,043	391,121,606	48,629	0.7
6/30/2018	8,013	403,454,892	50,350	3.5
6/30/2019	8,204	419,686,035	51,156	1.6

SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

	Added to Rolls		Removed from Rolls		Rolls - End of Year		% Increase in	Average
Year Ended	No.	Annual Allowances*	No.	Annual Allowances*	No.	Annual Allowances*	Annual Allowances	Annual Allowances
6/30/2008	382	$7,846,827	440	$3,953,061	8,638	$103,487,280	3.9%	$11,980
6/30/2009	478	6,819,538	498	4,385,748	8,618	105,921,070	2.4	12,291
6/30/2010	473	8,065,853	454	4,252,838	8,637	109,734,085	3.6	12,705
6/30/2011	493	9,685,011	437	4,966,673	8,693	114,452,423	4.3	13,166
6/30/2012	497	10,860,356	451	4,339,871	8,739	120,972,909	5.7	13,843
6/30/2013	501	10,216,250	432	5,192,731	8,808	125,996,428	4.2	14,305
6/30/2014	421	10,499,144	336	5,588,634	8,893	130,906,938	3.9	14,720
6/30/2015	393	10,089,809	388	6,224,773	8,898	134,771,974	3.0	15,146
6/30/2016	477	14,965,060	368	5,525,068	9,007	140,346,930	4.1	15,582
6/30/2017	436	10,896,681	299	5,283,016	9,144	145,960,595	4.0	15,962
6/30/2018	417	10,795,452	358	5,807,090	9,203	150,948,957	3.4	16,402
6/30/2019	481	11,869,460	417	7,598,990	9,267	155,219,427	2.8	16,750

* Includes post-retirement adjustments.

SCHEDULE OF FUNDED LIABILITIES BY TYPE

The Employees' 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 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; 3) The liabilities for future benefits to terminated vested members; and, 4) 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), the liabilities for future benefits to present retired lives (liability 2), and the liabilities for future benefits to terminated vested members (liability 3) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 4) will be partially covered by the remainder of present assets. Generally, the funded portion of liability 4 will increase over time.

The schedule below illustrates the System's history of liabilities 1 through 4.

	Aggregate Accrued Liabilities For								
	(1)	(2)	(3)	(4)		Portion of Accrued Liabilities Covered by Report Assets			
Valuation Date	Active Member Contributions	Retirees and Beneficiaries	Terminated Vested Members	Active Members (Employer Financed Portion)	Valuation Assets	(1)	(2)	(3)	(4)
06/30/2008	$4,265,169	$1,023,749,711	$37,096,665	$598,966,777	$1,475,533,717	100%	100%	100%	68.5%
06/30/2009	3,875,023	1,039,839,384	40,657,298	640,558,977	1,424,202,643	100	100	100	53.1
06/30/2010	3,419,652	1,103,746,648	46,882,433	676,175,786	1,390,514,840	100	100	100	35.0
06/30/2011	3,013,222	1,169,599,360	43,416,490	724,418,152	1,410,211,059	100	100	100	26.8
06/30/2012	2,977,938	1,228,202,331	44,829,153	835,268,747	1,429,666,081	100	100	100	18.4
06/30/2013	2,688,948	1,270,442,197	44,651,885	834,209,969	1,465,943,503	100	100	100	17.8
06/30/2014	5,070,338	1,312,440,514	52,060,082	840,749,044	1,540,327,375	100	100	100	20.3
06/30/2015	10,682,704	1,356,302,147	48,799,252	837,218,003	1,615,537,148	100	100	100	23.9
06/30/2016	19,415,031	1,408,689,345	48,210,458	851,247,989	1,657,187,748	100	100	100	21.2
06/30/2017	27,652,436	1,449,436,246	52,505,622	830,011,213	1,715,495,626	100	100	100	22.4
06/30/2018	38,220,223	1,484,169,320	52,340,433	835,884,082	1,785,356,033	100	100	100	25.2
06/30/2019	51,543,962	1,512,876,082	60,716,983	890,000,367	1,835,157,423	100	100	100	23.6

ANALYSIS OF FINANCIAL EXPERIENCE

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

Type of Activity	Gain/(Loss) for Year 2018	Gain/(Loss) for Year 2019
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.	$ (3,075,000)	$ (6,271,000)
Disability Retirements If disability claims are less than assumed, there is a gain. If more claims, a loss.	(3,662,000)	(2,977,000)
Death-in-Service Benefits If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(3,749,000)	(3,882,000)
Withdrawal from Employment If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	795,000	1,496,000
Pay Increases If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(7,289,000)	(2,572,000)
Investment Income If there is greater investment income than assumed, there is a gain. If less, a loss.	(7,933,000)	(34,164,000)
Death After Retirement If retirees live longer than assumed, there is a loss. If not as long, a gain. (includes PuBF G/(L))	828,000	10,426,000
New Entrants New entrants create a loss because they were not assumed in the previous evaluation.	960,000	1,055,000
Plan Changes or Increase in Periodic Pension Plan changes or one time increase in the periodic benefit payments	0	0
Assumption, Method and Plan Changes Changes due to assumption changes and/or changes in accounting and liability.	0	(65,481,000)
Other Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, valuation methods, etc.	3,845,000	1,350,000
Gain or (Loss) During Year from Financial Experience	(19,280,000)	(101,020,000)

SUMMARY OF PLAN PROVISIONS
June 30, 2019

1. **EFFECTIVE DATE:**

The Employees' Retirement System was established by City Ordinance, effective January 1, 1926, and has been amended periodically.

