



The Employees' Retirement System
A Blended Component Unit of
The Maryland-National Capital Park and Planning Commission

Comprehensive Annual Financial Report

For the Fiscal Years Ended June 30, 2018 and 2017



Comprehensive Annual Financial Report

For the Fiscal Years Ended June 30, 2018 and 2017



Prepared by the Employees' Retirement System
A Blended Component Unit
of The Maryland-National Capital Park and Planning Commission
6611 Kenilworth Avenue, Suite 100
Riverdale, Maryland 20737

MISSION STATEMENT

The Mission of the Maryland-National Capital Park and Planning Commission Employees' Retirement System (ERS) is to prudently manage, protect, diversify, and administer the funds for the sole benefit of the members and beneficiaries to ensure sufficient assets are available to pay the promised benefits.

OUR CORE VALUES

Quality Customer Service



Accountability and Transparency



Professionalism and Respect



Trustworthiness and Stewardship

Comprehensive Annual Financial **Report**

For the Fiscal Years Ended June 30, 2018 and 2017

TABLE OF CONTENTS

INTRODUCTORY Section

Letter of Transmittal	6
Certificate of Achievement for Excellence in Financial Reporting for 2017	10
Public Pension Standards Award for Funding and Administration 2017	11
Board of Trustees	12
Organizational and Reporting Structure	13
Staff, Consultants and Professional Service Providers	14

FINANCIAL Section

Report of Independent Public Accountants	16
Management's Discussion and Analysis	18
Statements of Fiduciary Net Position	21
Statements of Changes in Fiduciary Net Position	22
Notes to Financial Statements	23
Required Supplementary Information	
Schedule of Changes in Net Pension Liability and Related Ratios	41
Schedule of Employer Contributions	42
Schedule of Money-Weighted Rate of Returns	43
Notes to Required Supplementary Information	44
Supplementary Schedules	
Schedule of Administrative Expenses	45
Schedule of Investment Expenses	46
Schedule of Payments to Consultants	47

TABLE OF CONTENTS (Continued)

INVESTMENT Section

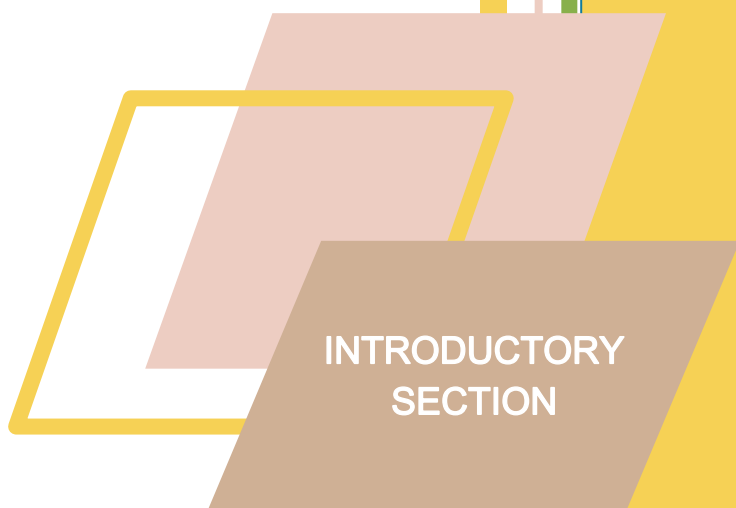
Investment Manager Directory	50
Investment Consultant's Report	51
Investment Manager Matrix	57
List of Largest Held Domestic Equities	58
List of Largest Held Fixed Income Securities	59
Schedule of Broker Commissions	60

ACTUARIAL Section

Actuary's Certification Letter (For Funding Purposes) with Financial Experience	62
Actuary's Certification Letter (For Financial Reporting Purposes)	67
Actuarial Assumptions and Valuation Methods	69
Schedule of Active Member Valuation Data	71
Schedule of Retirees and Beneficiaries Added to and Removed from the Rolls	72

STATISTICAL Section

Statistical Section Narrative	74
Schedule of Changes in Fiduciary Net Position	75
Schedule of Benefit and Refund Deductions from Fiduciary Net Position by Type	76
Schedule of Average Benefit Payments	77



LETTER OF TRANSMITTAL



EMPLOYEES' RETIREMENT SYSTEM
The Maryland-National Capital Park and Planning Commission
6611 Kenilworth Avenue, Suite 100
Riverdale, Maryland 20737

(301) 454-1415 - Telephone
(301) 454-1413 - Facsimile
<http://ers.mncppc.org>

Andrea L. Rose
Administrator

September 30, 2018

The Board of Trustees:

The Maryland-National Capital Park and Planning Commission ("Commission") Employees' Retirement System's (ERS) Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2018 is hereby submitted. The responsibility for the accuracy of the data and completeness and fairness of the presentation, including disclosures, rests with the ERS' staff. We believe all data in the report is accurate in all material respects, and is reported in a manner designed to present fairly the financial position and results of the operation of the ERS. All disclosures necessary to enable the reader to gain an understanding of the ERS' financial activities are included.

The Management's Discussion and Analysis immediately follows the Report of Independent Public Accountants and provides a narrative introduction with an overview of the basic financial statements. The Management's Discussion and Analysis complements this letter of transmittal and is suggested to be read in conjunction with this letter.

This CAFR has been prepared in accordance with the principles of governmental accounting and reporting promulgated by the Governmental Accounting Standards Board (GASB). The accrual basis of accounting has been used to record assets, liabilities, additions and deductions. Revenues are recorded when earned, regardless of the date of collection, and expenses are recorded when incurred, regardless of when payment is made. The independent public accounting firm of SB & Company, LLC was selected to conduct the ERS' audit. I am pleased to inform that the auditors issued an unmodified opinion, the highest possible outcome of the audit process.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting for the ERS' CAFR for the fiscal year ended June 30, 2017. The Certificate of Achievement is the highest form of recognition for excellence in state and local government financial reporting, and its attainment represents a significant accomplishment. We believe our CAFR continues to conform to the Certificate of Achievement program requirements, and we will submit our CAFR for fiscal year 2018 to the GFOA.

The Public Pension Coordinating Council (PPCC) recognizes public pension systems that meet the professional standards for public retirement system management and administration as set forth by the PPCC. The ERS was awarded the Public Pension Standards Award for Funding and Administration for 2017. The Award recognizes achievement of high professional standards in the area of plan funding and administration. The PPCC encourages all state and local governments to meet these standards.

Reporting Entity and Plan History

The ERS covers employees of the Commission, a body corporate of the State of Maryland, established by the Maryland General Assembly in 1927. The Commission is the bi-county agency empowered to acquire, develop, and administer a regional system of parks in the defined Metropolitan District, and to prepare and administer a general plan for the physical development of a defined Regional District for Montgomery and Prince George's

Counties. The ERS was established as a single employer defined benefit pension plan effective, July 1, 1972, in accordance with the Trust Agreement between the Commission and the Board of Trustees ("Board"). Prior to that date, Commission employees were covered under Maryland's State Retirement System ("Maryland State"). Employees who were covered by Maryland State were given the option of remaining with Maryland State or transferring to the ERS' Plan. Revisions to the Social Security tax structure and other fiscal considerations made it prudent to develop a new retirement plan, based on the principle of Social Security excess. Therefore, effective January 1, 1979, the Plan became The Maryland-National Capital Park and Planning Commission Employees' Retirement System, encompassing three defined benefit plans: Plan A, the original plan; Plan B, for non-police, integrated with Social Security; and Plan C, only for Park Police. Commission Park Police are not covered by Social Security.

On July 1, 1990, a collectively bargained Plan D replaced Plan C, which was closed, and all members transferred to the new Park Police Plan D. Effective July 1, 1993, again as a result of collective bargaining with the Park Police union, Plan D was closed to new employees, and Plan C was amended and reopened to provide benefits for Park Police Officers hired after July 1, 1993. Pursuant to a 2002 collective bargaining agreement, Plan D members were given a one-time election to transfer to Plan C on or before October 25, 2002.

Faced with continued fiscal challenges, the Commission approved a new defined benefit plan designated as Plan E for all non-police employees, Commissioners and appointed officials hired on or after January 1, 2013. Therefore, effective December 31, 2012, Plan B was closed to new employees.

Today, the ERS consists of five defined benefit pension plans: Plan A, the original plan; Plan B, for non-police, Plans C and D, for park police; and, Plan E, for non-police and appointed officials hired on or after January 1, 2013.

The administrative operations of the ERS are the responsibility of the Administrator and Staff employed by the Board. The Plan Document establishes all benefit provisions. The Commission reserves the right to amend the provisions of the ERS, consistent with the Trust Agreement, provided that no amendments may adversely affect the benefits that have accrued prior to the effective date of such amendment, except as may be legally required to continue to qualify the ERS under section 401(a) of the Internal Revenue Code, or any successor thereto of similar importance.

Benefits and Services Provided

The ERS provides normal and early retirement benefits, spouse and children survivor benefits, ordinary death benefits, and post-retirement death benefits for members of the ERS. Disability retirement benefits were prospectively removed in August 1982, with income replacement provided to employees through a long-term disability (LTD) insurance program administered by the Commission. Members on LTD receive free credited service until their normal retirement date. Annual cost-of-living adjustments are provided for ERS annuitants. The ERS has a comprehensive membership education program, which includes on-site workshops and one-on-one counseling. In accordance with the Uniform Management of Public Employees Retirement Systems Act, the ERS provides Annual Benefit Statements that project benefits at normal retirement; a Popular Annual Financial Report, which contains a summary of key financial and actuarial information; and Summary Plan Descriptions, which describe the provisions and benefits of the ERS. The ERS communicates with members via *LifeTimes*, which is published monthly in the Commission's Update newsletter. One-on-one counseling is available to all active members to discuss benefits and retirement options. Employees are encouraged to take advantage of a retirement counseling session, which is provided for all those retiring from the Commission. The session includes a review of retirement benefits, options, and assistance is provided in completing the necessary paperwork in order to begin benefits. Information can also be accessed via the ERS' website, <http://ers.mncppc.org>.

Investment Results

For the year ended June 30, 2018, the ERS fund had a return of 7.9% versus its policy benchmark of 7.2%. The ERS fund return was 7.2% for the three-years ended June 30, 2018 and 7.4% for the five-years ended June 30,

2018 versus the policy index which returned 6.4% and 6.9%, respectively. Refer to the Investment Consultant's Report on page 51 for a market overview with investment results by asset class and a portfolio review highlighting the ERS' restructuring activities.

Initiatives & Accomplishments

For the sixth consecutive year, the ERS considered a reduction in the investment return assumption. Changes in economic and financial conditions caused public plans across the country to continue lowering the investment return assumption. The Board determined decreasing the investment return assumption from 6.95% to 6.90%, effective July 1, 2018, was prudent and consistent with recent trends.

An amended Pension Funding Policy was approved to formalize the annual actuarial valuation and annual review of the investment return assumption; to require a full-scope actuarial audit every 5-years, unless the consulting actuary replicated the prior actuarial valuation at the time of engagement; and, to require the actuarial equivalence and deficiency assumptions be reviewed every five-years. The actuarial audit is considered a "best practice" and a full-scope actuarial audit of the July 1, 2017 actuarial valuation is currently underway.

Following adoption by the Commission, the plan document was amended 1) to allow participants in Plan C the opportunity to purchase a maximum of two years credited service for time served in the U.S. military; and 2) to recognize the new position of Inspector General and require the position to participate in the ERS as a condition of employment.

Additional initiatives and accomplishments for fiscal year 2018 included approval of a \$20 million allocation each to Golub Capital Partners 11, LP. and to White Oak Yield Spectrum Fund, LP.; approval of new actuarial equivalence tables effective July 1, 2018; approval of a revised Statement of Investment Policy updating long-term assumptions; launch of the ERS' new website as part of the Commission-wide redesign; commencement of a search for a pension administration system with document imaging capabilities and a member web-portal; and continued monitoring of existing investment managers.

Internal Controls

It is the responsibility of management to develop and maintain systems of internal controls, which are designed to provide reasonable, but not absolute, assurances for the safeguarding of assets and the reliability of financial records. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits derived, and the valuation of costs and benefits requires estimates and judgments by management. Controls are also put in place to limit the risk of collusion. However, it should be recognized that all internal controls have inherent limitations.

The Trust Agreement requires an annual accounting of the ERS' operations and activities and that the results of this analysis be reported to the Commission. The ERS' Independent Public Accountants' unqualified opinion is the highest possible result of the audit process and their report on the basic financial statements is included in the CAFR on pages 16-17.

Annually, the Board prepares and presents an operating budget setting forth projected expenditures for the operations of the ERS for the Commission's review and approval. The Board also prepares certain projected expenses, including banking, investment consulting and investment manager fees for the Commission's information. The Board closely monitors the fees and expenses from consultants and professional advisors to ensure comparability to other public funds of the ERS' size and complexity. Although there is no formal restriction or budget guideline imposed by parties outside the Board, the Board is sensitive to the limitations imposed on the Commission by the two counties.

The revenues necessary to finance retirement benefits are accumulated through employee and employer contributions and income on investments. The Board establishes investment objectives and policies; determines

appropriate asset allocation strategies; selects investment managers for appointment by the Commission; and evaluates investment performance. The ERS' investments are diversified, recognizing that a prudent policy preserves assets and maximizes earnings with appropriate risk, to provide asset growth consistent with long-term needs. For 2018 and 2017, the gains net of investment expense, were \$70,470,948 and \$111,662,056, respectively. Total contributions increased from \$27,019,385 in 2017 to \$32,023,431 in 2018. The increase can be attributed to the actuarial loss on assets and the change in assumptions due to the experience study. Total deductions increased by 6.5% from \$46,864,049 in 2017 to \$49,898,906 in 2018. Pension and disability benefits and refunds account for \$48,088,129, and the remainder of \$1,810,777 was attributed to administrative expenses (see page 22).

Funding Status

The ultimate test for a retirement system is the level of funding achieved. The better the level of funding, the larger the ratio of assets accumulated to pay liabilities and the greater the level of investment income potential. The Schedule of Funding Progress directly illustrates the financial stability of the ERS and presents a standardized measure of projected plan liabilities (see page 69). This measure allows the reader to assess the funding status of the ERS on a going concern basis, and to assess progress made in accumulating sufficient assets to pay benefits when due. The measure is the actuarial present value of credited projected benefits and independent of the funding method used to determine contributions. An actuarial valuation performed as of July 1, 2017, indicated that the funded ratio of the actuarial value of assets to the actuarial accrued liability for benefits was 90.7%. As of July 1, 2017, the actuarial value of assets was \$899,336,519, and the actuarial accrued liability was \$991,624,737.

Acknowledgments

The preparation of this CAFR reflects combined efforts of the ERS' staff. Special recognition is extended to Sheila Joynes for her lead role. This CAFR is intended to provide complete and reliable information as a basis for making management decisions, determining compliance with legal provisions, and for determining responsible stewardship for the assets contributed by the members of the Commission. I thank the Board, staff, consultants and service providers who have worked so diligently to assure the successful operation of the ERS.