2. **ELIGIBILITY:**

Any regular and permanent officer, agent, or employee of the City with the exception of those required to join the Maryland State or other Retirement System will become a Class C member until June 30, 2014 and thereafter a Class D member of the Employees' Retirement System upon completion of one year of employment. The Board of Estimates may authorize prospective membership for any class of part-time employees. There are three classes of members as follows:

Class A - Members who were hired before July 1, 1979, and entered membership on or after January 1, 1954, or who were employed and elected prior to April 1, 1954, to contribute at the higher Class A rate.

Class B - Members as of January 1, 1954, who did not elect Class A membership. Any Class B member may elect to become a Class A member by bringing his accumulated contributions and interest up to what they would be if he had elected Class A membership on January 1, 1954.

Class C - Members who were hired on or after July 1, 1979 and before July 1, 2014, or any other members who may have elected to transfer during various open transfer periods to Class C membership.

Class D - Members who were hired or rehired on or after July 1, 2014, and are Retirement Savings Plan "hybrid members".

3. **MEMBER CONTRIBUTIONS:**

Class C members make the following pre-tax contributions as a percentage of earnable compensation:

July 1, 2013 -- June 30, 2014	1%
July 1, 2014 -- June 30, 2015	2%
July 1, 2015 ---June 30, 2016	3%
July 1, 2016 -- June 30, 2017	4%
July 1, 2017 -- June 30, 2018	5%

Year-to-year increases in the contribution rate are conditioned on members' receiving a raise of at least 2%.

Class A and Class B members contribute 4% of earnable compensation. Class A and Class B contributions are not required upon attaining age 60 and completing 35 years of service.

Class D members contribute 5% of earnable compensation.

4. **COMPENSATION:**

Earnable compensation is the annual salary authorized for the member, not including overtime, differential pay, environmental pay, hazardous duty pays for conversion of leave or other fringe benefits, or any like additional payment.

Average final compensation is the average of the member's annual earnable compensation on January 1 for the three successive years of service when the member's earnable compensation is the highest or, if the member is in service on January 1 for less than three successive years, then the average during total service.

Covered compensation (for Class C members only) is the average of the FICA wage base for the 35-year period ending with the calendar year which ends immediately prior to the earlier of: (1) January 1, which is one year prior to January 1 of the calendar year in which member terminates employment; or (2) January 1 of the calendar year in which the member attains age 65.

5. **MILITARY SERVICE CREDIT:**

(A) **Classes A and B**

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

(a) 10 years of service and has reached the age of 60; or
(b) 20 years of service, regardless of age.

(2) **Military Service Within Employment:** Upon retirement or death, any member who had a break in employment due to military duty, will receive service credit for the period of absence as provided by the Veterans' Reemployment Rights Act and the Uniformed Services Employment and Reemployment Rights Act of 1994.

(B) **Classes C** and D

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

(a) 10 years of service and has reached the age of 62; or

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

(2) **Military Service Within Employment:** Upon retirement or death, any member who had a break in employment due to military duty, will receive service credit for the period of absence as provided by the Veterans' Re-Employment Rights Act and the Uniformed Services Employment and Reemployment Rights Act of 1994. For members reemployed after military service, the City will pay their member contributions for the period of military service. If the member terminates City employment before becoming eligible for a retirement benefit or deferred vested benefit, the member will not receive the contributions made by the City for the period of military service.

6. **SERVICE RETIREMENT:**

(A) **Classes A and B**

(1) **Eligibility Requirements:**

(a) Age 60 with five years of service; or

(b) 30 years of membership service, regardless of age.

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

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

(b) a pension, which together with the annuity will be equal to 1.935% for Class A members and 1.785% for Class B members for each year of service, times the member's average final compensation.

(B) **Class C**

(1) **Eligibility Requirements:**

(a) Age 65 with five years of service;

(b) 30 years of service, regardless of age; or

(c) Age 55 with five years of service, payable at age 65 or reduced for payment before age 65.

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

(a) a pension of 1.60% for each year of service (not to exceed 30), times the member's average final compensation; plus

(b) .25% for each year of service not to exceed 30, times member's average final compensation in excess of covered compensation; plus

(c) 1.85% for each year of service in excess of 30, times the member's average final compensation.

If a member elects to have his maximum or optional pension commence prior to normal retirement date, age 65 with less than 30 years, the amount of his pension will be reduced 6.667% for each of the first five years (prorated for shorter periods) and 3.333% for each of the next five years (prorated for shorter periods) by which the commencement of his pension precedes his normal retirement age 65.

(C) **Class D**

(1) **Eligibility Requirements:**

(a) Age 65 with five years of service;

(b) 30 years of service, regardless of age; or

(c) Age 55 with five years of service, payable at age 65 or reduced for payment before age 65.

(2) **Benefit Amount:**

(a) 1.0% for each year of service times the member's average final compensation.

(b) For members who retire at age 62 with at least 20 years of service, 1.1% for each year of service times the member's average final compensation.

If a member elects to have his maximum or optional pension commence prior to normal retirement date, age 65 with less than 30 years, the amount of his pension will be reduced 6.667% for each of the first five years (prorated for shorter periods) and 3.333% for each of the next five years (prorated for shorter periods) by which the commencement of his pension precedes his normal retirement age 65.

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

(A) **Classes A and B**

(1) **Eligibility Requirements:** Five years of service and determined by a hearing examiner to be mentally or physically incapacitated for the performance of duty, and that the incapacity is likely to be permanent.

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

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

(b) a pension which, together with the annuity will equal 1.90% for Class A members and 1.75% for Class B members for each year of service, times the member's average final compensation.

The member will receive, as a minimum, the benefit as stated above or 25% of the member's average final compensation.

(3) **Offset to Retirement Allowance:** This benefit is offset by:

(a) workers' compensation; and

(b) earnings in excess of base amount (current earnable compensation in same job grade and step adjusted for longevity) with a $1 reduction for each $2 of the first $5,000 of excess and a $2 reduction for each $5 of additional excess earnings.

(B) **Classes C and D**

(1) **Eligibility Requirements:** Five years of service and determination by a hearing examiner to be mentally or physically incapacitated for the performance of duty, and that the incapacity is likely to be permanent.

(2) **Benefit Amount:** The non-line-of-duty disability pension will be the greater of:

(a) a pension equal to the member's accrued service retirement benefit; or

(b) 15% of the member's average final compensation.

(3) **Offset to Retirement Allowance:** This benefit is offset by workers' compensation.

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

(A) **Classes A and B**

(1) **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 accident occurring while in the actual performance of duty without willful negligence.

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

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

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

(3) **Offset to Retirement Allowance:** This benefit is offset by workers' compensation.

(B) **Classes C and D**

(1) **Eligibility Requirements:** Immediate eligibility upon membership in the System and determination by a hearing examiner to be incapacitated for the further performance of duty, and the incapacity resulted from an accident occurring while in the actual performance of duty without willful negligence.

(2) **Benefit Amount:** A pension equal to 66.667% of the member's average final compensation.

(3) **Offset to Retirement Allowance:** This benefit is offset by wokers' compensation.

9. **DISMEMBERMENT DISABILITY RETIREMENT (Classes C and D only):**

(A) **Eligibility Requirement:** Immediate eligibility upon membership in the System and determination by a hearing examiner that the loss of any two or more of hands, feet, sight of eye(s), or combination thereof, was a direct result of bodily injury from an accident that occurred while in the actual performance of duty.

(B) **Benefit Amount:** A pension equal to 100% of the member's average final compensation.

(C) **Offset to Retirement Allowance:** This benefit is offset by workers' compensation.

10. **TERMINATION OF EMPLOYMENT:**

(A) **Classes A and B**

(1) **Eligibility Requirement:**

(a) For a termination retirement allowance deferred to age 60, the completion of:

(i) 15 years of service; or

(ii) Five years of service, if removed from a position without fault or if an elected or appointed official not re-elected or re-appointed.

(b) For a termination retirement allowance payable immediately without reduction for age, the completion of 20 years of service, if removed from a position without fault or if an elected or appointed official not re-elected or re-appointed.

(c) Eligible for a refund of accumulated contributions if not eligible for any other benefits.

(2) **Benefit Amount:**

(a) Deferred Payment: Determined the same as for service retirement, but based on membership service and average final compensation at the time of termination.

(b) Immediate Payment: Determined the same as if the member had retired with a non-line-of-duty disability retirement allowance.

(B) **Class C**

(1) **Eligibility Requirement:**

(a) For a termination retirement allowance deferred to age 65, completion of:

(i) 10 years of service; or

(ii) Five years of service, if removed from a position without fault or if an appointed official not re-appointed.

(b) For a termination retirement allowance payable immediately without reduction for age, the completion of 20 years of service, if removed from a position without fault or if an appointed official not re-appointed.

(c) Eligible for a refund of accumulated contributions if not eligible for any other benefits.