Respectfully Submitted,



Andrea L. Rose
Administrator



Government Finance Officers Association

**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

**The Maryland-National Capital Park
and Planning Commission
Employees' Retirement System**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2017

Christopher P. Morill
Executive Director/CEO



Public Pension Coordinating Council

**Public Pension Standards Award
For Funding and Administration
2017**

Presented to

**The Maryland-National Capital Park and Planning
Commission Employees' Retirement System**

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

BOARD OF TRUSTEES

Elizabeth M. Hewlett, Chairman

Prince George's County Commissioner
Term expires: 6/30/2019

Gerald R. Cichy, Vice Chairman

Montgomery County Commissioner
Term expires: 6/30/2020

Rick Liu

Montgomery County Open Trustee
Term expires: 6/30/2021

Patricia Colihan Barney, CPA

Executive Director
Ex-Officio

Sheila Morgan-Johnson

Prince George's County Public Member
Term expires: 6/30/2020

Vacancy

Prince George's County Open Trustee
Term expires: 6/30/2021

Amy Millar

MCGEO Represented Trustee
Term expires: 6/30/2019

Howard Brown

FOP Represented Trustee
Term expires: 6/30/2019

Pamela F. Gogol

Montgomery County Public Member
Term expires: 6/30/2020

Barbara Walsh

Bi-County Open Trustee
Term expires: 6/30/2020

Joseph C. Zimmerman, CPA

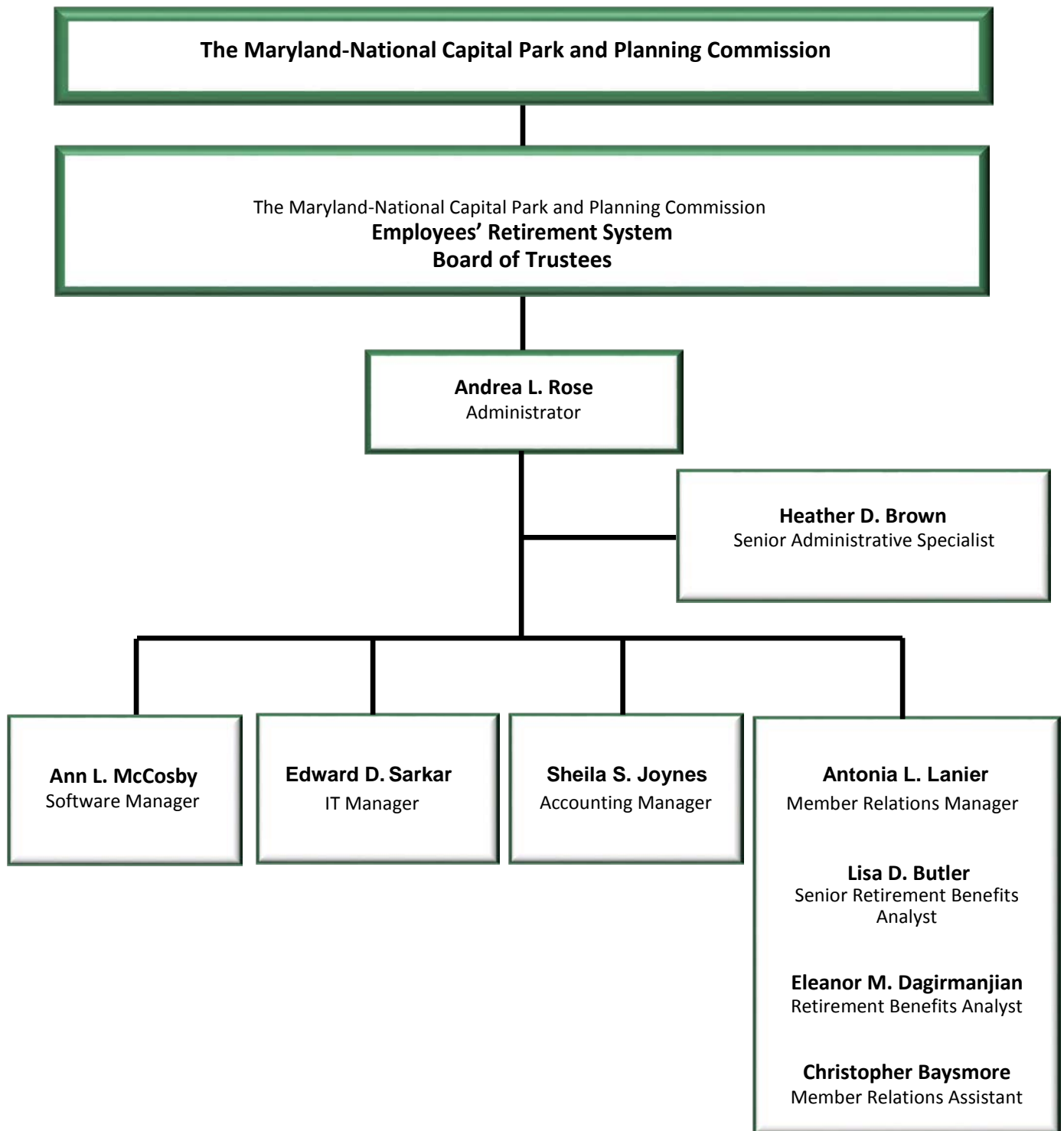
Secretary-Treasurer
Ex-Officio

The Board consists of 11 appointed and elected members as adopted by the Commission on July 24, 2001:

- Two Commissioners, one each from Montgomery and Prince George's counties, appointed by the Commission.
- The Commission's Executive Director, Ex-Officio, concurrent with tenure in office.
- The Commission's Secretary-Treasurer, Ex-Officio, concurrent with tenure in office.
- Three Open Trustees, one each from Montgomery and Prince George's counties and one from the Bi-County office (effective July 2003), as a result of an election conducted by the ERS.
- Two Public Members, one each from Montgomery and Prince George's counties, appointed by the Commission.
- Two Represented Trustees, one each from the Municipal and County Government Employees' Organization (MCGEO) and the Fraternal Order of Police (FOP). The MCGEO Representative is selected by the Chief Executive Officer of MCGEO and the FOP Representative is selected pursuant to an internal election process established by the FOP. Represented trustees continue in office until replaced by their successors.

Trustees serve for three-year terms. Trustees elect a chairman and vice chairman to serve for a two-year term. Generally, the Board meets on the first Tuesday of every month, except for August. Board meetings are open to all employees and members of the public. Members of the Board may be contacted in writing through the ERS. Announcements regarding the Board of Trustees are posted on the ERS' website <http://ers.mnccppc.org> and in the Commission's monthly newsletter, *Update*.

ORGANIZATIONAL AND REPORTING STRUCTURE



STAFF, CONSULTANTS AND PROFESSIONAL SERVICE PROVIDERS

STAFF

Andrea L. Rose

Administrator

Heather D. Brown

Senior Administrative Specialist

Member Relations

Antonia L. Lanier

Member Relations Manager

Lisa D. Butler

Senior Retirement Benefits Analyst

Eleanor M. Dagirmanjian

Retirement Benefits Analyst

Christopher Baysmore

Member Relations Assistant

Technical and Accounting Services

Sheila S. Joynes

Accounting Manager

Ann L. McCosby

Software Manager

Edward D. Sarkar

IT Manager

CONSULTANTS & PROFESSIONAL SERVICE PROVIDERS

Actuary

Boomershine Consulting Group, L.L.C.

Auditor

SB & Company, LLC

Banking

The Northern Trust Company

Bank of America

Investment Consultant

Wilshire Associates, Inc.

Legal

GROOM Law Group

M-NCPPC Legal Department

Robbins Geller Rudman & Dowd, LLP

Note: For the Investment Manager Directory see page 50, and for the Schedule of Broker Commissions see page 60.

Employees' Retirement System
The Maryland-National Capital Park and Planning Commission
6611 Kenilworth Avenue, Suite 100
Riverdale, Maryland 20737
Telephone (301) 454-1415
Fax (301) 454-1413
<http://ers.mncppc.org>

Hours of Service

Monday-Friday

8 a.m. to 5 p.m.





REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Board of Trustees

The Maryland National Capital Park and Planning Commission Employees' Retirement System

Report on the Financial Statements

We have audited the accompanying financial statements of The Maryland-National Capital Park and Planning Commission Employees' Retirement System (the ERS), as of June 30, 2018 and 2017, and for the years then ended, and the related notes to the financial statements, which collectively comprise the ERS' basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the plan'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 plan'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 respective fiduciary net position of the ERS, as of June 30, 2018 and 2017, and the respective changes in fiduciary net position for the years then ended, in accordance with accounting principles generally accepted in the United States of America.



SB & COMPANY, LLC
KNOWLEDGE • QUALITY • CLIENT SERVICE

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, Schedule of Changes in Net Pension Liability and Related Ratios, Schedule of Employer Contributions, Schedule of Money-Weighted Rate of Returns, and Notes to Required Supplementary Information be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the ERS' basic financial statements. The Schedule of Administrative Expenses, Schedule of Investment expenses, and Schedule of Payments to Consultants, the Introductory Section, Investment Section, Actuarial Section, and Statistical Section, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The schedule of administrative expenses, schedule of investment expenses, and schedule of 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 basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary information as listed in the previous paragraph is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The Introductory Section, Investment Section, Actuarial Section, and Statistical Section have not been subjected to the auditing procedures applied in the audits of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Hunt Valley, Maryland
September 19, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the Report provides readers with a narrative overview and analysis of the financial activities of the Maryland-National Capital Park and Planning Commission Employees' Retirement System (ERS) for the fiscal years ended June 30, 2018, 2017 and 2016. We encourage readers to consider the information presented here in conjunction with basic financial statements to enhance their understanding of the ERS' financial performance.

FINANCIAL HIGHLIGHTS

- The ERS' assets exceeded liabilities by \$920.8 million and \$868.2 million as of June 30, 2018 and 2017, respectively. Of this amount, \$920.8 million and \$868.2 million may be used to meet the obligations of current and future retirees and beneficiaries. During 2018, total fiduciary net position held in trust for pension benefits increased by \$52.6 million, or 6.1%, due to investment gains and increased by \$91.8 million, or 11.8% during 2017.
- The ERS' Net Pension Liability as of June 30, 2018 was \$ 111,891,977. The ratio of the Fiduciary Net Position to the Total Pension Liability was 89.2%.

OVERVIEW OF THE FINANCIAL STATEMENTS

The Management's Discussion & Analysis is intended to serve as an introduction to the ERS' basic financial statements. The basic financial statements contain two components: the ERS' Financial Statements and the Notes to the Financial Statements. In addition to the basic financial statements, this report also contains the following additional supplementary information required by the Governmental Accounting Standards Board: a Schedule of Changes in Net Pension Liability and Related Ratios, a Schedule of Employer Contributions, a Schedule of Money-Weighted Rate of Returns, and Notes to Required Supplementary Information.

The Statements of Fiduciary Net Position present information on all of the ERS' assets and liabilities, with the difference between the two reported as fiduciary net position restricted for pensions. Over time, increases or decreases in net position may serve as a useful indicator of whether the ERS' financial position is improving or deteriorating.

The Statements of Changes in Fiduciary Net Position present information showing how the ERS' net position changed during the fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, additions to and deductions from net position are reported in the statements for some items that will only result in cash flows in future fiscal periods (e.g. unrealized gains or losses on investments).

The Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements.

The Schedules of Changes in Net Pension Liability and Related Ratios, Employer Contributions and Money-Weighted Rate of Returns present historical trend information about the ERS. This information is intended to improve financial reporting for decision making, accountability and transparency.

MANAGEMENT'S DISCUSSION AND ANALYSIS

Financial Analysis of the System

Fiduciary Net Position and Changes in Fiduciary Net Position: The following table reflects the ERS' net position and changes in net position as of and for the years ended June 30, 2018, 2017 and 2016 (in thousands).

	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Assets			
Total assets	\$ 953,367	\$ 908,613	\$ 817,691
Liabilities			
Total liabilities	32,616	40,457	41,353
Fiduciary net position restricted for pensions	\$ 920,751	\$ 868,156	\$ 776,338
	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Changes in fiduciary net position			
Total additions, net	\$ 102,494	\$ 138,681	\$ 28,758
Total deductions, net	49,899	46,864	44,415
Net increase/(decrease) in fiduciary net position	\$ 52,595	\$ 91,817	\$ (15,657)

Assets

The largest component of fiduciary net position is the ERS' investments. As of June 30, 2018, 2017 and 2016, cash and investments amounted to approximately \$952.4 million, \$907.8 million, and \$816.6 million, respectively. In 2018 and 2017, the net increase in fiduciary net position was as a result of the net gain in the fair value of investments. In 2016, the decrease in fiduciary net position resulted primarily from a net loss from investing activities. Total receivables of \$0.9 million, \$0.8 million and \$1.0 million represent accrued income on investments and receivables of member contributions as of June 30, 2018, 2017 and 2016, respectively.

Liabilities

Liabilities are primarily comprised of amounts payable on securities lending transactions and investments payable. Securities lending liabilities amounted to approximately \$30.6 million, \$38.5 million, and \$38.9 million as of June 30, 2018, 2017 and 2016, respectively. These outstanding balances are offset with cash and investments being held as collateral on securities lending transactions. Investments payable represent purchases not settled by June 30 of each year. Investments payable were approximately \$0.8 million, \$0.6 million, and \$1.4 million as of June 30, 2018, 2017 and 2016, respectively.

Additions

The primary sources of net additions for the ERS include employer and member contributions and investment income. The following table reflects the source and amount of additions during the fiscal years ended June 30, 2018, 2017 and 2016 (in millions):

	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Employer contributions	\$ 24.8	\$ 20.3	\$ 27.2
Member contributions	7.2	6.7	6.4
Net investment gain/(loss)	70.5	111.7	(4.9)
Net Additions	\$ 102.5	\$ 138.7	\$ 28.7

MANAGEMENT'S DISCUSSION AND ANALYSIS

Financial Analysis of the System (continued)

Contributions

During 2018, the actuarial recommended employer contributions to the ERS increased from 14.3% (\$20,268,189) to 17.3% (\$24,822,301) of covered payroll. The increase in employer contributions is due to the actuarial loss on assets and the change in assumptions resulting from an experience study. During 2017, the actuarial recommended employer contributions to the ERS decreased from 20.1% (\$27,191,305) to 14.3% (\$20,268,189) of covered payroll. The decrease in employer contributions was due to actuarial asset value gains and assumption changes related to the cost-of-living adjustment. Effective July 1, 2007, employer contributions are paid based on the prior year's valuation. The ERS uses a five-year asset smoothing method to determine the actuarial value of plan assets. During the period July 1, 2016 through June 30, 2017, investment performance on the actuarial value of assets was 6.97%. Over the five-year period ending on the valuation date, July 1, 2017, the return on the actuarial value of assets was 7.88%.

Net Investment Income

The net investment gain for the ERS totaled \$70.5 million in 2018 and \$111.7 million in 2017. In 2016, there was a net investment loss that totaled (\$4.9) million. In 2018, the \$70.5 million investment gain was comprised of a net appreciation in fair value of investments of \$62.5 million, \$11.3 million in dividends and interest, \$0.1 million from securities lending, and \$3.5 million advisory and management fees. In 2017, the \$111.7 million investment gain was comprised of a net appreciation in fair value of investments of \$104.6 million, \$10.3 million in dividends and interest, \$0.2 million from securities lending, and \$3.7 million advisory and management fees. In 2016, the (\$4.9) million investment loss was comprised of a net depreciation in fair value of investments of (\$10.9) million, \$9.3 million in dividends and interest, \$0.1 million from securities lending, and \$3.3 million advisory and management fees.

Deductions

The deductions from the ERS include the payment of retiree and survivor benefits, participant refunds and administrative expenses. Deductions for 2018, 2017 and 2016 totaled \$49.9 million, \$46.9 million, and \$44.4 million, respectively. Such amounts represent increases of 6.5% and 5.5% over 2017 and 2016 respectively. At the beginning of fiscal year 2018, eligible retirees received a 1.3% cost-of-living adjustment which contributed to the 6.5% increase in deductions from 2017 to 2018. At the beginning of fiscal year 2017, eligible retirees received a .1% cost-of-living adjustment which contributed to the 5.5% increase in deductions from 2016 to 2017. The following table reflects the ERS' deductions by type in 2018, 2017, and 2016 (in thousands):

	2018	2017	2016
Benefits	\$ 47,628	\$ 44,628	\$ 42,258
Refunds	460	561	461
Administrative expenses	1,811	1,675	1,696
Total Deductions	\$ 49,899	\$ 46,864	\$ 44,415

Request for Information

This financial report is designed to provide an overview of the ERS. Questions concerning any of the information provided in this report should be addressed to Andrea L. Rose, Administrator, The Maryland-National Capital Park and Planning Commission Employees' Retirement System, 6611 Kenilworth Avenue, Suite 100, Riverdale, Maryland 20737.

STATEMENTS OF FIDUCIARY NET POSITION

June 30, 2018 and 2017

	<u>2018</u>	<u>2017</u>
INVESTMENTS AT FAIR VALUE (note 3)		
Fixed income securities	\$ 227,922,933	\$ 207,824,778
International fixed income securities	3,224,978	4,087,352
Venture capital/alternative investments	137,484,220	99,602,371
Corporate stock	370,228,825	381,674,975
International corporate stock	74,080,706	78,907,068
Real estate	81,025,388	73,845,438
Short term investments	28,650,722	24,314,068
Securities lending short term collateral investment pool	29,803,345	37,514,301
Total investments at fair value	<u>952,421,117</u>	<u>907,770,351</u>
 CASH	 <u>49,731</u>	 <u>53,189</u>
 RECEIVABLES		
Accounts receivable-member contributions	66,531	40,823
Accrued income on investments	793,376	733,881
Total receivables	<u>859,907</u>	<u>774,704</u>
 OTHER ASSETS		
Prepaid expenses	36,723	14,902
Total assets	<u>953,367,478</u>	<u>908,613,146</u>
 LIABILITIES		
Investments related payable	789,506	619,681
Accrued expenses	646,924	645,597
Refunds payable	628,977	734,483
Payable for securities lending collateral	30,550,782	38,457,569
Total liabilities	<u>32,616,189</u>	<u>40,457,330</u>
 FIDUCIARY NET POSITION RESTRICTED FOR PENSIONS	 <u>\$ 920,751,289</u>	 <u>\$ 868,155,816</u>

The accompanying notes are an integral part of the financial statements.

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

For the Years Ended June 30, 2018 and 2017

	<u>2018</u>	<u>2017</u>
ADDITIONS		
Contributions (note 2)		
Employer	\$ 24,822,301	\$ 20,268,189
Employees	7,201,130	6,751,196
Total contributions	<u>32,023,431</u>	<u>27,019,385</u>
Investment income		
Interest	10,694,124	9,707,262
Dividends	641,950	630,640
Net appreciation in fair value of investments	62,496,581	104,585,627
Other	19,856	248,142
Less - investment advisory and management fees	(3,496,644)	(3,675,541)
Net gain from investing activities	<u>70,355,867</u>	<u>111,496,130</u>
Securities lending activity (note 3)		
Securities lending income	625,548	444,450
Borrower rebate	(440,023)	(175,094)
Securities lending expenses:		
Less - management fees	(70,444)	(103,430)
Net income from securities lending	<u>115,081</u>	<u>165,926</u>
Net investment gain	<u>70,470,948</u>	<u>111,662,056</u>
Total additions	<u>102,494,379</u>	<u>138,681,441</u>
DEDUCTIONS		
Benefits and other payments		
Pension benefits	42,964,532	40,379,188
Disability benefits	86,661	86,296
Survivor and death benefits	4,576,486	4,162,791
Refunds of contributions	460,450	561,120
Administrative expenses (note 6)	1,810,777	1,674,654
Total deductions	<u>49,898,906</u>	<u>46,864,049</u>
NET INCREASE IN FIDUCIARY NET POSITION	<u>52,595,473</u>	<u>91,817,392</u>
FIDUCIARY NET POSITION RESTRICTED FOR PENSIONS		
Beginning of year	868,155,816	776,338,424
End of year	<u><u>\$ 920,751,289</u></u>	<u><u>\$ 868,155,816</u></u>

The accompanying notes are an integral part of the financial statements.