(2) **Benefit Amount:**

(a) Deferred Payment: Determined the same as for service retirement, but based on membership service and average final compensation at the time of termination.

(C) **Class D**

(1) **Eligibility Requirement:**

(a) For a termination retirement allowance deferred to age 65, completion of 10 years of service.

(b) Eligible for a refund of accumulated contributions if not eligible for any other benefits.

(2) **Benefit Amount:**

Determined the same as for service retirement, but based on membership service and average final compensation at the time of termination.

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

(A) **Lump Sum:** Under $12,500 or as adjusted by the Board of Trustees.

(B) **Maximum Allowance:** Upon retiree's death, 40% of retiree's maximum allowance to unremarried spouse or dependent children until the last dies or attains age 18 (age 22 if a full time student). All other options result in a lesser amount paid.

(C) **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.

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

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

(F) **50% Pop-Up:** Upon retiree's death 50% of retiree's allowance to continue to designated beneficiary.
If designated beneficiary predeceases member, member receives Maximum and no survivorship benefit is paid.

(G) **100% Pop-Up:** Upon retiree's death 100% of retiree's allowance to continue to designated beneficiary. If designated beneficiary predeceases member, member receives Maximum and no survivorship benefit is paid.

(H) **Specific Benefit Option:** Upon the 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. Any option and/or beneficiary may be changed by the retired member within 30 days after retirement.

12. **NON-LINE-OF-DUTY DEATH BENEFITS:**

(A) **Classes A and B**

(1) **Lump Sum Benefit:**

(a) **Eligibility Requirements:** Member who

(i) dies while actively employed; and

(ii) whose death does not qualify as a line-of-duty death.

(b) **Benefit Amount:** The designated beneficiary is paid:

(i) the member's accumulated contributions; plus
(ii) if member has one or more years of membership service, 50% of the greater of the member's average final compensation or current annual earnable compensation.

(2) **100% Survivorship Benefit:**

(a) **Eligibility Requirements:** This benefit is paid to the member's designated beneficiary spouse to whom he/she has been married for at least five years or his/her parent(s), provided the Member:

(i) is eligible for service retirement at the time of death; or

(ii) would have become eligible for service retirement within 90 days of the date of death; or

(iii) retired on account of service, non line of duty disability, or line of duty disability and dies within 30 days of retirement; or

(iv) is entitled to a deferred allowance at age 60 and dies anytime between the effective retirement date at age 60 and no later than 30 days following the attainment of age 60.

(b) **Benefit Amount:** The eligible beneficiary may elect in lieu of the Lump Sum Benefit or the 40% Survivorship Benefit, an allowance equal to the amount that would have been paid under the Service Retirement 100% Joint and Survivor Option.

(3) **40% Survivorship Benefit:**

(a) **Eligibility Requirements:** This benefit is paid to the member's designated beneficiary spouse with whom he has been married for at least one year prior to the date of death or to the member's unmarried children if less than age 18 (or age 22 if students), provided the Member:

(i) died in active service; and

(ii) had more than 20 years of service as of the date of death.

(b) **Benefit Amount:** The eligible beneficiary spouse or children may elect in lieu of the Lump Sum Benefit or the 100% Survivorship Benefit, an allowance equal to 40% of the member's accrued service retirement benefit.

(4) **Offset to Death Benefits:** These benefits are offset by any pension benefits paid before the members' death.

(B) **Classes C and D**

(1) Lump Sum Benefit:

(a) **Eligibility Requirements:** Member who:

(i) dies while actively employed; and

(ii) has one or more years of membership service, but whose death does not qualify as a line-of-duty death.

(b) **Benefit Amount:** The designated beneficiary is paid:

(i) the member's accumulated contributions, if any; plus

(ii) one-time payment of 50% of the greater of the member's average final compensation or current annual earnable compensation.

(2) 100% Survivorship Benefit:

(a) **Eligibility Requirements:** This benefit is paid to the member's designated beneficiary spouse to whom he/she was married for at least 5 years or his parent(s), provided the member:

(i) is eligible for service retirement at the time of death; or

(ii) would have become eligible for service retirement within 90 days of the date of death; or

(iii) retired on account of service, non line of duty disability, or line of duty disability and dies within 30 days of retirement; or

(iv) is entitled to a deferred allowance at age 65 and dies anytime between the effective retirement date at age 65 and no later than 30 days following the attainment of age 65.

(b) **Benefit Amount:** The eligible beneficiary may elect in lieu of the Lump Sum Benefit or the 40% Survivorship Benefit, an allowance equal to the amount that would have been paid under the Service Retirement 100% Joint and Survivor Option.

(3) 40% Survivorship Benefit:

(a) **Eligibility Requirements:** This benefit is paid to the member's designated beneficiary spouse to whom he has been married for at least one year prior to the date of death or to the member's unmarried children if less than age 18 (or age 22 if students), provided the member:

(i) died in active service; and

(ii) had more than 20 years of service as of the date of death.