NOTES TO FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

The Maryland-National Capital Park and Planning Commission Employees' Retirement System (ERS), although a legally separate entity, is considered to be a blended component unit of the Maryland-National Capital Park and Planning Commission ("Commission"). Accordingly, the financial statements of the ERS are included as a pension trust fund in the Commission's basic financial statements.

The ERS is a retirement benefit trust organized by the Commission and is a qualified retirement plan pursuant to, and within the meaning of Section 401(a) of the Internal Revenue Code of 1986. The ERS is considered a single "pension plan" for purposes of financial reporting in accordance with accounting principles generally accepted in the United States of America, as no assets are legally restricted to the payment of certain benefits.

Basis of Accounting

The financial statements of the ERS are prepared on the accrual basis of accounting under which expenses are recorded when the liability is incurred; revenues are recorded in the accounting period in which they are earned and become measurable; and investment purchases and sales are recorded as of their trade date. Employee contributions for active members are established by the plan sponsor; set forth in the ERS' plan document; and, recognized when due. Employer contributions are recognized when due pursuant to formal commitments as recommended by the actuary and approved by the plan sponsor. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Use of Estimates

Management of the ERS has made certain estimates and assumptions relating to the reporting of assets and liabilities, and the disclosure of contingent assets and liabilities, to prepare these financial statements in conformity with accounting principles generally accepted in the United States of America. Actual results could differ from those estimates.

Fair Value

The ERS' investments are reported at fair value. Fair value is the amount that a plan can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale. The investments in short-term investment funds are reported at cost plus allocated interest, which approximates fair value. The securities lending collateral pool, which is a fund operated by the securities lending agent, also is accounted for at fair value, which represents the net position of the collateral received. U.S. government obligations, corporate and foreign bonds and notes, and common and preferred stocks, are generally valued based on published market prices and quotations from national security exchanges and securities pricing services.

For alternative investments, which include venture capital, private equity and real estate investments where no readily ascertainable fair value exists, management, in consultation with the general partner and investment advisors, has determined the fair values for the individual investments based upon the partnership's most recent available financial information. Securities that are not traded on a national security exchange are valued by the asset manager or third parties based on similar sales.

The pricing services used for fixed income securities uses the Interactive Data Corporation by Institutional Bid Evaluation daily; international fixed income securities uses the PC Bond Group or IBOXX by Institutional Mid Evaluation daily; corporate stock uses the Interactive Data Corporation as of the official close of NASDAQ daily; international corporate stock uses Telekurs by the Last Trade daily; venture capital uses the Limited Partnership by the Institutional Bid Evaluation or Valuation as Priced for U.S. and international; and real estate uses the Investment Managers by Evaluation as priced.

Investment expenses consist of investment managers' fees and those expenses directly related to the ERS' investment operations. GASB only requires disclosure of investment management fees which are "readily separable" from investment income. Due to the diversified investments, not all investment expenses are transparently disclosed in the statements. Partnership fees for private equity are drawn from committed capital; therefore, these fees are included within the net asset value and reported in the net appreciation/(depreciation) in fair value of investments.

NOTES TO FINANCIAL STATEMENTS

2. Organization and Plan Description

The Board of Trustees ("Board") administers the ERS in accordance with the Trust Agreement between the Commission and the Board and delegates the day-to-day operations to the Administrator. The Board's main responsibility is to administer the ERS for the sole benefit of the members and to pay the promised benefits. The assets of the ERS are invested with the objective of ensuring that sufficient funds will be available for meeting benefit payments. The Board consists of 11 appointed and elected members as follows: two Commissioners (one each from Montgomery and Prince George's counties); three employee trustees (one each from Montgomery and Prince George's counties and one from the Bi-County office); two public members (one each from Montgomery and Prince George's counties); two Represented Trustees (one MCGEO Representative and one Fraternal Order of Police Representative); and, the Commission's Executive Director and Secretary-Treasurer, who serve as Ex-Officio.

The ERS consists of five contributory, single employer defined benefit pension plans sponsored by the Commission. Three of the plans, Plan A, B and D are closed to new entrants, and two, Plan C and E are open for park police and general employees, respectively. The following description of the ERS provides general information. Participants should refer to the Plan Document for more complete information.

General Employees. General employees may be members of Plans A, B, or E. Plan A, the original plan effective July 1, 1972, is applicable to all employees who enrolled on a voluntary basis as of December 31, 1978, when membership was closed. Plan B became mandatory for all new full-time career general employees effective January 1, 1979, and ERS staff hired on or after March 1, 1994. Effective January 1, 2009, membership was mandatory for part-time Merit System employees, Commissioners and Appointed Officials of the Commission. Plan B is integrated with Social Security and members vest after five years of credited service, with the exception of Commissioners and Appointed Officials who receive full and immediate vesting. Membership in Plan B closed effective December 31, 2012. Under the terms of Plans A and B, the normal retirement date for participating general employees is the first day of the month coinciding with or immediately following the date on which a participant attains age 60 with at least 5 years of credited service, or upon completion of 30 years of credited service regardless of age. Plan E became mandatory for all full-time and part-time general career employees, ERS Staff, Commissioners and Appointed Officials hired on or after January 1, 2013. Plan E is integrated with Social Security and members fully vest after ten years of credited service, with the exception of Commissioners and Appointed Officials who receive full and immediate vesting. Normal retirement in Plan E is age 62 with 10 years of credited service or 30 years of credited service, regardless of age.

Park Police. Park Police may be members of Plans C or D. On July 1, 1990, a collectively bargained Plan D replaced Plan C, which was closed and all members transferred to the new Park Police Plan D. Effective July 1, 1993, again as a result of collective bargaining, Plan D was closed to new employees, and Plan C was amended and reopened to provide benefits for Park Police hired after July 1, 1993. Pursuant to a 2002 collective bargaining agreement, Plan D members were given a one-time election to transfer to Plan C on or before October 25, 2002.

The normal retirement date for Plan D members is the first day of the month coinciding with or immediately following the date on which the participant attains age 55 and has completed 5 years of credited service, or has completed 22 years of credited service, regardless of age. The normal retirement date for Plan C members is the first day of the month coinciding with or immediately following the date on which the participant attains age 55 and has completed 5 years of credited service, or has completed 25 years of credited service, regardless of age.

Benefit Payments. Benefit payments for Plans A, B, C, and D are determined by application of a benefit formula considering the average of an employee's annual base pay during the three consecutive years that produce the highest total earnings prior to retirement, and the number of years of credited service, up to 40 years for

NOTES TO FINANCIAL STATEMENTS

2. Organization and Plan Description (continued)

members of Plan A, 35 years for members of Plan B, 30 years for members of Plan C, and 32 years for members of Plan D. Benefit payments in Plan E are determined by application of a benefit formula considering the average of an employee's annual base pay during the five consecutive years that produce the highest total earnings prior to retirement and credited service up to 35 years. Under certain conditions, participants may elect to take early retirement at a reduced benefit level. Joint and survivor options are also available under all the plans.

Disability. Prior to August 1, 1982, disability benefits were available under the plans. Effective August 1, 1982, applications for disability retirement benefits were discontinued. All members who were receiving disability benefits, or who applied for disability benefits prior to August 1, 1982, continue to be covered under the terms of Plans A, B, and C. All applications for disability benefits subsequent to August 1, 1982, are covered under the Commission's Long-Term Disability Insurance Plan, which is not part of the ERS.

Cost-of-Living Adjustment (COLA). On July 1 each year, retirement income for participants retired at least six months is adjusted for changes in the cost-of-living as determined by the Consumer Price Index-All Items Annual Average, Urban Index for Major U. S. Cities (CPI). Plans A, B, C and D provide COLAS at 100% of the change in the CPI up to 3%, plus half of the change in the CPI in excess of 3%, up to a 5% maximum COLA for the portion of a member's benefit attributable to credited service earned prior to July 1, 2012, including earned and unused sick leave prior to January 1, 2013. The portion of a member's benefit attributable to credited service earned after July 1, 2012, including earned and unused sick leave on and after January 1, 2013, are subject to a maximum COLA of 2.5%. Plan E provides COLAs at 100% of the change in the CPI up to a maximum COLA of 2.5%.

Death Benefit. The ERS provides a \$10,000 post-retirement death benefit to beneficiaries of current and future retired members.

Sick Leave Integration. The ERS permits members to use up to a maximum of 301 days of earned and unused sick leave to meet the length of service requirements for retirement qualification.

Plan Termination. Although the Commission has not expressed any intent to terminate the Plans, it may do so at any time. In the event that the Plans are terminated, beneficiaries receiving benefits at the date of termination shall be entitled to an allocation of the remaining assets based upon the relationship of each individual's actuarial reserve to total actuarial reserves, the balance to be allocated (pro rata) to the remaining members or beneficiaries.

Membership by Plan

As of July 1, 2017, membership in the ERS was as follows:

	<u>Plan A</u> <u>(General)</u>	<u>Plan A</u> <u>(Police)</u>	<u>Plan B</u>	<u>Plan C</u>	<u>Plan D</u>	<u>Plan E</u>	<u>Total</u>
Inactive Plan Members (or their beneficiaries) Currently Receiving Benefits	307	17	967	63	106	1	1,461
Inactive Plan Members Not Entitled	-	-	299	22	2	56	379
Inactive Plan Members Entitled but Not Yet Receiving Benefits	-	-	250	9	1	-	260
Active Plan Members	2	-	1,371	198	5	526	2,102
Total membership	309	17	2,887	292	114	583	4,202

NOTES TO FINANCIAL STATEMENTS

2. Organization and Plan Description (continued)

Contributions

The Commission has agreed to make actuarially determined periodic contributions sufficient to provide the ERS with assets for payment of pension benefits. The rate for the Commission's employee group as a whole is expected to remain level as a percentage of annual covered payroll. The contribution rate is based on current service cost plus amortization of the unfunded actuarial accrued liability.

Employee contributions are established and amended by the Commission and set forth in the ERS' Plan Document. Employees participating in Plan A contribute 7% of their base pay. Park Police participating in Plans C and D contribute 9% and 8%, respectively, of their base pay. Employees participating in Plan B and E contribute 4% of their base pay up to the Social Security covered wage base and 7% and 8%, respectively, thereafter.

The total contributions to the ERS for 2018 and 2017 were \$32,023,431 and \$27,019,385, respectively. In 2018, the Commission contributed \$24,822,301 (17.3% of covered payroll of \$143,534,600). Employees contributed \$7,201,130 (5.0% of covered payroll). In 2017, the Commission contributed \$20,268,189 (14.3% of covered payroll of \$141,670,765). Employees contributed \$6,751,196 (4.8% of covered payroll). The Commission's contributions increased 22.5% from 2017 to 2018. The increase can be attributed primarily to the actuarial loss on assets and the change in assumptions resulting from an experience study.

3. Investments

The Board is authorized by the Trust Agreement to invest and reinvest the Trust Fund, as may be determined by the investment consultant selected by the Commission. The Board is authorized to formulate investment policies, develop investment manager guidelines and objectives, and approve the retention of qualified advisors and investment managers.

Trust Fund assets are invested to obtain an appropriate long-term total return consistent with prudent risk taking. The Trust Fund shall be diversified across investment classes and among investment managers in order to achieve return as compensation for investment risk. The Board established target allocations for each asset class, as well as ranges of expected exposure as follows:

Asset Class	Target Exposure	Expected Range
U.S. Equities	19.00%	14%-24%
International Equities	19.00%	14%-24%
Low Volatility Equities	8.00%	4%-12%
Private Equities	5.00%	0%-8%
Total Equities	51.00%	46%-56%
U.S. Core Fixed Income	10.00%	7%-13%
High Yield Fixed Income	7.50%	5%-10%
Global Opportunistic Fixed Income	7.50%	5%-10%
Bank Loans	4.00%	2%-6%
Total Fixed Income	29.00%	24%-34%
Public Real Assets	5.00%	0%-15%
Private Real Assets	15.00%	5%-20%
Total Real Assets	20.00%	10%-25%

The Board approved revisions to the Statement of Investment Policy ("Policy") on March 6, 2018. The Policy was amended to update the long-term assumptions.

Each investment manager has a set of guidelines, which contain investment objectives, and risk control provisions, which are appropriate for each manager's mission. Investment managers have discretion within the constraints of these guidelines and are subject to regular review by the Board. Investment manager assignments may be

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

implemented with pooled vehicles. In such circumstances, the ERS may not have control with respect to the investment guidelines and objectives as they are written broadly for multiple investors. The Trust Fund has guidelines, which apply broadly to each asset class as follows:

Public Equity Guidelines (U.S. and International)

- Under normal conditions, no more than 5% of the value of the U.S. and International composites should be held in cash equivalents at any time.
- The U.S. and International equity composites are expected to remain broadly diversified by economic sector, industry and individual securities at all times.
- The composites should match the asset class benchmark in terms of capitalization and growth characteristics, and be similar to the asset class benchmark in terms of risk.

Private Equity Guidelines

- The portfolio is expected to be diversified by geographic location with the following weightings: North America (approximately 50%), Europe (approximately 30%), and the Asia-Pacific region and other emerging markets (approximately 20%).
- The composite is expected to be diversified by the following investment types: buyouts, venture capital, growth equity, distressed, and special situations (private equity-like investments, such as mezzanine debt, asset-intensive assets or royalty streams and other opportunistic funds).
- Secondary fund investments and direct co-investments are permitted on an opportunistic basis with a combined maximum limit of 20%.
- Investments should be diversified by vintage year.
- No single partnership investment is expected to be more than 20% of the private equity composite. This guideline shall not apply during initial funding.

Fixed Income Guidelines

- The fixed income portfolio is structured to include exposures to the following sub-classes: core fixed income, high yield fixed income, global opportunistic fixed income and bank loans.
- The fixed income composite may have up to 20% of its value in cash equivalents at any time.
- Except for securities issued by the U.S. Government and/or its agencies, any single issuer is not expected to exceed 5% of the market value of the fixed income composite at any time.
- Duration of each fixed income sub-class should typically remain with +/- 1.5 years of the sub-class benchmark.
- Credit quality for each sub-class is expected to be similar to that of the designated sub-class benchmark, as measured by a recognized rating agency (Standard & Poor's or Moody's).
- Build America Bonds issued by Montgomery County and Prince George's County are prohibited.
- Flexible global opportunistic fixed income guidelines allow managers to invest globally, seeking to add value through duration management, yield curve positioning, sector/issue selection, country market selection and currency.

Real Assets Guidelines

- The real assets portfolio includes private real assets and public real assets.
- Any un-invested portion of the private real assets allocation should remain invested in public real assets.

Private Real Assets Guidelines

- Investments will be structured privately in the form of commingled or pooled vehicles, such as limited partnerships and diversified among the following investment types: real estate, energy, mining, timber, agriculture, and infrastructure.
- The private real assets portfolio is expected to be diversified by geographic location with a minimum of 50% invested in the United States and no more than 30% invested in emerging markets.

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

- Investments should also be diversified by vintage year. No single partnership commitment is expected to be more than 20% of the real assets portfolio or more than 20% of the portfolio of a fund-of-funds manager.

Public Real Assets Guidelines

- Investments structured in public real assets include natural resource stocks, real estate securities (including REITs), commodities, inflation indexed bonds, and global infrastructure that are broadly diversified, such that each sub-asset class may contribute to the portfolio's real return and risk profile.