(b) **Benefit Amount:** The eligible beneficiary spouse or eligible children may elect in lieu of the Lump Sum Benefit or the 100% Survivorship Benefit, an allowance equal to 40% of the member's accrued service retirement benefit.

(4) Offset to Death Benefits: These benefits are offset by workers' compensation.

13. **LINE-OF-DUTY DEATH BENEFITS:**

(A) **Eligibility Requirements:** A determination by a hearing examiner that the death of a member was:

(1) the direct result of bodily injury though accidental means independent of any pre-existing physical or medical conditions;

(2) occurring while in the actual performance of duty; and

(3) not caused by willful negligence on the part of the member.

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

(1) the member's accumulated contributions (if any); plus

(2) an annual pension of 100% of current earnable compensation, payable to:

(a) the spouse during widow(er)hood, provided: (1) there is no voluntary separation agreement renouncing rights of inheritance; and (2) the member has not designated his children as beneficiaries;

(b) if no eligible spouse, or if the spouse dies or remarries, the child or children, equally, until age 18 (age 22 if a full-time student);

(c) if no eligible spouse or child surviving, then to the deceased's father and/or mother equally, or to the survivor;

(d) for Classes A and B, any member who retires and dies within 30 days after the effective date of accidental disability retirement will receive the above benefits if death is the result of injuries in the line-of-duty.

If no beneficiary and if intestate without heirs, then contributions will remain part of the System, and no death benefit is paid.

(C) **Offset to Retirement Allowance:** This benefit is offset by workers' compensation, net of legal and medical fees.

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

(A) **Eligibility Requirements;**

Only retirees and their beneficiaries, who have been receiving periodic benefit payments as of the June 30th determination date, and members who have been retired for a minimum of 12 months, are eligible for the increase. The increase is payable commencing in the January after the June 30th determination date.

(B) **Amount:**

(1) **Classes A, B and C**

1.5% for participants in pay status under age 65 and 2.0% for participants in pay status age 65 and over.

(2) **Class D**

(a) In pay status under age 65:

1.5% if Class D funded status is 85% or more.

1.0% if Class D funded status is at least 70% but less than 85%.

No increase if Class D funded status is less than 70%.

(b) In pay status age 65 or older:

2.0% if Class D funded status is 85% or more.

1.0% if Class D funded status is at least 70% but less than 85%.

No increase if Class D funded status is less than 70%.

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STATISTICAL SECTION

STATISTICAL SECTION SUMMARY

The statistical section of the Employees' Retirement System's (System) comprehensive annual financial report presents detailed information as a context for helping the readers understand the information in the financial statements, notes disclosures, required supplementary information, and the System's overall financial health for the last ten fiscal years. The different reports contained in this section are listed below.

Financial Trends

Changes of Plan Net Position schedules detail the System's financial performance from year to year.

Revenue Capacity

The Revenue by Source schedule list the different income streams of the System.

Expenses Capacity

The Expense by Type schedules contains information about the major costs of the System.

Demographic Information

The demographic schedules consist of various membership information used by the Actuary to determine or monitor the demographic assumptions. The tables which are used to compare current assumptions with actual experience to determine recommended assumption changes include:

- The Schedule of Active Members by Years of Service, which provides active membership information including the average service credit and member's age for each fiscal year;
- The Schedule of Retirees by Attained Age and Type of Retirement, provides the number of retirees by age and the type of retirement, and
- The Schedule of Beneficiaries By attained Age and Type of Retirement that provides membership information on beneficiaries by age and type of the member's retirement.

Benefit Expenses by Type: is a report of benefit related expenses by the type of retirement and payment for each year of service.

Average Monthly Benefit Payments: is a schedule of monthly benefit payments based on years of credited service. For each year, the schedule provides the average monthly benefit payment, Average – average Final Compensation and number of retirees grouped in years of credited service.

Employees' Retirement System
City of Baltimore, Maryland
Statement of Changes in Fiduciary Net Position