Fair Value Measurements

The fair value of all invested assets, based on the fair value hierarchy, and categorized based upon the lowest level of input that was significant to the fair value measurement which represents the price that would be received if sold on the measurement date, were as follows:

Investments and Derivative Instruments Measured at Fair Value (\$ in thousands)

	Fair Value 6/30/2018	Fair Value Measurements Using			Undetermined
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investments by fair value level					
Cash and invested cash	\$ 5,613	\$ 5,613	\$ -	\$ -	\$ -
Debt securities					
Asset backed securities	7,011	-	7,011	-	-
Commercial mortgage-backed	3,285	-	3,285	-	-
Corporate bonds	29,592	-	29,592	-	-
Government agencies	9,159	-	9,159	-	-
Government bonds	15,384	-	15,384	-	-
Government mortgage-backed securities	16,442	-	16,442	-	-
Other fixed income-funds	2,886	-	2,886	-	-
Index linked government bonds	1,955	-	1,955	-	-
Provincial Bonds	460	-	460	-	-
Total debt securities	86,174	-	86,174	-	-
Equity investments					
Common stock	90,741	90,738	3	-	-
Total equity investments	90,741	90,738	3	-	-
Securities lending short term collateral investment pool	29,803	29,803	-	-	-
Total investments by fair value level	\$ 212,331	\$ 126,154	\$ 86,177	\$ -	\$ -

Investments Measured at the net asset value (NAV) (\$ in thousands)

	2018	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Short-term investment funds	\$ 23,037	None	Monthly	1-6 days
Funds-corporate bonds	34,071	None	Monthly	7-15 days
Other fixed income-funds	110,903	None	Monthly	7-15 days
Funds-common stock	353,569	None	Monthly	7-15 days
Venture capital and partnerships	137,484	None	Monthly, Quarterly	Frequent Changes
Real estate	81,026	None	Monthly	1-15 days
Total investments measured at NAV	740,090			
Total investments measured at fair value	\$ 952,421			

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

Investments and Derivative Instruments Measured at Fair Value (\$ in thousands)

	Fair Value 6/30/2017	Fair Value Measurements Using			Undetermined
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investments by fair value level					
Cash and invested cash	\$ 2,437	\$ 2,437	\$ -	\$ -	\$ -
Short-term investment funds	2,482	2,482	-	-	-
Debt securities					
Asset backed securities	5,073	-	5,073	-	-
Commercial mortgage-backed	2,393	-	2,393	-	-
Corporate bonds	24,509	-	24,509	-	-
Government agencies	2,919	-	2,919	-	-
Government bonds	17,804	-	17,804	-	-
Government mortgage-backed securities	15,454	-	15,454	-	-
Other fixed income-funds	3,790	-	3,790	-	-
Index linked government bonds	2,315	-	2,315	-	-
Provincial bonds	481	-	481	-	-
Total debt securities	<u>74,738</u>	<u>-</u>	<u>74,738</u>	<u>-</u>	<u>-</u>
Equity investments					
Common stock	95,575	95,572	3	-	-
Funds-common stock	17,439	-	17,439	-	-
Equity exchange traded fund	-	-	-	-	-
Total equity investments	<u>113,014</u>	<u>95,572</u>	<u>17,442</u>	<u>-</u>	<u>-</u>
Securities lending short term collateral investment pool	37,514	37,514	-	-	-
Total investments by fair value level	<u>\$ 230,185</u>	<u>\$ 138,005</u>	<u>\$ 92,180</u>	<u>\$ -</u>	<u>\$ -</u>

Investments Measured at the net asset value (NAV) (\$ in thousands)

	2017	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Short-term investment funds	\$ 19,395	None	Monthly	1-6 days
Funds-corporate bonds	33,354	None	Monthly	7-15 days
Other fixed income-funds	103,821	None	Monthly	7-15 days
Funds-common stock	347,568	None	Monthly	7-15 days
Venture capital and partnerships	99,602	None	Monthly, Quarterly	Frequent Changes
Real estate	73,845	None	Monthly	1-15 days
Total investments measured at NAV	<u>677,585</u>			
Total investments measured at fair value	<u>\$ 907,770</u>			

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

The pricing services used for fixed income securities (level 2) uses the Interactive Data Corporation by Institutional Bid Evaluation daily; international fixed income securities (level 2) uses the PC Bond Group or IBOXX by Institutional Mid Evaluation daily; corporate stock (level 1) uses the Interactive Data Corporation as of the official close of NASDAQ daily; international corporate stock (level 1) uses Telekurs by the Last Trade daily; venture capital (level 2) uses the Limited Partnership by the Institutional Bid Evaluation or Valuation as Priced for U.S. and international; and, real estate (level 2) uses the Investment Managers by Evaluation as priced.

Level 1 - Unadjusted quoted prices for identical instruments in active markets for identical assets or liabilities. Fair values of stocks are determined by utilizing quoted market prices.

Level 2 - Reflects measurements based on other observable inputs. Quoted prices for similar instruments in active markets; identical or similar instruments in markets that are not active; and models in which all significant inputs are observable.

Level 3 - Valuations are based on methods in which significant inputs are unobservable.

The carrying value of cash equivalents and short-term investments approximates fair value due to the short maturities of these investments.

Money-Weighted Rate of Return

For the years ended June 30, 2018 and 2017, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 8.03% and 14.62%, respectively for one year. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Investment Risks

The ERS has investments that are subject to various risks. Among these risks are custodial credit risk, interest rate risk, credit risk, and foreign currency risk. Each one of these risks is discussed in more detail below.

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the ERS will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the government, and are held by either a) the counterparty or b) the counterparty's trust department or agent but not in the government's name. The ERS requires that all investments be clearly marked as to ownership and to the extent possible, shall be registered in the name of the ERS.

Of the ERS' \$952.4 million in investments as of June 30, 2018, \$29.8 million were cash collateral reinvestment securities acquired by the custodian, whom is also the lending agent/counterparty. This is consistent with the ERS' securities lending agreement in place with the custodian.

For short term investments, custodial credit risk is the risk that in the event of a bank failure, the government's deposits may not be returned to it.

The amount of the ERS' total cash and short-term investments as of June 30, 2018 and 2017 was \$28,700,453 and \$24,367,257, respectively. Cash deposits that were insured and collateralized in the bank account totaled \$49,731 and \$53,189 as of June 30, 2018 and 2017, respectively. As of June 30, 2018, and 2017, the ERS held \$28,650,722 and \$24,314,068, respectively, of short-term investments in its custodial investment accounts.

As of June 30, 2018, the ERS did not hold any short-term investments exposed to custodial credit risk.

Each investment manager has duration targets and bands that control interest rate risk; however, the ERS does not have a policy relating to interest rate risk.

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

As of June 30, 2018, the ERS had the following fixed income investments and short-term investments with the following maturities:

Investment Type	Fair Value	Weighted Average Maturity-Years
Asset-backed securities	\$ 7,011,361	5.697226
Commercial mortgage-backed	3,284,884	22.722268
Corporate bonds	63,662,284	8.200564
Government agencies	9,159,171	8.158448
Government bonds	15,383,994	15.04401
Government mortgage-backed securities	16,442,101	23.860071
Index linked government bonds	1,955,337	8.08681
Provincial bonds	459,968	17.540401
Fixed income mutual funds	113,788,769	N/A
Short-term investment funds	23,037,353	N/A
TOTAL	\$ 254,185,222	12.633609

As of June 30, 2017, the ERS had the following fixed income investments and short-term investments with the following maturities:

Investment Type	Fair Value	Weighted Average Maturity-Years
Asset-backed securities	\$ 5,072,642	5.068466
Commercial mortgage-backed	2,392,629	26.739867
Corporate bonds	57,862,861	8.761937
Government agencies	2,919,452	6.854436
Government bonds	17,804,090	9.976094
Government mortgage-backed securities	15,453,446	24.568417
Index linked government bonds	2,315,317	11.033408
Provincial bonds	480,857	18.599925
Fixed income mutual funds	107,610,837	N/A
Short-term investment funds	21,876,871	N/A
TOTAL	\$ 233,789,002	12.445681

Asset-backed securities (ABS) are bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other providers of credit. The originator of the loan or accounts receivable paper sells it to a specially created trust, which repackages it as securities. Brokerage firms underwrite the securities and reoffer them to the public. The ERS held \$7,011,361 and \$5,072,642 in ABS as of June 30, 2018 and 2017, respectively.

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit risk of a debt instrument is measured by a nationally recognized statistical rating agency such as Standard & Poor's Services. Individual manager guidelines require investment managers to follow certain controls, documentation and risk management procedures. Managers are required to measure and monitor exposure to counterparty credit risk; however, there is no formal policy relating to a specific investment-related risk. All counterparties must have commercial paper credit ratings of at least A1 or equivalent rating.

Individual investment manager guidelines include limitations on the percentage of securities below investment grade and various types of securities including derivatives. A Derivatives Policy Statement identifies and allows common derivative investments and strategies which are consistent with the Statement of Investment Policy.

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

Credit Quality Ratings as of June 30, 2018:

Credit Quality Distribution for Services		% of Total Portfolio
Agency	AGY	3.51%
Government Agencies	AA	0.90%
Government Agencies	BBB	0.02%
Government Bonds	NR	0.04%
Government Mortgage Backed Securities	NR	0.04%
Asset Backed Securities	AAA	0.35%
Asset Backed Securities	AA	0.09%
Asset Backed Securities	A	0.01%
Asset Backed Securities	BBB	0.06%
Asset Backed Securities	NR	0.22%
Commercial Mortgage-Backed	AAA	0.15%
Commercial Mortgage-Backed	BBB	0.02%
Commercial Mortgage-Backed	NR	0.18%
Corporate Bonds	AAA	0.08%
Corporate Bonds	AA	0.27%
Corporate Bonds	A	1.22%
Corporate Bonds	BBB	1.48%
Corporate Bonds	BB	0.06%
Provincial Bonds	AA	0.04%
Provincial Bonds	A	0.01%
Other Fixed Income	NR	0.30%
Funds - Corporate Bond	NR	3.58%
Funds - Other Fixed Income	NR	11.64%
Funds - Short Term Investment	NR	2.42%

Credit Quality Ratings as of June 30, 2017:

Credit Quality Distribution for Services		% of Total Portfolio
Agency	AGY	3.80%
Government Agencies	AA	0.30%
Government Agencies	BBB	0.02%
Government Bonds	A	0.01%
Government Bonds	NR	0.03%
Government Mortgage Backed Securities	NR	0.08%
Asset Backed Securities	AAA	0.28%
Asset Backed Securities	AA	0.06%
Asset Backed Securities	BBB	0.04%
Asset Backed Securities	NR	0.18%
Commercial Mortgage-Backed	AAA	0.06%
Commercial Mortgage-Backed	NR	0.21%
Corporate Bonds	AAA	0.06%
Corporate Bonds	AA	0.27%
Corporate Bonds	A	1.04%
Corporate Bonds	BBB	1.34%
Provincial Bonds	AA	0.04%
Other Fixed Income	NR	0.42%
Funds - Corporate Bond	NR	3.67%
Funds - Other Fixed Income	NR	11.44%
Funds - Short Term Investment	NR	2.41%

NR = Not rated

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

The ERS does not have a policy for foreign currency risk. Foreign currency is intentionally unhedged.

The ERS' exposure to foreign currency risk as of June 30, 2018 was as follows:

<u>Investment Type</u>	<u>Currency</u>	<u>Fair Value</u>
Common stock	Brazilian real	\$ 934,013
Common stock	British pound sterling	6,101,964
Common stock	Canadian dollar	1,462,299
Common stock	Czech koruna	653,792
Common stock	Euro	20,712,331
Common stock	Hong Kong dollar	1,105,682
Common stock	Indonesian rupiah	485,547
Common stock	Japanese yen	5,643,758
Common stock	Mexican peso	1,214,432
Common stock	New Taiwan dollar	4,093,224
Common stock	Norwegian krone	3,297,591
Common stock	Singapore dollar	1,541,760
Common stock	South Korean won	2,303,683
Common stock	Swiss franc	1,442,421
Common stock	Turkish lira	559,768
Total		\$ 51,552,265

The ERS' exposure to foreign currency risk as of June 30, 2017 was as follows:

<u>Investment Type</u>	<u>Currency</u>	<u>Fair Value</u>
Common stock	British pound sterling	\$ 10,161,857
Common stock	Canadian dollar	1,298,811
Common stock	Czech koruna	695,296
Common stock	Euro	17,094,017
Common stock	Hong Kong dollar	2,223,578
Common stock	Indonesian rupiah	753,561
Common stock	Japanese yen	5,508,997
Common stock	Mexican peso	1,450,364
Common stock	New Taiwan dollar	5,217,836
Common stock	Norwegian krone	3,256,884
Common stock	Singapore dollar	1,340,640
Common stock	South Korean won	2,701,503
Common stock	Swedish krona	1,223,473
Common stock	Swiss franc	1,848,489
Common stock	Turkish lira	1,058,916
Cash	Mexican peso	50,858
Cash	Euro	22,657
Cash	Norwegian krone	12,619
Total		\$ 55,920,356

Note: These schedules do not agree with the total international obligations and international equities as listed on the Statements of Fiduciary Net Position due to international obligations valued in U.S. dollars but classified as international.

NOTES TO FINANCIAL STATEMENTS

3. Investments (continued)

Cash Received as Securities Lending Collateral

The ERS accounts for securities lending transactions in accordance with GASB No. 28, *Accounting and Financial Reporting for Securities Lending Transactions*, which established standards of accounting and financial reporting for securities lending transactions.

The Board authorized the lending of fixed income securities, which activity is managed by the custodian bank. The Board authorized a securities lending loan cap of 50%, effective February 1, 2011. There were no violations of legal or contractual provisions, and no borrower or lending agent default losses known to the securities lending agent as of June 30, 2018 and 2017.

Securities are loaned against collateral that may include cash, U.S. government securities, and irrevocable letters of credit. U.S. government securities are loaned against collateral valued at 102% of the fair value of the securities plus any accrued interest. Non-U.S. government securities are loaned against collateral valued at 105% of the fair value of the securities plus any accrued interest. Non-cash collateral cannot be pledged or sold unless the borrower defaults. Consequently, the non-cash collateral has not been reported as an asset or liability on the Statements of Fiduciary Net Position. All securities loans can be terminated on demand by either the lender or the borrower, although the average term of overall loans were approximately 120 days in 2018 and 145 days in 2017.

Cash open collateral is invested in a short-term investment pool, the Northern Trust Collective Securities Lending Core Short Term Investment Fund, which had an interest sensitivity of 29 days as of June 30, 2018, and 33 days as of June 30, 2017. Cash collateral may also be invested separately in “term loans”, in which case the investments match the loan term. These loans can be terminated on demand by either lender or borrower. There are no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited to the ERS’ accounts on approximately the fifteenth day of the following month.

The custodial bank’s responsibilities include performing appropriate borrower and collateral investment credit analysis; demanding adequate types and levels of collateral; and complying with applicable Department of Labor and Federal Financial Institutions Examination Council regulations concerning securities lending. Loss indemnification is provided when securities are not returned due to the insolvency of a borrower and the trustee bank fails to fulfill its contractual responsibilities relating to the lending of those securities to that borrower.

The following table presents the fair values of the underlying securities, and the value of the collateral pledged as of June 30, 2018:

<u>Securities Lent</u>	<u>Fair Value</u>	<u>Cash Collateral Received*</u>
Fixed income securities	\$ 13,046,677	\$ 13,358,054
Domestic equities	16,756,668	17,192,728
Total	\$ 29,803,345	\$ 30,550,782

The following table presents the fair values of the underlying securities, and the value of the collateral pledged as of June 30, 2017:

<u>Securities Lent</u>	<u>Fair Value</u>	<u>Cash Collateral Received*</u>
Fixed income securities	\$ 16,878,951	\$ 17,278,541
Domestic equities	18,559,037	18,988,537
Global equities	2,076,313	2,190,491
Total	\$ 37,514,301	\$ 38,457,569

*The securities collateral value is based on the ERS’ pro rata share of the value of the securities collateral maintained at The Northern Trust Company on the program wide collateralization levels.

NOTES TO FINANCIAL STATEMENTS

4. Derivatives Policy Statement

A Derivatives Policy Statement identifies and allows common derivative investments and strategies, which are consistent with the Statement of Investment Policy. The guidelines identify transaction-level and portfolio-level risk control procedures and documentation requirements. Managers are required to measure and monitor exposure to counterparty credit risk. All counterparties must have commercial paper credit ratings of at least A1 or equivalent rating. The duration and other risk exposure limits specified in the managers' guidelines are expected to be satisfied on an ongoing basis. Investment managers are permitted to use such derivatives for hedging purposes, including cross-hedging of currency exposures, to replicate the risk/return profile of an asset or asset class, and to tactically change country exposure. Derivative securities such as "plain vanilla" collateralized mortgage obligations (CMOs) and structured notes are allowed. CMOs which are not "plain vanilla" are restricted to 5% of a manager's portfolio. Any use of derivatives not listed above is prohibited without written approval of the Board. As of June 30, 2018 and June 30, 2017, the ERS did not hold any derivatives. Gains and losses are determined based on quoted fair values and recorded in the Statements of Changes in Fiduciary Net Position. The objective of Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments* is to enhance the usefulness and comparability of derivative instrument information reported by state and local governments.

The following uses of derivatives are prohibited:

- **Leverage.** Derivatives shall not be used to magnify exposure to an asset beyond that which would be allowed by the guidelines.
- **Unrelated Speculation.** Derivatives shall not be used to create exposures to securities, currencies, indices, or any other financial variable, unless such exposures would be allowed by the manager's guidelines if created with non-derivative securities.

Typically, investment advisors enter into foreign exchange contracts to make payment for international investments. Foreign exchange contracts are agreements to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. The investment advisor uses these contracts primarily for its international investments to settle pending trades. To reduce the risk of counterparty nonperformance, the investment advisors generally enter into these contracts with institutions meeting high standards of credit worthiness. The realized and unrealized gain/loss on contracts are included in the ERS' net position and represents the fair value of the contracts as of June 30, 2018 and June 30, 2017, the ERS' contracts to purchase and sell by foreign currencies as follows:

Foreign Exchange Contracts Settled as of June 30, 2018:

Currency	Purchases	Realized Gain/(Loss)	Sells	Realized Gain/(Loss)
Brazilian real	\$ 1,099,127	\$ -	\$ (3,920)	\$ (13)
British pound sterling	-	-	(4,584,921)	(4,452)
Canadian dollar	-	-	(151,947)	(513)
Czech koruna	-	-	(105,937)	(267)
Euro	5,928,421	1,694	(4,302,963)	(16,146)
Hong Kong dollar	158,610	(24)	(2,119,179)	(321)
Indonesian rupiah	-	-	(93,154)	87
Japanese yen	737,460	(3,407)	(797,232)	(3,890)
Mexican peso	-	-	(244,680)	(362)
New Taiwan dollar	1	-	(686,456)	(114)
Norwegian krone	-	-	(517,786)	(1,318)
Singapore dollar	-	-	(240,677)	136
South Korean won	-	-	(332,857)	(79)
Swedish krona	62	-	(1,032,819)	(997)
Swiss franc	3	-	(277,132)	(415)
Turkish lira	-	-	(138,193)	(723)

NOTES TO FINANCIAL STATEMENTS

4. Derivatives Policy Statement (continued)

Foreign Exchange Contracts Settled as of June 30, 2017:

<u>Currency</u>	<u>Purchases</u>	<u>Realized Gain/(Loss)</u>	<u>Sells</u>	<u>Realized Gain/(Loss)</u>
Brazilian real	\$ 78,809	\$ -	\$ (1,075,667)	\$ 3
British pound sterling	5,576,132	(3,001)	(3,573,754)	(7,409)
Canadian dollar	103,874	(1,049)	(388,821)	1,553
Czech koruna	70,074	159	(269,035)	1,479
Euro	6,175,490	(3,826)	(8,384,737)	15,821
Hong Kong dollar	1,054,672	(77)	(880,674)	87
Indonesian rupiah	70,784	-	(242,825)	(248)
Japanese yen	969,873	(315)	(2,299,036)	2,365
Mexican peso	348,523	1,069	(471,257)	(6,710)
New Taiwan dollar	1,028,504	(7)	(1,844,311)	2,864
Norwegian krone	237,222	771	(1,118,971)	3,049
Singapore dollar	55,744	(424)	(376,346)	(102)
South Korean won	225,133	-	(874,965)	(547)
Swedish krona	139,903	212	(416,410)	3,666
Swiss franc	207,634	(264)	(700,711)	447
Turkish lira	125,191	403	(364,408)	(1,174)

There were no foreign exchange contracts pending as of June 30, 2018.

Foreign Exchange Contracts Pending June 30, 2017:

<u>Currency</u>	<u>Purchases</u>	<u>Unrealized Gain/(Loss)</u>	<u>Sells</u>	<u>Unrealized Gain/(Loss)</u>
Japanese yen	\$ 289,245	\$ (222)	\$ -	\$ -
Mexican peso		-	(50,858)	(127)

5. Net Pension Liability

The measurement date for implementation of GASB 67 is the ERS' fiscal year end, June 30, 2018. Plan assets (Fiduciary Net Position) are measured as of this date. The Total Pension Liability (TPL) as of this date is based on an actuarial valuation as of July 1, 2017, with adjustments made for the one-year difference. Adjustments include service cost, interest on total pension liability, and expected benefit payments during the year. Under GASB 67, the Net Pension Liability (NPL) is established as the difference between the Total Pension Liability and the Plan Fiduciary Net Position.

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

	<u>Total for ERS</u>
Total Pension Liability	\$1,032,643,266
Plan Fiduciary Net Position	920,751,289
Net Pension Liability	\$ 111,891,977
Plan Fiduciary Net Position as a percentage of Total Pension Liability	89.2%

NOTES TO FINANCIAL STATEMENTS

5. Net Pension Liability (continued)

Actuarial Assumptions

The total pension liability as of June 30, 2018 was determined by an actuarial valuation, using the following actuarial assumptions, applied to all periods included in the measurement:

COLA: 2.4% compounded annually for benefits accrued until July 1, 2012, 2.0% compounded annually thereafter

Inflation: 2.5%

Salary Increases: 2.5% + variable service based increases

Investment Return: 6.95%, net of investment expense and including inflation

Mortality rates were based on the RP-2000 Mortality Table with male rates set forward 1 year and female rates set forward 2 years with generational adjustments for mortality improvements based on Scale BB. An alternate table was used for the valuation of disabled members.

The actuarial assumptions used in the July 1, 2017 valuation were based on the results of an actuarial experience study in 2016 for the period July 1, 2010 through June 30, 2015. The Board agreed to annually review the investment return assumption.

Actuarial Cost Method

For financial reporting purposes, the July 1, 2017 actuarial valuation was performed using the Entry-Age Normal Actuarial Cost Method.

Assumed Rate of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each asset class, based on inputs from a survey of investment professionals. These allocations are combined to produce a 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. This is then modified through a Monte-Carlo simulation process, by which returns are simulated over a 30-year period, and a risk adjustment is applied to the baseline expected return. This method accounts for not only expected returns, but adjusts for volatility of returns by asset class as well as correlations between the different classes.

Best estimates of long-term real rates of return for each major asset class included in the pension plan's target asset allocation, and the final investment return assumption, are summarized in the following table:

Asset Class	Long-Term Expected Real Return - Portfolio
Domestic Equity, including Low Volatility	5.70%
International Equity- Developed	5.75%
Fixed Income & Bank Loans –U.S.	2.00%
Fixed Income - U.S. High Yield	3.75%
Fixed Income – International	2.40%
Public Real Assets	2.55%
Private Equity	7.60%
Private Real Assets	4.65%
Cash	0.80%
Total Weighted Average Real Return	4.58%
Plus Inflation	2.50%
Total Return w/o Adjustment	7.08%
Risk Adjustment	-0.13%
Total Expected Return	6.95%

NOTES TO FINANCIAL STATEMENTS

5. Net Pension Liability (continued)

Discount Rate

The discount rate used to measure the total pension liability was 6.95%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that Commission 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 rates of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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

The following presents the net pension liability of the Commission, calculated using the discount rate of 6.95%, as well as what the Commission's net pension liability would be if it were calculated using a discount rate that is 1.00% lower and 1.00% higher than the current rate:

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
	5.95%	6.95%	7.95%
Total Pension Liability	\$ 1,179,375,651	\$ 1,032,643,266	\$ 914,691,203
Plan Net Position	920,751,289	920,751,289	920,751,289
Net Pension Liability	<u>\$ 258,624,362</u>	<u>\$ 111,891,977</u>	<u>\$ (6,060,086)</u>
Ratio of Plan Fiduciary Net Position to Total Pension liability	78.1%	89.2%	100.7%

6. Administrative Expenses

The Board employs internal staff to perform all accounting and administrative services. Administrative expenses are primarily comprised of salaries and related costs, professional fees, and office expenses. In accordance with a Trust Agreement and Memorandum of Understanding between the ERS and the Commission, the administrative expenses are determined by the ERS and paid from the ERS' Trust Fund within the limits of the budget approved by the Commission. The cost of such services for the years ended June 30, 2018 and 2017 was \$1,810,777 and \$1,674,654, respectively. The administrative expenses are financed by the employer contributions.

The liability for accrued leave as of June 30, 2018 and 2017, was \$184,470 and \$172,635 respectively, and has been included in accrued expenses in the accompanying financial statements.

Administrative expenses charged to the ERS by the Commission for 2018 were: computer services of \$47,200, legal of \$64,200, rent of \$108,680, postage of \$3,530, and copier leasing costs of \$4,471. In 2017, the expenses were: computer services of \$47,200, legal of \$64,200, rent of \$96,015, postage of \$4,104, and copier leasing costs of \$3,588.

7. Federal Income Taxes

The ERS obtained its latest determination letter on November 20, 2014, in which the Internal Revenue Service (IRS) stated that the ERS, as amended, is in compliance with the applicable requirements of the Internal Revenue Code and the related trust is tax exempt.

In Announcement 2015-19, the IRS announced elimination of the staggered 5-year determination letter remedial amendment cycles for individually designed plans effective January 1, 2017.

NOTES TO FINANCIAL STATEMENTS

8. Retirement Contributions for ERS Employees

Effective March 1, 1994, new employees of the ERS are required to participate in the ERS. Those employees remaining in the Board established 401(a) Defined Contribution Plan (the “401(a) Plan”) receive an ERS contribution at the rate of 8% of base pay, and the employee contribution is at the rate of 6% of base pay.

Upon termination of employment, the amount accumulated in the 401(a) Plan shall be made available to the employee or designee, in accordance with the policies and procedures of the 401(a) Plan and in compliance with IRS regulations. The payroll for two employees covered by the 401(a) Plan for the year ended June 30, 2018 was \$287,472 and the total payroll was \$911,661. The ERS’ contribution to the 401(a) Plan was \$22,125 (2.4% of covered payroll) for the year ended June 30, 2018.

The payroll for two employees covered by the 401(a) Plan for the year ended June 30, 2017 was \$280,830 and the total payroll was \$884,590. The ERS’ contribution to the 401(a) Plan was \$23,224 (2.6% of covered payroll) for the year ended June 30, 2017.

In addition, employees are eligible to participate in a Section 457 Deferred Compensation Plan “(the “457 Plan”)”. Participation is voluntary, and the ERS does not contribute to the 457 Plan. Upon termination of employment, the amount accumulated in the 457 Plan shall be made available to the employee or designee, in accordance with the policies and procedures of the 457 Plan and in compliance with IRS regulations. ERS employees electing to participate, do so in the Commission’s Section 457 deferred compensation plan. The contributions made to this plan are held in trust for the exclusive benefit of participants and their beneficiaries.

9. Other Post-Employment Benefits (OPEB)

Plan Description

In addition to the pension benefits provided for the ERS, the Commission provides post-retirement health care benefits under a cost sharing plan, in accordance with Commission approval, to all full-time and part-time career employees of the ERS who have been insured under any Commission-sponsored group medical plan during the three years immediately preceding the date of retirement or ability to prove similar coverage in another plan immediately prior to retirement. These benefits are administered through a separate trust of the Commission. Currently, 2 ERS retirees are participating in the Commission’s medical plans. The ERS contributes 80% of the amount of medical, dental, prescription and vision insurance rates for retirees. For ERS active employees, the ERS contributes 82.5% of the amount of all medical and dental insurance rates, except for the lowest cost medical plan and the prescription plan. The cost share for the lowest cost medical plan and the prescription plan remains at 85% paid by the ERS. The ERS contributes 80% of the low vision option. Detailed information of the plan may be accessed via the Commission’s CAFR.

Funding Policy

The ERS pays the contributions for Other Post-Employment Benefits (OPEB) in connection with the implementation of the accounting requirements of GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, based on requested actuarial amounts from the Commission and plan sponsor. For the years ended June 30, 2018 and 2017, the ERS contributed \$15,312 and \$13,749, respectively. The total OPEB liability is reported within the Commission’s reporting entity and is not allocated to the ERS. The OPEB is documented as a part of the Commission’s CAFR. Questions concerning the OPEB information may be addressed to the Department of Finance, Office of the Secretary-Treasurer, The Maryland-National Capital Park and Planning Commission, 6611 Kenilworth Avenue, Suite 204, Riverdale, Maryland 20737 or via the Commission’s website, <http://www.mncppc.org> (See Budget/CAFR).

NOTES TO FINANCIAL STATEMENTS

10. Risk Management

The ERS is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; natural disasters; and identity theft. The ERS addresses these risks by purchasing workers' compensation (Maryland state mandatory limits) insurance, unemployment insurance, fiduciary liability, theft, business owners, and cyber liability insurance. The ERS did not pay any claims settlements in excess of insurance coverage in 2018 or 2017, nor was any insurance coverage reduced in 2018 or 2017. The ERS' employees have various options in their selection of health insurance benefits that are offered through the Commission's self-insurance program. The Commission self-insures the following medical plans: a health maintenance organization (HMO), an exclusive provider organization (EPO), a point of service (POS) as well as the prescription drug plan. All other group health insurance plans are fully insured including a dental plan and a vision plan with three coverage options.

11. Accounting Pronouncements

The GASB recently issued Statement No. 85 *Omnibus*. The statement addresses consistency in accounting and financial reporting issues that have been identified during implementation and application of certain GASB Statements. The Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits [OPEB]) We have applied the standards that are applicable.

12. Subsequent Changes

At its July 18, 2018 meeting, the Commission adopted plan design death benefit changes in Plans B and E for non-represented employees who die in active service. The changes will be effective in fiscal year 2019.

During FY2018, the Board adopted a \$20 million allocation each to Golub Capital Partners, II, L.P. ("Golub") and White Oak Yield Spectrum Fund, L.P. ("White Oak"). Closings for Golub and White Oak were July 1, 2018 with initial contributions made July 2, 2018 and July 24, 2018, respectively.

REQUIRED SUPPLEMENTARY INFORMATION

UNDER GASB 67

Schedule of Changes in Net Pension Liability and Related Ratios¹ For Years Ended June 30

	Fiscal Year				
	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 20,413,028	\$ 20,196,060	\$ 18,125,110	\$ 19,015,744	\$ 16,635,683
Interest	68,693,630	66,311,451	61,280,153	64,188,829	60,003,715
Changes in benefit terms ²	-	(6,233)	(4,863)	-	-
Difference between expected and actual experience	(5,306,607)	(9,213,536)	(20,701,234)	610,807	
Changes in assumptions	6,290,280	34,368,804	(13,818,623)	9,147,692	
Benefit payments, including refunds	(48,088,129)	(45,189,395)	(42,718,801)	(40,382,818)	(38,407,073)
Net Change in Total Pension Liability	42,002,202	66,467,151	2,161,742	52,580,254	38,232,325
Total Pension Liability - Beginning of Year	990,641,064	924,173,913	922,012,171	869,431,917	831,199,592
Total Pension Liability - End of Year	\$ 1,032,643,266	\$ 990,641,064	\$ 924,173,913	\$ 922,012,171	\$ 869,431,917
Plan Fiduciary Net Position					
Contributions – employer	\$ 24,822,301	\$ 20,268,189	\$ 27,191,305	\$ 28,149,976	\$ 28,750,323
Contributions – member	7,201,130	6,751,196	6,418,154	6,339,732	5,413,595
Net investment income	70,470,948	111,662,056	(4,851,526)	3,340,520	107,897,795
Benefit payments, including refunds	(48,088,129)	(45,189,395)	(42,718,801)	(40,382,818)	(38,407,073)
Admin. expenses	(1,810,777)	(1,674,654)	(1,696,334)	(1,587,371)	(1,487,210)
Net Change in Plan Fiduciary Net Position	52,595,473	91,817,392	(15,657,202)	(4,139,961)	102,167,430
Plan Fiduciary Net Position - Beginning of Year	\$ 868,155,816	776,338,424	791,995,626	796,135,587	693,968,157
Plan Fiduciary Net Position - End of Year	\$ 920,751,289	\$ 868,155,816	\$ 776,338,424	\$ 791,995,626	\$ 796,135,587
Net Pension Liability - Beginning of Year	\$ 122,485,248	\$ 147,835,489	\$ 130,016,545	\$ 73,296,330	\$ 137,231,435
Net Pension Liability - End of Year	111,891,977	122,485,248	147,835,489	130,016,545	73,296,330
Plan Fiduciary Net Position as a percentage of Total Pension Liability	89.2%	87.6%	84.0%	85.9%	92.0%
Covered Employee Payroll	143,534,600	141,670,765	135,041,803	129,134,125	129,911,593
Net Pension Liability as a percentage of Covered Payroll	78.0%	86.5%	109.5%	100.7%	56.0%

¹Data for 2009-2013 is not readily available.

²Effective January 1, 2016, Employee contributions for Plan C were changed from 8.5% of Base Pay to 9.0% of Base Pay and for Plan D were changed from 7.5% of Base Pay to 8.0% of Base Pay.

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Employer Contributions (unaudited)

Year	Actuarially Determined Employer Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered- Employee Payroll
2009 ¹	\$ 13,983,669	\$ 14,933,506	\$ (949,837)	\$122,825,271	12.20%
2010	17,614,908	17,614,908	-	132,240,949	13.30%
2011 ²	35,206,700	25,633,000	9,573,700	142,590,713	18.00%
2012	32,182,287	32,182,287	-	140,407,414	22.90%
2013	23,806,058	23,806,058	-	132,490,722	18.00%
2014	28,750,323	28,750,323	-	129,911,593	22.10%
2015	28,149,976	28,149,976	-	129,134,125	21.80%
2016	27,191,305	27,191,305	-	135,041,803	20.10%
2017	20,268,189	20,268,189	-	141,670,765	14.31%
2018 ³	19,422,872	24,822,301	(5,399,429)	143,534,600	17.29%

¹ An additional amount of \$949,837 for a retirement incentive program offered by the Commission made the overall employer contribution for 2009 equal to \$14,933,506.

² The Commission made a contribution of \$25,633,000. As a result, the unfunded actuarial accrued liability increased by \$9,573,700 and is amortized as part of future annual required contributions.

³ The 2016 Actuarial Valuation has been revised, resulting in a reduction of the previously calculated Actuarially Determined Employer Contribution of \$5,399,429.