	2010	2011	2012	2013	2014
Additions					
Contributions					
Employer	$ 48,748,397	$ 62,374,396	$77,995,003	$ 88,300,214	$ 94,917,886
Plan members	215,669	358,202	359,028	223,720	3,623,467
Total contributions	$ 48,964,066	$ 62,732,598	$ 78,354,031	$ 88,523,934	$ 98,541,353
Investment Income					
Net appreciation in fair value of investments	$ 91,458,311	$ 195,926,226	$18,948,964	$ 135,498,253	$ 192,951,419
Interest, dividends, and real estate income	26,028,223	20,583,936	6,758,532	19,359,439	24,639,052
Less: investment expenses	(5,641,242)	(6,115,531)	(6,155,302)	(6,931,175)	(8,117,367)
Net investment income	$ 111,845,292	$ 210,394,631	$19,552,194	$ 147,926,517	$ 209,473,104
Securities lending income	$ 290,022	$ 283,344	$205,199	$ 359,807	$ 788,486
Securities lending fees	(86,970)	(83,849)	(60,244)	(107,623)	(614,421)
Net securities lending income	$ 203,052	$ 199,495	$144,955	$ 252,184	$ 174,065
Total additions	$ 161,012,410	$ 273,326,724	$98,051,180	$ 236,702,635	$ 308,188,522
Deductions					
Retirement allowances	$ 108,225,770	$ 112,642,028	$118,802,304	$ 124,059,639	$ 129,205,776
Adminstrative expenses	3,061,461	3,189,932	3,297,684	3,554,942	3,711,975
Death benefits	791,170	546,942	1,289,869	689,223	699,991
Lump cash payments	155,564	123,425	73,596	157,082	63,979
Refund of Contributions	334	95,936	9,088	6,381	4,224
Total deductions	$ 112,234,299	$ 116,598,263	$123,472,541	$ 128,467,267	$ 133,685,945
Net increases / (decreases)	$ 48,778,111	$ 156,728,461	($25,421,361)	$ 108,235,368	$ 174,502,577
Net position held in trust for pension benefits					
Beginning Balance	$ 1,036,413,235	$ 1,085,191,346	$ 1,241,919,807	$1,216,498,446	$ 1,324,733,814
Ending Balance	$ 1,085,191,346	$ 1,241,919,807	$1,216,498,446	$ 1,324,733,814	$ 1,499,236,391

Employees' Retirement System
City of Baltimore, Maryland
Statement of Changes in Fiduciary Net Position

(Continued)

	2015	2016	2017	2018	2019
Additions					
Contributions					
Employer	$ 97,170,796	$ 77,100,573	$ 84,474,451	$ 87,541,882	$ 89,866,171
Plan members	6,728,131	10,350,709	10,656,243	12,942,622	17,246,258
Total contributions	$ 103,898,927	$ 87,451,282	$ 95,130,694	$ 100,484,504	$ 107,112,429
Investment Income					
Net appreciation in fair value of investments	$ (14,411,263)	$ 437,788	$ 72,380,195	$ 106,021,152	$ 64,633,338
Interest, dividends, and real estate income	90,342,747	48,604,366	99,449,978	41,710,664	37,296,385
Less: investment expenses	(9,321,676)	(9,138,196)	(8,914,009)	(8,639,822)	(9,649,367)
Net investment income	$ 66,609,808	$ 39,903,958	$ 162,916,164	$ 139,091,994	$ 92,280,356
Securities lending income	$ 297,447	$ 496,519	$ 340,857	$ 580,304	$ 733,012
Securities lending fees	(89,215)	(140,435)	(100,183)	(160,027)	(198,396)
Net securities lending income	$ 208,232	$ 356,084	$ 240,674	$ 420,277	$ 534,616
Total additions	$ 170,716,967	$ 127,711,324	$ 258,287,532	$ 239,996,775	$ 199,927,401
Deductions					
Retirement allowances	$ 133,129,502	$ 138,184,417	$ 142,957,078	$ 148,219,211	$ 152,947,832
Adminstrative expenses	3,748,434	3,515,492	3,584,506	3,616,054	3,716,362
Death benefits	943,540	652,743	1,225,559	497,011	988,038
Lump cash payments	125,608	124,748	77,861	28,088	116,910
Refund of Contributions	72,008	235,808	348,412	410,189	815,394
Total deductions	$ 138,019,092	$ 142,713,208	$ 148,193,416	$ 152,770,553	$ 158,584,536
Net increases / (decreases)	$ 32,697,875	$ (15,001,884)	$ 110,094,116	$ 87,226,222	$ 41,342,865
Net position held in trust for pension benefits					
Beginning Balance	$ 1,499,236,391	$ 1,531,934,266	$ 1,516,932,382	$ 1,627,026,498	$ 1,714,252,720
Ending Balance	$ 1,531,934,266	$ 1,516,932,382	$ 1,627,026,498	$ 1,714,252,720	$ 1,755,595,585

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

		Employer Contributions			
Fiscal Year	Net Investment Income (Loss)	Amount	% of Covered Payroll	Member Contributions	Total Income (Loss)
2010	112,048,344	48,748,397	12.4	215,669	161,012,410
2011	210,594,126	62,374,396	15.9	358,202	273,326,724
2012	19,697,149	77,995,003	20.0	359,028	98,051,180
2013	148,178,701	88,300,214	22.5	223,720	236,702,635
2014	209,647,169	94,917,886	23.7	3,623,467	308,188,522
2015	66,818,039	97,170,796	23.8	6,728,131	170,716,966
2016	40,260,042	77,100,573	19.3	10,350,709	127,711,324
2017	163,156,838	84,474,451	21.6	10,656,243	258,287,532
2018	139,512,271	87,541,882	21.7	12,942,622	239,996,775
2019	92,814,972	89,866,171	21.4	17,246,258	199,927,401