Note to Required Supplementary Information

The information presented in the required supplementary schedule was determined as part of the actuarial valuations at the date indicated. Additional information as of the most recent actuarial valuation follows:

Actuarial Valuation Date	Actuarial Cost Method	Asset Valuation Method (A)	Asset Valuation Method (B)	Investment Rate of Return	Projected Salary Increases	Post-Retirement Benefit Increase (C)
7/1/2017	Entry age Normal	15 years Open/Rolling	5 year smoothing	6.95%	2.50% plus variable Merit	2.4% (prior to 7/1/12/2.0% after 7/1/12)

(A) The ERS amortizes the unfunded actuarial accrued liability over an open/rolling 15-year period.

(B) A 5-year asset smoothing method is used as the Actuarial Value of Assets to determine the funding requirements for the ERS.

(C) Cost-of-living adjustments (COLA) for the Plans are based on 100% of the change in the CPI up to 3%, plus half of the change in the CPI in excess of 3%, up to a 5% maximum COLA. Effective July 1, 2012, the portion of a person's retirement benefits attributable to credited service for periods on or after July 1, 2012 and earned unused sick leave beginning on or after January 1, 2013 are subject to a 2.5% maximum annual COLA.

A full assumption review was conducted in 2016; the July 1, 2016 and July 1, 2017 Actuarial Valuations reflect all the changes in assumptions and methods. One additional assumption change was made as of July 1, 2017, a reduction in the assumed rate of return from 7.00% to 6.95%.

REQUIRED SUPPLEMENTARY INFORMATION
UNDER GASB 67
Schedule of Money-Weighted Rate of Returns¹
For Years Ended June 30

	2018	2017	2016	2015	2014	2013	2012	2011	2010
Annual money-weighted rate of return, net of investment expense	8.03%	14.62%	0.21%	0.70%	15.30%	12.35%	3.01%	21.80%	14.48%

¹Data for 2009 not readily available.

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The **Schedule of Changes in Net Pension Liability and Related Ratios** shows the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service and the liability of the Commission to plan members for benefits provided by the plan.

The **Schedule of Employer Contributions** highlights the historical actuarially determined contribution less the actual Commission contribution and reflects the actual contributions as a percentage of covered-employee payroll for the 10-year period ended June 30, 2018. With the exception of 2009 and 2011, the Commission has consistently contributed 100% of the actuarially determined employer contribution.

The **Schedule of Money-Weighted Rate of Returns** expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

SUPPLEMENTARY SCHEDULE
Schedule of Administrative Expenses
Fiscal Years Ended June 30

	Actual 2018	Actual 2017
PERSONNEL SERVICES		
Salaries and wages	\$ 911,661	\$ 884,590
Social Security contributions	66,305	63,871
Retirement contributions	141,053	79,225
Insurance contributions	157,985	152,042
Other employee benefits	55,251	27,397
Unemployment compensation	378	378
TOTAL PERSONNEL SERVICES	<u>1,332,633</u>	<u>1,207,503</u>
Professional and contractual services		
Actuarial	36,240	40,750
Auditing & Tax services	23,346	21,295
Legal	142,145	123,250
Computer services	50,800	60,250
Payroll Services	3,866	3,669
Total professional and contractual services	<u>256,397</u>	<u>249,214</u>
Communication costs		
Advertising	974	760
Telephone	-	1,151
Postage	3,530	4,104
Travel,conference and meetings	13,859	25,139
Total communication costs	<u>18,363</u>	<u>31,154</u>
Other services and charges		
Office space rental	108,680	96,015
Equipment leasing	4,471	3,588
Furniture and equipment	7,762	3,131
Supplies	5,961	3,880
Maintenance	26,349	31,604
Bonding and insurance	44,815	43,945
Dues and subscriptions	2,275	1,965
Other services	3,071	2,655
Total other services and charges	<u>203,384</u>	<u>186,783</u>
Total	<u>\$ 1,810,777</u>	<u>\$ 1,674,654</u>

SUPPLEMENTARY SCHEDULE
Schedule of Investment Expenses
Fiscal Years Ended June 30

	2018	2017
Investment managers		
Fixed income	\$ 1,538,960	\$ 1,358,466
U.S. Equity	279,690	306,193
International equity	946,397	1,303,566
Private equity	46,404	4,454
Real assets	193,454	207,363
Total investment managers' fees	<u>3,004,905</u>	<u>3,180,042</u>
Other investment service fees		
Custodian fees	298,739	296,599
Investment consulting fees	193,000	198,900
Security lending fees:		
Borrower rebate	440,023	175,094
Management fees	70,444	103,430
Total other investment service fees	<u>1,002,206</u>	<u>774,023</u>
Total	<u><u>\$ 4,007,111</u></u>	<u><u>\$ 3,954,065</u></u>

SUPPLEMENTARY SCHEDULE

Schedule of Payments to Consultants

Fiscal Years Ended June 30

<u>Firm Name</u>	<u>Nature of Service</u>	<u>2018</u>	<u>2017</u>
SB & Company, LLC	Auditor	\$ 23,346	\$ 21,295
Wilshire Associates, Inc.	Investment Consultant	193,000	198,900
Boomershine Consulting Group, LLC	Actuary	36,240	40,750
GROOM Law Group	Legal	77,945	59,050
The Maryland-National Capital Park and Planning Commission Legal Department	Legal	64,200	64,200
The Maryland-National Capital Park and Planning Commission Finance Department	Computer Services	47,200	47,200
Total		<u>\$ 441,931</u>	<u>\$ 431,395</u>

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INVESTMENT MANAGER DIRECTORY

U.S. EQUITY

Chicago Equity Partners
J.P. Morgan Investment Management
The Northern Trust Company
RhumbLine Advisors, L.P.

INTERNATIONAL EQUITY

Capital Group
Earnest Partners, L.L.C.

GLOBAL MINIMUM VOLATILITY

BlackRock Institutional Trust Company, N.A.

PRIVATE EQUITY

Wilshire Associates Inc.

FIXED INCOME

Core Fixed Income

C.S. McKee, L.P.
Eaton Vance Management

High Yield Fixed Income

Loomis Sayles & Company, L.P.
Neuberger Berman Fixed Income, LLC

Opportunistic Fixed Income

Golub Capital
Western Asset Management Company
Oaktree Capital Management, L.P.

Bank Loans

Voya Investment Management

PRIVATE REAL ASSETS

Aberdeen Capital Management, LLC
Grosvenor Capital Management
Principal Global Investors, LLC

PUBLIC REAL ASSETS

State Street Global Advisors

INVESTMENT CONSULTANT'S REPORT



To: Andrea Rose, Administrator
The Maryland-National Capital Park and Planning Commission
Employees' Retirement System Board of Trustees

From: Bradley A. Baker, Vice President
Wilshire Associates ("Wilshire")

Date: August 21, 2018

Subject: Annual Investment Consultant's Review

Overview

The overall goal of Maryland-National Capital Park and Planning Commission Employees' Retirement System ("ERS") is to provide benefits, as anticipated under the ERS governing plan document, to its participants and their beneficiaries through a carefully planned and executed investment program. Through this program, the ERS seeks to produce a return on investment commensurate with levels of liquidity and investment risk that are prudent and reasonable given the financial status of the ERS and the prevailing capital market conditions. While the ERS recognizes the importance of the preservation of capital, it also recognizes the critical importance of a reasonable investment return in meeting the long-term financial requirements of the ERS. It adheres to the theory of capital market pricing that maintains that varying degrees of investment risk should be rewarded with varying levels of compensating return. Consequently, prudent risk-taking is both necessary and justifiable.

The asset allocation policy is based on data and calculations resulting from the Actuarial Valuation conducted by the actuary, Boomershine Consulting Group, and the subsequent Asset/Liability study conducted by the investment consultant, Wilshire Associates, presented March 1, 2016, but no changes were made at that time.

The asset allocation policy was amended in first quarter 2017 following the approval of the Low Volatility Equity allocation and offsetting reduction to U.S. Equity and International Equity allocations. This asset allocation policy has been implemented as of second quarter 2017, with the exception of the private investments, which will fund gradually over time.

Asset Class	Target %	Range %
U.S. Equities	19.0	14-24
International Equities	19.0	14-24
Low Volatility Equities	8.0	4-12
Private Equities	5.0	0-8
Total Equities	51.0	46-56
U.S. Core Fixed Income	10.0	7-13
High Yield Fixed Income	7.5	5-10
Bank Loans	4.0	2-6
Global Opportunistic Fixed Income	7.5	5-10
Total Fixed Income	29.0	24-34
Public Real Assets	5.0	0-15
Private Real Assets	15.0	5-20
Total Real Assets	20.0	10-25

Outline of Investment Policies

The policies and procedures of the investment program guide its implementation and outline the specific responsibilities of the ERS.

Therefore, it is the policy of the ERS to:

1. Base the investment of the assets of the ERS on a financial plan that will consider:
 - a. The financial condition of the ERS
 - b. The expected long-term capital market outlook
 - c. The ERS' risk tolerance
 - d. Future changes of active and retired participants
 - e. Projected inflation and the rate of salary increases
 - f. Cash flow requirements
 - g. Targeted funding level as a percentage of the actuarial funding target.

In developing its financial plan, the Board has relied on the ERS' investment consultant, as one of the ERS' expert fiduciaries, to advise the Board as to the long-term capital market outlook and the Board's options available to meet its investment objectives in light of that investment outlook. The investment consultant has advised the Board as to the potential impact on the funding level of alternative investment policies in terms of risk and return based on various levels of asset diversification and the current and projected liability structure of the ERS. Based on this advice, the Board has adopted an overall investment performance goal commensurate with the level of risk necessary to reach those goals.

2. Based on the financial plan and the advice of the investment consultant, the Board shall determine the specific allocation of the investments among the various asset classes considered prudent given the ERS' liability structure. The long-term asset allocation shall be expressed in terms of a target and ranges for each asset class to provide sufficient flexibility to take advantage of short-term market opportunities as they may occur. Asset allocation shall be sufficiently diversified to maintain a prudent level of risk, as determined by the Board, based on the investment consultant's expert opinion and projections that utilize reasonable, generally accepted capital market assumptions to ensure the current asset mix has a high probability of achieving the long-term goals of the retirement program
3. In accordance with the asset allocation guidelines so adopted, the ERS' investment consultant shall advise and recommend to the Board external investment managers with demonstrated experience and expertise whose investment styles collectively will implement the planned asset allocation. Based on these recommendations, the Board will select the investment advisors that it deems most capable of carrying out the ERS' investment objectives. Upon the advice of the investment consultant, the Board will set guidelines for these managers and regularly review their investment performance against stated objectives.
4. It is the responsibility of the Board to administer the investments of the ERS at the lowest reasonable cost, taking into account the need to ensure quality. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to the ERS.

The Board of the ERS has general supervision of the investment and reinvestment of the funds of the ERS (the "Funds"). The specific investment-related duties of the Board and, by delegation, of its investment consultant and advisors, include but are not limited to:

1. Selection and appointment of investment consultant and management professionals to assist the Board to carry out its duties;
2. Establishment and implementation of investment policy with the advice and assistance of the Board's investment consultant and investment advisors;
3. Review and general supervision of the activities of the Board's investment consultant and investment advisors with regard to the ERS' assets.

Investment Results

The investment results provided are calculated by the ERS' investment consultant, Wilshire Associates. The returns are accurate and representative of the actual performance of the Plan. The following describes the performance measurement process that is used to arrive at the investment results:

Performance measurement reporting begins with the monthly collection of data from three sources:

- Banks – Wilshire obtains transaction and asset information from trustee banks electronically. These transactions and security holdings are then loaded into client files on Wilshire's performance measurement system. Wilshire also tracks the availability and timeliness of statements sent by trustee banks. In addition, Wilshire has a dedicated team of data analysts responsible for maintaining statement receipts and portfolio data feeds, and loading asset portfolios into the performance system.
- Investment Managers – Wilshire receives investment manager returns and detailed account statement information to use in the return reconciliation process.
- External Data Vendors and Wilshire Data Sources – Wilshire's centralized security data division collects extensive security level data from external data vendors, while the index department collect returns and portfolios on over 800 benchmarks. Wilshire's manager research department collects manager returns and portfolios for the construction of universes. This data is also loaded into the performance system.

Monthly rates of return are calculated by Wilshire software using a time-weighted rate of return methodology based upon market values. Wilshire's calculation procedure is consistent with the recommendations of both the CFA Institute and the Bank Administrative Institute.

Tolerance ranges have been established for each asset class for return variance with the manager. When returns fall outside this tolerance range, Wilshire will review individual holdings, prices, accruals, cash flows and fees to determine where the discrepancies lie. If an error has been made, Wilshire will work with appropriate parties to correct the error. If the difference is due to structural differences in the way the sources perform their calculations, Wilshire will include an explanation in the reconciliation. Reconciliation work is documented and can be provided to the client for its records.

Market Overview

Major Asset Class Returns for Periods Ending June 30, 2018

	QTR	YTD	1 Year	3 Year	5 Year	10 Year
Equity						
Wilshire 5000 Index	3.83	3.04	14.66	11.85	13.36	10.23
Standard & Poor's 500 Index	3.44	2.65	14.38	11.93	13.42	10.17
MSCI EAFE(N) Index	-1.24	-2.75	6.84	4.90	6.44	2.84
MSCI ACWI ex-U.S. (N) Index	-2.61	-3.77	7.27	5.07	5.99	2.54
MSCI Emerging Market (N) Index	-7.96	-6.65	8.20	5.60	5.01	2.26
Fixed Income						
Bloomberg Barclays Aggregate Bond Index	-0.16	-1.62	-0.40	1.72	2.27	3.72
Merrill Lynch High Yield BB/B Index	0.66	-0.47	1.81	4.94	5.31	7.35
S&P LSTA Leverage Loan Index	0.44	1.83	3.736	3.69	3.37	4.91
Bloomberg Barclays Global Aggregate Index	-2.78	-1.46	1.36	2.58	1.50	2.58
Treasury Bills (91 Day)	0.46	0.81	1.36	0.68	0.42	0.35
Real Assets						
Barclays U.S. TIPS Index	0.77	-0.02	2.11	1.93	1.68	3.03
Bloomberg Barclays Commodity Index	0.40	0.00	7.35	-4.54	-6.40	-9.04
Wilshire Global REIT Index	7.30	1.08	5.54	7.08	7.82	6.88
NCREIF ODCE (EW) Index	1.89	3.89	7.68	8.70	10.21	4.17
U.S. CPI	0.98	2.22	2.87	1.83	1.54	1.42

U.S. Equity

The U.S. stock market was up 3.8% for the second quarter. Volatility has returned this year but is approximately in line with long-term historical figures. Although there have been more up days than down during 2018, the daily losses have been more substantial. Trade and tariffs continued to help drive markets this spring, as did increased anti-euro sentiment in Italy.

A common measurement of the slope of the yield curve, the 10-year minus 2-year Treasuries spread, has been on the decline since late 2013 and is currently below the long-term average at 0.38%. It should be noted that the last three times that the spread went negative (1989, 2000 and 2007) the U.S. economy entered a recession not long afterwards. Continued economic growth without upward movement in long rates could be an indication that market participants are expecting a slowdown on the horizon.

Non-U.S. Equity

Equity markets outside of the U.S. produced mixed results while currency had a major effect on U.S.-based investors. As global growth slowed and the Federal Reserve adopted a more aggressive stance on interest rates, the U.S. dollar was up approximately 5% versus a basket of currencies. The European Union faces a fresh challenge with political developments in Italy, already being rattled by the Greek financial crisis and Brexit in past years.

Fixed Income

The U.S. Treasury yield curve rose but continued to flatten during the quarter. The Federal Open Market Committee decided to increase its overnight rate by 25 basis points in June to a range of 1.75% to 2.00%. Credit spreads widened during the quarter within investment grade credit but were little changed for the high yield market.

Portfolio Review

The ERS net of fee investment performance as of June 30, 2018 is detailed in the following table:

Maryland-NCPPC ERS	\$000	Comp %	Calendar				
			YTD %	1 Year %	3 Year %	5 Year %	Inception %
Total Fund (9/30/89)	922,000	100.0%	1.0	7.9	7.2	7.4	7.6
<i>Policy Index/Blended Benchmark</i>			0.4	7.2	6.4	6.9	7.7
Domestic Equity Comp (9/30/89)	173,659	18.9%	3.3	14.7	11.3	12.6	9.6
<i>Wilshire 5000 Index</i>			3.0	14.7	11.9	13.4	9.8
International Equity Comp (3/31/95)	167,328	18.1%	-2.7	10.0	7.5	7.3	6.3
<i>Policy Index</i>			-3.8	7.3	5.1	6.0	4.9
Global Min. Volatility Comp (6/30/17)	72,245	7.8%	-0.1	7.8	--	--	7.8
<i>MSCI ACWI Min. Volatility Index (N)</i>			-0.3	7.3	--	--	7.3
Private Equity Comp (6/30/13)	59,956	6.5%	8.3	17.3	17.0	8.9	8.9
<i>Wilshire 5000 Index</i>			-0.4	10.7	8.2	9.4	9.4
Fixed Income Comp (9/30/89)	258,592	28.0%	-0.2	2.0	4.0	4.0	6.5
<i>Bloomberg Barclays Aggregate Bond Index</i>			-1.6	-0.4	1.7	2.3	4.4
Private Real Asset Comp (9/30/07)	132,211	14.4%	3.5	5.8	7.2	7.7	2.4
<i>Policy Index</i>			4.7	8.0	6.9	6.6	1.2
Public Real Asset Comp (3/31/13)	51,625	5.6%	0.4	6.1	3.2	2.1	0.8
<i>Policy Index</i>			0.5	6.2	3.4	2.3	0.9
Managed Cash	6,384	0.7%	--	--	--	--	--

The chart above displays the calendar year to date (YTD), one, three, five and inception-to-date returns for the total fund and each of the underlying composites (Periods greater than one-year represent annualized figures). Monthly rates of return are calculated by Wilshire software using a time-weighted rate of return methodology based upon market values. Wilshire's calculation procedure is consistent with the recommendations of both the CFA Institute and the Bank Administrative Institute. The chart shows the relevant broad market benchmark for the asset classes. As applicable, it also shows the policy index, which is a blend of benchmarks used currently and historically; and in some cases, represents a weighted benchmark consisting of multiple indexes.

The ERS' total portfolio posted a positive return of +7.9% over the trailing one-year period ending June 30, 2018. During this period, the portfolio exceeded its policy index, which returned +7.2%. Over the past one-year period, all asset classes posted positive returns, which attributed to strong absolute investment performance. Total portfolio returns have been +7.2% and +7.4% over the three year and five year periods, respectively, which are on an average annualized basis. Strong U.S. equity markets combined with a maturing Private Equity portfolio have contributed to absolute returns during these longer-term periods.

Within equity markets, the domestic equity composite posted a +14.7% return compared to that of +14.7% for the Wilshire 5000 Index over the trailing one-year period ending June 30, 2018. Longer-term results over the three- and five-year periods were quite strong, posting a +11.3% and +12.6% return, respectively, during each of those time periods. The international equity portfolio posted strong absolute and relative investment returns over the past year. The portfolio returned +10.0 % while the MSCI ACWI ex-U.S. Index, comprised of both developed and

emerging market stocks, was up +7.3% over the trailing one-year period in U.S. Dollar terms. Lastly, private equity investments continue to mature while posting strong returns of +17.3% in this segment of the portfolio over the past year.

The fixed income composite returned +2.0% during the past year, while the domestic investment grade market represented by the Bloomberg Barclays Aggregate Index returned -0.4%. “Non-core” investments within the fixed income portfolio including high yield (+2.1%) and global/opportunistic (+3.5%) strategies positively influenced the total fixed income portfolio outperforming the broader investment grade fixed income market. The investment opportunities within the Global Opportunistic segment of the portfolio will continue to be evaluated and considered as legacy investments continue to mature and provide a return of capital.

Within the real asset segment of the portfolio, both Private and Public investments posted positive trailing one-year absolute returns of +5.8% and +6.1%, respectively. The public real assets composite has underlying exposures to real estate securities, commodities, global natural resource/energy stocks and global infrastructure. All the underlying exposures within the Public Real Asset segment of the portfolio are implemented through passively managed index funds. The private real assets composite returned +5.8% for the trailing one-year period. A portion of this portfolio has benefited from the continued recovery of the commercial real estate market since the global financial crisis. The remaining portion of the portfolio provides exposure to various natural resource, energy, and infrastructure related investments, some of which are returning positively while others are still early in their lifecycles and results are not fully meaningful at this stage.

The ERS Board continued its efforts in maintaining best practices with its investment monitoring, focused on competitive fees and ongoing education. Current portfolio investments are reviewed and monitored on ongoing basis, while due diligence on potential investments opportunities are conducted on a regular basis.

If you have any questions or need any further information regarding the Plan or investment results, please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Bradley A. Baker". The signature is written in a cursive, slightly slanted style.

Bradley A. Baker
Vice President

INVESTMENT MANAGER MATRIX

As of June 30, 2018

Manager Name and/or Fund Name	Style	Market Value ¹ \$(000)	% of Fund
U.S. Equity			
J.P. Morgan Commingled Pension Trust Fund	130/30 Short Extension	\$ 16,336	1.8%
Chicago Equity Partners	Small Cap Value	17,531	1.9%
Northern Trust Collective Russell 2000 Growth Index Fund	Small Cap Growth	19,016	2.1%
RhumbLine S&P 500 Pooled Index Trust	Large Core	120,776	13.1%
		\$ 173,659	18.9%
International Equity			
Capital Group Institutional All Countries Equity Trust	ACWI ex-U.S.	\$ 83,418	9.0%
Earnest Partners, L.L.C.	ACWI ex-U.S.	83,910	9.1%
		\$ 167,328	18.1%
Global Minimum Volatility			
Blackrock MSCI ACWI Minimum Volatility Index	MSCI ACWI Min Volatility	\$ 72,245	7.8%
Private Equity			
Wilshire MNCPPC Employee Retirement System Global, L.P. (I)	Other	\$ 50,123	5.4%
Wilshire MNCPPC Employee Retirement System Global, L.P. (II)	Other	9,833	1.1%
		\$ 59,956	6.5%
Fixed Income			
C.S. McKee, L.P.	Core	\$ 49,735	5.4%
Eaton Vance Management	Core	38,152	4.1%
Golub Capital	Middle Market Direct Lending	17,500	1.9%
Loomis Sayles High Yield Full Discretion Trust	High Yield	33,984	3.7%
Neuberger Berman High Yield Bond Fund, LLC	High Yield	34,071	3.7%
Voya Senior Loan Fund	Bank Loans	37,158	4.0%
Western Asset Global Multi-Sector, LLC	Global Multi-Sector	39,760	4.3%
Oaktree Real Estate Debt Fund, L.P.	Real Estate Debt	7,699	0.8%
Oaktree Opportunities Fund VIII, L.P.	Distressed Opportunities	533	0.1%
		\$ 258,592	28%
Private Real Assets			
Principal U.S. Property Account	Real Estate	\$ 69,159	7.5%
Aberdeen Energy & Resources Partners II, L.P.	Real Assets	10,971	1.2%
Aberdeen Real Estate Partners II, L.P.	Real Estate	4,176	0.5%
Aberdeen Energy & Resources Partners III, L.P.	Real Assets	15,974	1.7%
Aberdeen Real Estate Partners III, L.P.	Real Estate	10,770	1.2%
GCM Grosvenor Real Asset Investments, L.P.	Real Assets	21,161	2.3%
		\$ 132,211	14.4%
Public Real Assets			
SSgA Custom Real Asset Non-Lending Strategy	Diversified	\$ 51,625	5.6%
Cash		\$ 6,384	0.7%
TOTAL		\$ 922,000	100%

¹ Market values provided by Wilshire Associates are not prepared by, reviewed or approved by any of the ERS' partnerships, general partners or any of their respective affiliates.

LIST OF LARGEST HELD DOMESTIC EQUITIES

As of June 30, 2018

Equity Income Securities	No. of Shares	Fair Value
ICON PLC COM	22,783	\$ 3,019,431
AMADEUS IT GROUP EUR0.01	32,749	2,584,760
DNB ASA NOK10	115,468	2,256,828
ADR HDFC BK LTD ADR REPSTG 3 SHS	19,054	2,001,051
SAFRAN SA EUR0.20	16,239	1,972,772
DIAGEO ORD PLC	54,108	1,944,490
CORE LABORATORIES NV NLG0.03	14,717	1,857,433
ADR NOVARTIS AG	23,036	1,740,139
DENSO CORP NPV	34,800	1,700,335
CARNIVAL CORP COM PAIRED	29,189	1,672,822
RELX NV	77,921	1,661,689
BARCLAYS PLC ORD GBP0.25	661,094	1,649,610
TAIWAN SEMICON MAN TWD10	230,000	1,633,239
ADR EQUINOR ASA SPONSORED ADR	60,542	1,598,914
HEINEKEN NV EUR1.60	15,800	1,586,836
SECOM CO NPV	20,400	1,566,766
DBS GROUP HLDGS NPV	79,000	1,541,760
HSBC HLDGS ORD USD0.50(UK REG)	157,013	1,473,256
MAGNA INTL INC COM NPV	25,158	1,462,299
SAMSUNG ELECTRONIC KRW5000	34,700	1,452,450

A complete list of assets can be obtained at the office of the Employees' Retirement System.

LIST OF LARGEST HELD FIXED INCOME SECURITIES

As of June 30, 2018

Fixed Income Securities	Par	Fair Value
UNITED STATES TREAS BDS DTD 2.75% 11-15-2047	\$ 1,649,000	\$ 1,573,507
UNITED STATES TREAS BDS DTD 00218 3.875%DUE 08-15-2040 REG	1,355,000	1,559,308
UNITED STATES TREAS BDS INDEX LINKED 1.75 DUE 01-15-2028 REG	1,164,000	1,521,283
UTD STATES TREAS 1.875% 12-15-2020	1,543,000	1,517,082
UNITED STATES TREAS BDS 3% DUE 05-15-2047 REG	1,160,000	1,163,399
UNITED STATES TREAS NTS 1.875% 06-30-2024	1,158,000	1,107,473
UNITED STATES TREAS NTS DTD 01/31/2018 2.5% DUE 01-31-2025 REG	1,062,000	1,042,627
UNITED STATES TREAS NTS DTD 00368 1.375%DUE 09-30-2018 REG	896,000	894,638
UNITED STATES TREAS 2.25% DUE 10-31-2024	882,000	853,783
VNDO 2012-6AVE MTG TR SER 2012-6AVE CL A2.9950 144A DUE 11-15-2030	848,000	836,043
FEDERAL HOME LN MTG CORP POOL #G0-8741 3% 01-01-2047 BEO	830,324	804,207
FEDERAL HOME LN MTG CORP 3.25% 06-14-2023	785,000	785,071
UNITED STATES TREAS 2.75% 02-15-2028	780,000	773,327
UTD STATES TREAS 2.75% DUE 04-30-2023	746,000	746,729
UNITED STATES TREAS NTS DTD 2.25% 11-15-2027	763,000	725,297
FEDERAL HOME LN MTG CORP POOL #G16043 3.5% 08-01-2030 BEO	710,043	719,692
UNITED STATES TREAS BDS DTD 3.125% 05-15-2048	684,000	702,997
FEDERAL FARM CR BKS CONS SYSTEMWIDE BDS 3.7% 03-13-2028	645,000	643,549
FEDERAL HOME LN MTG CORP POOL #G08726 3%10-01-2046 BEO	614,855	596,016
FEDERAL FARM CR BKS CONS SYSTEMWIDE BDS 3.55% DUE 09-08-2026 REG	524,000	524,000

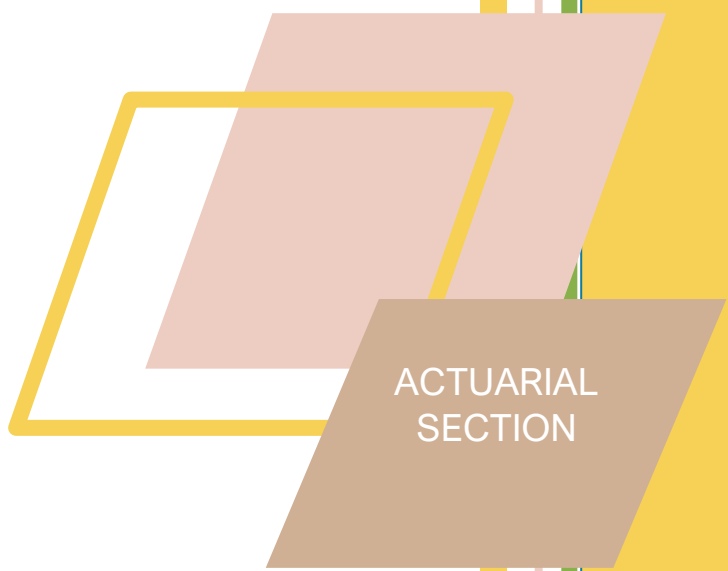
A complete list of assets can be obtained at the office of the Employees' Retirement System.

SCHEDULE OF BROKER COMMISSIONS

As of June 30, 2018

Broker	Shares	Commissions	Commission per share
BARCLAYS BANK PLC (ALL U.K. OFFICES)	1,260	\$ 50	4.00%
BRADESCO S.A. CTVM	35,400	214	0.60%
CANTOR CLEARING SERVICES	4,665	1,075	23.04%
CITIGROUP GLOBAL MARKETS INC.	37,910	899	2.37%
COLLINS STEWART	1,629	57	3.50%
CONVERGEX EXECUTION SOLUTION	866	30	3.46%
COWEN AND COMPANY, LLC	9,790	464	4.74%
CREDIT SUISSE SECURITIES (USA) LLC	200	8	4.00%
GOLDMAN, SACHS AND CO.	19,503	1,648	8.45%
J.P. MORGAN SECURITIES LLC	6,005	227	3.78%
J.P. MORGAN SECURITIES PLC	48,180	2,760	5.73%
LIQUIDNET INC	35,275	2,977	8.44%
MERRILL LYNCH INTERNATIONAL LIMITED	6,166	415	6.73%
MERRILL LYNCH PIERCE FENNER & SMITH	341,886	2,795	0.82%
MKM PARTNERS LLC	500	20	4.00%
STATE STREET GLOBAL MARKETS LLC	4,960	89	1.79%
STIFEL NICOLAUS & CO, INCORPORATED	4,716	199	4.22%
UBS SECURITIES LLC	11,545	505	4.37%
VIRTU AMERICAS LLC	1,850	68	3.68%
WELLS FARGO BANK, N.A.	2,000	70	3.50%
WILLIAM BLAIR AND COMPANY	100	4	4.00%
	<u>574,406</u>	<u>\$ 14,574</u>	

The above table is a condensed version of brokers' commissions. A complete list can be obtained at the office of the Employees' Retirement System.



ACTUARY'S CERTIFICATION LETTER



THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

August 31, 2018

Board of Trustees
The Maryland-National Capital Park and Planning Commission
Employees' Retirement System
6611 Kenilworth Avenue, Suite 100
Riverdale, MD 20737

Re:*The M-NCPPC Employees' Retirement System
Annual Review and Actuarial Valuation as of July 1, 2017*

To the Members of the Board:

This report presents the results of the Annual Review and Actuarial Valuation of The Maryland-National Capital Park and Planning Commission Employees' Retirement System (System) prepared as of July 1, 2017 and sets forth the recommended contribution for the Fiscal Year ending June 30, 2019, according to the System's funding policy.

The valuation was performed on the basis of employee census data as of July 1, 2017 and investment fund data as of July 1, 2017, submitted by the Retirement System staff to Boomershine Consulting Group (BCG). BCG did not audit the employee data and financial information used in this valuation; however, we did review for reasonableness and consistency with prior data. On the basis of our review of this data, we believe that the information is sufficiently complete and reliable, and that it is appropriate for the purposes intended.

Beginning with the July 1, 2012 Valuation, the System retained BCG to perform annual valuations.

The report was prepared in accordance with generally accepted actuarial principles and practices. In the opinion of the System and its actuaries, the actuarial assumptions used in our calculations are individually reasonable and reasonable in the aggregate as related to Plan experience and expectations, and represent the best estimate of anticipated Plan experience. **The assumptions and methods used for funding purposes meet the parameters set by the relevant Actuarial Standards of Practice (ASOPs).** All assumptions were selected by the actuary, and approved by the Board of Trustees.

The schedules prepared by BCG, and included in the System's Comprehensive Annual Financial Report, are the following:

- Summary of Actuarial Assumptions and Methods
- Schedule of Employer Contributions (required supplementary information)
- Schedule of Funding Progress
- Solvency Test

The amounts in these schedules are based on BCG's results for the valuation dates since and including July 1, 2011 (with revision to AON Hewitt's amounts) and later, and AON Hewitt's results for the valuation dates July 1, 2007 through July 1, 2010. The amounts for the earlier valuation dates are from the actuarial valuation reports of the System's prior actuary.

The amounts in the Schedule of Employer Contributions are based on BCG's valuation results for years since and including fiscal year 2013; AON Hewitt's valuation results for the fiscal years ending June 30, 2009 through June 30, 2012 with modifications by BCG for 2013. The amounts for earlier years are from the actuarial valuation reports of the System's prior actuary. The amounts in the Schedule of Funding Progress are based on BCG's results for the July 1, 2012 through July 1, 2017 valuations; AON Hewitt's results for the valuation dates July 1, 2007 through July 1, 2011, with modifications by BCG for 2011. The amounts for the earlier valuation dates are from the actuarial valuation reports of the System's prior actuary.

FUNDING RECOMMENDATION AND CHANGE IN PLAN COSTS

There was a decrease in the Recommended Contribution as a Percentage of Payroll. The return on the Fair Value of Assets and the Actuarial Value of Assets was more than the assumed 7.00% for the 2017 Fiscal Year, resulting in an investment gain.

Past investment gains and losses, change in the interest rate assumption and demographic changes resulted in a decrease in the Recommended Contribution.

A contribution of \$24,792,093 is the recommended total to meet the System's funding objectives for fiscal year 2019. This contribution represents 16.44% of covered payroll.