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

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

Fiscal Year	Benefits	Refunds	Administrative Expenses	Total
2010	109,172,504	334	3,061,461	112,234,299
2011	113,312,395	95,936	3,189,932	116,598,263
2012	120,165,769	9,088	3,297,684	123,472,541
2013	124,905,944	6,381	3,554,942	128,467,267
2014	129,969,746	4,224	3,711,975	133,685,945
2015	134,198,650	72,007	3,748,433	138,019,090
2016	138,961,908	235,808	3,515,492	142,713,208
2017	144,260,498	348,412	3,584,506	148,193,416
2018	148,744,310	410,189	3,616,054	152,770,553
2019	154,052,780	815,394	3,716,362	158,584,536

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

Years of Credited Service	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
0-4	2,675	2,426	2,051	1,811	1,766	1,800	1,678	1,723	1,833	2,241
5-9	1,917	1,929	2,033	2,181	2,215	2,026	1,778	1,523	1,323	1,216
10-14	1,376	1,422	1,426	1,425	1,430	1,451	1,446	1,458	1,538	1,543
15-19	705	710	817	988	1,054	1,034	1,059	1,072	1,045	1,020
20-24	1,307	1,192	979	721	550	519	547	623	747	764
25-29	794	707	772	892	992	968	887	705	526	407
30+	906	1,007	1,029	986	897	875	879	939	1,001	1,013
Total Members	9,680	9,393	9,107	9,004	8,904	8,673	8,274	8,043	8,013	8,204
Average Service Credit	13.27	13.58	13.92	13.92	13.83	13.88	14.30	14.34	14.16	13.46
Average Age	48.96	49.35	49.74	49.89	49.89	50.10	50.54	50.66	50.57	50.17

Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF RETIREES BY ATTAINED AGE AND TYPE OF RETIREMENT
June 30, 2019

		TYPE OF RETIREMENT*				
Age	Number of Recipients	0	1	2	3	4
0-29	0	0	0	0	0	0
30-39	5	0	0	0	5	0
40-44	14	0	0	0	14	0
45-49	26	1	0	3	21	1
50-54	112	33	2	9	67	1
55-59	463	117	158	47	132	9
60-64	1,089	359	366	126	228	10
65-69	1,756	938	472	183	154	9
70-74	1,573	938	367	170	91	7
75-79	1,121	652	289	118	56	6
80-84	767	399	243	83	34	8
85 and up	838	474	258	82	19	5
Totals	7,764	3,911	2,155	821	821	56
Average Annual Benefit	$18,261	$24,882	$7,562	$22,719	$9,974	$23,667

*Type of Retirement
0 - Normal retirement for age and service
1 - Early retirement
2 - Discontinued service retirement
3 - Non-line of duty disability
4 - Line of duty disability

Employees' Retirement System
City of Baltimore, Maryland
SCHEDULE OF BENEFICIARIES BY ATTAINED AGE AND TYPE OF RETIREMENT
June 30, 2019

		TYPE OF RETIREMENT*						
Age	Number of Recipients	0	1	2	3	4	5	8
0-24	12	5	1	2	0	0	1	3
25-29	1	1	0	0	0	0	0	0
30-34	1	0	0	0	1	0	0	0
35-39	1	1	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0
45-49	9	3	0	1	2	0	3	0
50-54	23	4	1	2	12	1	3	0
55-59	57	14	14	2	21	0	6	0
60-64	133	53	22	9	23	1	25	0
65-69	204	80	39	9	59	0	17	0
70-74	214	109	37	22	30	3	13	0
75-79	252	127	45	24	35	2	16	3
80-84	234	125	53	15	32	2	7	0
85 and up	362	201	81	29	25	6	20	0
Totals	1,503	723	293	115	240	15	111	6
Average Annual Benefit	$8,952	$10,750	$4,514	$11,396	$5,437	$11,554	$13,331	$15,352

*Type of Retirement
0 - Normal retirement for age and service
1 - Early retirement
2 - Discontinued service retirement
3 - Non-line of duty disability
4 - Line of duty disability
5 - Non-line of duty death, member eligible for service retirement at death
8 - Line of duty death

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

Year	Age and Service Benefits			Death Benefits			Disability Benefits			
							Retirees			
Ending	Retirees	Beneficiaries	Lump Sum	Duty	Non-Duty	Lump Sum	Duty	Non-Duty	Beneficiaries	Total
2010	90,004,238	7,367,063	155,564	461,609	1,246,067	791,170	1,443,226	6,499,946	1,203,621	109,172,504
2011	94,588,958	7,080,619	123,425	418,549	1,151,890	546,942	1,420,134	6,722,021	1,259,857	113,312,395
2012	99,171,620	8,156,362	73,596	410,158	1,143,187	1,289,869	1,435,552	7,093,318	1,392,106	120,165,768
2013	103,423,042	8,739,976	157,082	388,447	1,187,725	689,223	1,438,353	7,413,884	1,468,211	124,905,943
2014	107,713,150	9,102,520	63,979	404,560	1,236,993	699,991	1,498,018	7,721,421	1,529,114	129,969,746
2015	110,984,187	9,378,946	125,608	416,846	1,274,558	943,540	1,543,510	7,955,905	1,575,550	134,198,650
2016	130,663,656	7,161,289	124,748	270,961	1,059,257	652,743	1,286,253	395,782	1,098,518	142,713,208
2017	122,699,096	7,476,618	77,861	296,229	1,450,454	1,225,559	1,572,777	8,124,459	1,337,445	144,260,498
2018	127,566,983	7,721,573	28,088	235,608	1,547,785	497,011	1,474,081	8,446,982	1,226,199	148,744,310
2019	131,087,119	8,329,413	116,910	164,254	2,017,814	988,038	1,518,204	8,426,878	1,404,150	154,052,780

Employees' Retirement System
City of Baltimore, Maryland
AVERAGE MONTHLY BENEFIT PAYMENTS - NEW RETIREES

Retirement Effective Dates	Years of Credited Service					
	0-10	11-15	16-20	21-25	26-30	31+
Period 7/1/09 to 6/30/10						
Average-Average Final Compensation	$ 4,291	$ 5,915	$ 10,768	$ 16,808	$ 19,971	$ 26,390
Average Monthly Benefit	358	493	897	1,401	1,664	2,199
Total No. of Retirees	52	48	41	55	58	115
Period 7/1/10 to 6/30/11						
Average-Average Final Compensation	$ 5,259	$ 6,584	$ 9,636	$ 17,606	$ 23,588	$ 30,143
Average Monthly Benefit	438	549	803	1,467	1,966	2,512
Total No. of Retirees	46	48	49	55	71	100
Period 7/1/11 to 6/30/12						
Average-Average Final Compensation	$ 4,590	$ 6,510	$ 10,320	$ 15,464	$ 24,619	$ 44,700
Average Monthly Benefit	383	542	860	1,289	2,052	3,725
Total No. of Retirees	69	60	29	52	62	107
Period 7/1/12 to 6/30/13						
Average-Average Final Compensation	$ 4,161	$ 7,014	$ 11,342	$ 13,417	$ 22,068	$ 46,793
Average Monthly Benefit	347	585	945	1,118	1,839	3,899
Total No. of Retirees	65	58	39	63	57	104
Period 7/1/13 to 6/30/14						
Average-Average Final Compensation	$ 5,365	$ 7,901	$ 10,578	$ 15,161	$ 22,880	$ 29,604
Average Monthly Benefit	447	658	882	1,263	1,907	2,467
Total No. of Retirees	67	69	32	57	60	135

Employees' Retirement System
City of Baltimore, Maryland
AVERAGE MONTHLY BENEFIT PAYMENTS - NEW RETIREES

Retirement Effective Dates	Years of Credited Service					
	0-10	11-15	16-20	21-25	26-30	31+
Period 7/1/14 to 6/30/15						
Average-Average Final Compensation	$ 7,428	$ 7,216	$ 12,285	$ 14,845	$ 24,251	$ 29,659
Average Monthly Benefit	619	601	1,024	1,237	2,021	2,472
Total No. of Retirees	71	50	42	31	61	106
Period 7/1/15 to 6/30/16						
Average-Average Final Compensation	$ 5,670	$ 7,286	$ 10,581	$ 13,174	$ 21,873	$ 31,452
Average Monthly Benefit	472	607	882	1,098	1,823	2,621
Total No. of Retirees	79	72	56	38	71	130
Period 7/1/16 to 6/30/17						
Average-Average Final Compensation	$ 7,594	$ 8,897	$ 11,430	$ 18,309	$ 22,205	$ 37,646
Average Monthly Benefit	633	741	953	1,526	1,850	3,137
Total No. of Retirees	92	77	57	30	67	92
Period 7/1/17 to 6/30/18						
Average-Average Final Compensation	$ 5,740	$ 8,660	$ 12,623	$ 16,993	$ 23,636	$ 39,268
Average Monthly Benefit	478	722	1,052	1,416	1,970	3,272
Total No. of Retirees	68	84	65	39	71	72
Period 7/1/18 to 6/30/19						
Average-Average Final Compensation	$ 6,066	$ 9,434	$ 12,769	$ 18,414	$ 24,682	$ 34,867
Average Monthly Benefit	505	786	1,064	1,535	2,057	2,906
Total No. of Retirees	75	80	49	40	64	112

EMPLOYEES' RETIREMENT SYSTEM

City of Baltimore, Maryland

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Year Ended June 30, 2019

A Pension Trust of the City of Baltimore

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