A breakdown of the contribution payable July 1, 2018 between Park Police and Non-Police employees is shown below:

	7/1/2018 Amount	2017 Payroll	% of Payroll
Non-Police	\$20,478,774	\$134,573,069	15.22%
Park Police	<u>4,313,320</u>	<u>16,247,820</u>	26.52%
Total	\$24,792,093	\$150,820,889	16.44%

The Net Employer Normal Cost payable at the beginning of the year increased from \$13,653,596 (9.5% of payroll) to \$13,736,623 (9.1% of payroll). The amortization of the Unfunded Actuarial Accrued Liability decreased from \$9,544,816 to \$9,444,389 primarily due to the actuarial gain on the liabilities.

The breakdown of the actuarial (gain)/loss (prior to assumption changes) is as follows:

	7/1/2017 Amount	% of Liability/Assets
<u>NET EXPERIENCE (GAIN)/LOSS</u>		
Salary Increases More than Expected	1,757,157	0.2%
New Hires	184,245	0.0%
New Terminations and Retirements	(3,312,446)	(0.3%)
COLA Increases Less Than Expected	(3,161,863)	(0.3%)
Non Vested Terminations (Payables)	1,461,079	0.2%
Other Experience	(149,450)	(0.0%)
Total Experience (Gain)/Loss	(3,221,278)	(0.3%)
<u>ACTUARIAL ASSET VALUE (GAIN)/LOSS</u>	188,077	0.0%
<u>NET ACTUARIAL (GAIN)/LOSS</u>	(3,033,202)	

Plan Provisions and Assumption Changes in the Funding Valuation

A separate report for accounting purposes, in compliance with GASB Statement 67 and 68, is now issued annually for the System.

Plan Assets and Analysis of Financial Experience

A 5-year asset smoothing method is used to develop the Actuarial Value of Assets to determine the funding requirements for the System. Under this method, each year's gain or loss is recognized in five equal portions over five years. The return on the Actuarial Value of Assets was 6.97% during the past year, which is less than the assumed return. Over the five-year period ending on the valuation date, the return on the Actuarial Value of Assets was 7.9%. The total Actuarial Value of Assets as of July 1, 2017 is \$899,336,519.

The total Fair Value of Assets as of July 1, 2017 is \$892,978,117. The return on the Fair Value of Assets was 14.4% during the past year, which is more than the assumed return. Over the 5-year period ending on the valuation date, the return on the Fair Value of Assets was 8.0%.

The Actuaries whose signatures appear below meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Please call if you have any questions with regard to the matters enumerated in this report.

BCG's relationship with the Plan and the Plan Sponsor is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of BCG's work.

We appreciate the opportunity to present the results of this valuation to the Retirement System Trustees.

Sincerely,



David S. Boomershine, EA, FCA, MAAA, MCPA
President and Senior Actuary



Gregory M. Stump, FSA, EA, MAAA, FCA
Chief Actuary and Vice President



Sunita K. Bhatia, EA, ASA, FCA, MAAA
Senior Actuary

Required Supplementary Information
Schedule of Funding Progress
(Unaudited)

Ten-year historical trend information about the ERS is presented below. This information is intended to help users assess the ERS' funding status on a going-concern basis, assess progress made in accumulating assets to pay benefits when due and make comparisons with other public employee retirement systems.

	(1)	(2)	(3)	(4)	(5)	(6)
Actuarial Valuation Date July 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) (2) – (1)	Funded Ratio % (1)/(2)	Covered Payroll	UAAL as a Percentage of Covered Payroll (3) / (5)
2008	\$ 633,699,751	\$ 662,224,634	\$ 28,524,883	95.7	\$ 132,240,949	21.60%
2009	541,519,199	726,000,351	184,481,152	74.6	142,590,713	129.40%
2010	609,902,953	763,860,139	153,957,186	79.8	140,407,414	109.70%
2011	659,362,107	761,343,000	101,980,893	86.6	132,490,722	77.00%
2012	660,231,611	802,077,365	141,845,754	82.3	129,911,593	109.20%
2013	690,539,998	831,199,592	140,659,594	83.1	129,134,125	108.90%
2014	766,531,514	879,190,389	112,658,875	87.2	135,041,803	83.40% ⁽¹⁾
2015	830,052,104	887,487,374	57,435,270	93.5	141,670,765	40.50% ⁽¹⁾
2016	856,279,531	949,298,226	93,018,695	90.2	143,534,600	64.80% ⁽¹⁾
2017	899,336,519	991,624,737	92,288,218	90.7	150,820,889	61.20% ⁽¹⁾

⁽¹⁾ This ratio is now reported based on the Net Pension Liability, as defined in GASB 67. The UAAL as a percentage of payroll is no longer required, but is shown here for historical comparison.

Analysis of the dollar amounts of plan net assets, actuarial accrued liability and unfunded actuarial accrued liability in isolation can be misleading. Expressing plan net assets as a percentage of the actuarial accrued liability provides one indication of the system's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the system's funding is becoming stronger or weaker.

Generally, the greater the funded ratio is, the stronger the system. Trends in the unfunded actuarial accrued liability (or excess of) and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and enables analysis of the system's progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage is the stronger the funding of the system.

Notes:

Actuarial valuations are completed annually.

The Entry Age Normal actuarial cost method is used for both funding and for financial reporting purposes. All actuarial assumptions are the same for both funding and accounting/GASB purposes.

Solvency Test

Actuarial Accrued Liabilities for							
Vested							
Valuation Date	Member Contributions	Terminations, Retirees and Beneficiaries	Active Members (Employer Financed Portion)	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Assets (%)		
7/1/2008	\$ 53,665,183	\$ 327,978,867	\$ 280,580,584	\$ 633,699,751	100	100	89.8
7/1/2009	57,678,803	362,388,083	305,933,465	541,519,199	100	100	39.7 ⁽¹⁾
7/1/2010	58,059,065	408,689,438	297,111,636	609,902,953	100	100	48.2
7/1/2011	57,659,169	461,475,412	242,208,419	659,362,107	100	100	57.9
7/1/2012	61,843,880	466,927,776	273,305,709	660,231,611	100	100	48.1
7/1/2013	64,747,601	501,072,738	265,379,253	690,539,998	100	100	47.0
7/1/2014	68,872,476	516,903,400	293,414,513	766,531,514	100	100	61.6
7/1/2015	72,702,687	531,683,180	283,101,507	830,052,104	100	100	79.7
7/1/2016	74,857,685	541,562,389	332,878,152	856,279,531	100	100	72.1
7/1/2017	77,964,472	576,223,626	337,436,639	899,336,519	100	100	72.7

⁽¹⁾ Note: There was a large drop in assets from 07/01/2008 to 07/01/2009 while liabilities continued to grow. Because the solvency test first fully funds member contributions and the inactive (Vested Terminations, Retirees and Beneficiaries), the active percentage has decreased by a larger percentage because the full asset loss is reflected in this percentage.

ACTUARY'S CERTIFICATION LETTER

(for Financial Reporting Purposes)

August 31, 2018

Board of Trustees
The Maryland-National Capital Park and Planning Commission
Employees' Retirement System
6611 Kenilworth Avenue, Suite 100
Riverdale, MD 20737

***Re: The M-NCPPC Employees' Retirement System FY2018 GASB 67 Disclosure Information
(For Financial Reporting Purposes)***

Dear Board Members:

This report presents the Governmental Accounting Standards Board (GASB) information based on the Annual Review and Actuarial Valuation of The Maryland-National Capital Park and Planning Commission Employees' Retirement System (System) prepared as of July 1, 2017.

This report was prepared on the basis of employee census data as of July 1, 2017 and investment fund data as of June 30, 2018, submitted by the System. BCG did not audit the employee data and financial information used in the valuation. On the basis of our review of this data, we believe that the information is sufficiently complete and reliable and that it is appropriate for the purposes intended.

This report was prepared in accordance with generally accepted actuarial principles and practices. The assumptions and methods used for financial reporting purposes meet the parameters set by the relevant Actuarial Standards of Practice (ASOPs) and generally accepted actuarial principles (GAAP) as promulgated by the GASB. In the opinion of the System and its actuaries, the actuarial assumptions used are reasonably related to Plan experience and expectations, and represent the best estimate of anticipated Plan experience.

The schedules prepared by BCG and included in the System's Comprehensive Annual Financial Report are the following:

- Long Term Expected Rate of Return
- Development of Net Pension Liability
- Changes in Net Pension Liability
- Sensitivity of the Net Pension Liability to Changes in the Discount Rate
- Schedule of Employer Contributions (required supplementary information)

The Total Pension Liability under GASB 67, as of June 30, 2018 is \$1,032,643,266, compared to the Plan Fiduciary Net Position of \$920,751,289, resulting in a (GASB) funding ratio of 89.2%, and a Net Pension Liability of \$111,891,977. The ratio represents a 1.6% increase from one year ago.

Board of Trustees
August 31, 2018
Page 2

The undersigned are members of the American Academy of Actuaries, and are qualified to render the actuarial opinions presented in this report.

Respectfully Submitted,

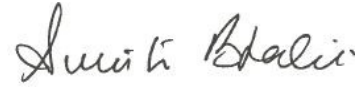
BOOMERSHINE CONSULTING GROUP, L.L.C.



Gregory M. Stump, FSA, EA, MAAA, FCA
MSPA Chief Actuary



David S. Boomershine, EA, MAAA, FCA,
Senior Actuary



Sunita K. Bhatia, ASA, EA, MAAA, ACA
Senior Consulting Actuary

ACTUARIAL ASSUMPTIONS AND VALUATION METHODS

Actuarial Cost Method	The Entry Age Normal Actuarial Cost Method divides the cost of funding benefits into two parts: the normal cost and the actuarial accrued liability.
Asset Valuation	Assets are valued using a five-year asset smoothing method. Under this method, the difference between expected asset return and actual asset return is recognized 20% per year over a five-year period. The asset value includes a receivable for any contributions made with respect to the prior actuarial valuation by the time this valuation was prepared.
Amortization Method	Amortize the unfunded actuarial accrued liability over an open/rolling 15-year period.
Valuation Date	July 1, 2017
Investment Rate of Return	6.95% compounded annually.
Salary Increases	2.50% per year plus additional merit increases for 2017 and later as follows:

Years of Service	Park Police	Non-Police
0	0.0400	0.0250
5	0.0300	0.0225
10	0.0225	0.0200
15	0.0200	0.0150
20	0.0200	0.0100
25	0.0200	0.0000

Mortality

Healthy Lives	RP-2000 with male rates set forward 1 year and female rates set forward 2 years with generational method applied using scale BB factors. For Park Police, 90% of deaths assumed to be service related; for Non-Police 33% of deaths are assumed to be service-related.
Disabled Lives	RP-2000 Disabled with male rates set forward 1 year and female rates set forward 2 years with generational method applied using scale BB factors.

Withdrawal Decrements

Sample rates:

Park Police		Non-Police		
Years of Service	Rates	Years of Service	Males	Females
0	11.00%	0	9.00%	11.70%
2	7.00%	5	4.70%	6.20%
4	4.50%	10	2.50%	3.30%
6	2.90%	15	1.30%	1.70%
8	1.80%	20	0.70%	0.90%
10	1.20%	25+	0.00%	0.00%
15+	0.00%			

ACTUARIAL ASSUMPTIONS AND VALUATION METHODS

Disability Decrements

Sample rates:

Age	Park Police	Non-Police
25	0.00256	0.000705
30	0.00366	0.001103
35	0.00508	0.001643
40	0.00693	0.002468
45	0.00940	0.003833
50	0.01354	0.006285
55	0.02288	0.007500
60	0.03434	0.015803

Retirement Decrements

Sample rates:

Years of Service	Park Police ¹
5-19	5%
20-29	10%
30+	100%

100% Retirement also assumed at age 65

Age	Non Police ¹
45	2.50%
50	4.00%
55	6.50%
60	10.40%
65	16.80%
70	100%

¹ Age 55 minimum for early retirement.

Marriage

90% of male participants and 50% of female participants are assumed to be married with wives assumed to be three years younger and husbands three years older than participant.

Expenses

The assumed interest rate is deemed to be net of investment expenses.

Other administrative expenses are added to the normal cost and are assumed to be 0.2% of the actuarial accrued liability.

Post-Retirement Cost-of-Living Adjustment

2.4% compounded annually for benefits based on credit service accrued until July 1, 2012, and sick leave accrued until January 1, 2013, 2.0% compounded annually thereafter.

Social Security Wage Base Increase

3.0% compounded annually.

New Entrants

None assumed.

Unused Sick Leave Service Credit

0.36 additional months per year of service.

Section 415 Dollar Limitation and Section 401(a)(17) Compensation Limit Increase

2.5% compounded annually.

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date	Total Number of Members	Annual Salary	Annual Average Pay	% Increase/ Decrease in Average Pay
General Employees				
7/1/2008	1,904	118,338,594	62,153	5.9
7/1/2009	2,078	128,800,404	61,983	-0.3
7/1/2010	2,009	126,594,778	63,014	1.7
7/1/2011	1,898	119,358,603	62,887	-0.2
7/1/2012	1,866	116,927,658	62,662	-0.4
7/1/2013	1,874	115,936,747	61,866	-1.3
7/1/2014	1,879	121,352,682	64,584	4.4
7/1/2015	1,901	126,806,443	66,705	3.3
7/1/2016	1,876	128,457,729	68,474	2.7
7/1/2017	1,899	134,573,069	70,865	3.5
Park Police				
7/1/2008	197	13,902,355	70,570	4.7
7/1/2009	194	13,790,309	71,084	0.7
7/1/2010	194	13,812,636	71,199	0.2
7/1/2011	187	13,132,119	70,225	-1.4
7/1/2012	186	12,983,936	69,806	-0.6
7/1/2013	190	13,197,378	69,460	-0.5
7/1/2014	191	13,689,120	71,671	3.2
7/1/2015	203	14,864,322	73,223	2.2
7/1/2016	197	15,076,871	76,532	4.5
7/1/2017	203	16,247,820	80,039	4.6
Total				
7/1/2008	2,101	132,240,949	62,942	5.8
7/1/2009	2,272	142,590,713	62,760	-0.3
7/1/2010	2,203	140,407,414	63,735	1.6
7/1/2011	2,085	132,490,722	63,545	-0.3
7/1/2012	2,052	129,911,593	63,310	-0.4
7/1/2013	2,064	129,134,125	62,565	-1.2
7/1/2014	2,070	135,041,802	65,238	4.3
7/1/2015	2,104	141,670,765	67,334	3.3
7/1/2016	2,073	143,534,600	69,240	2.8
7/1/2017	2,102	150,820,889	71,751	3.6

SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS

As of Date	Added to rolls		Removed from rolls		Rolls end of year		% Increase in Annual Allowances	Average Annual Allowance
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
July 1, 2017	89	\$ 3,145,674	24	\$ 465,503	1,461	\$46,199,983	6.62%	\$ 31,622
July 1, 2016	87	2,903,320	15	221,758	1,396	43,331,139	5.70%	31,039
July 1, 2015	76	2,516,877	26	549,556	1,324	\$40,994,405	5.72%	30,963
July 1, 2014	63	1,827,720	26	622,566	1,272	\$38,775,456	3.68%	30,484
July 1, 2013	75	2,173,664	16	406,440	1,235	\$37,399,741	5.92%	30,283
July 1, 2012	68	1,963,919	28	483,565	1,176	\$35,310,586	7.00%	30,026
July 1, 2011	96	3,425,855	27	528,833	1,136	\$ 32,999,162	10.02%	28,691
July 1, 2010	102	3,523,036	12	247,267	1,067	\$29,992,947	11.47%	28,162
July 1, 2009	76	2,378,257	23	311,465	977	\$26,905,810	11.45%	27,539
July 1, 2008	NA	NA	NA	NA	924	\$24,141,406	NA	26,184 ⁽¹⁾

Additions to the rolls include new retirees and the beneficiaries of an active or retired member's death.

Deletions from the rolls include deaths of retirees, deaths of the surviving beneficiaries, surviving children who have reached the age of 18 or 23 if a full-time student, and the expiration of 10-year certain benefits.

¹ The average annual allowance results for 7/1/2008 uses an end of the year count of 922, because there are two zero balance deceased benefits in pending status, with no current or future benefits attached.



STATISTICAL SECTION NARRATIVE

To assist readers, the Statistical Section of this CAFR presents information to add historical perspective, context, and detail to the Financial Statements, Notes to Financial Statements, and Required Supplementary Information presented in the preceding sections. To provide historical perspective, assess the ERS' overall financial condition, and a sense of trend, the exhibits in this Section are presented in multiple-year formats.

The **Schedule of Changes in Fiduciary Net Position** shows the historical combined effects of the additions and deductions of fiduciary net position over the 10-year period ended June 30, 2018 as well as detailing the ERS' largest source of revenue capacity - investment income June 30, 2010 through 2015, 2017 and 2018. Investment loss for the years ended June 30, 2009 and 2016 assists in providing a context on how the ERS' financial position has changed over time.

The **Schedule of Benefit and Refund Deductions from Fiduciary Net Position By Type** provides the general information of payment trends of annuity data by benefit type and refund of contributions for the 10-year period ended June 30, 2018.

The **Schedule of Average Benefit Payments** provides the summary of statistics relating to the average annuitant's receipt of annuities over the ten-year period ended June 30, 2018.

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

For Years Ended June 30

(dollars in thousands)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
ADDITIONS										
Employer contributions	\$ 24,822	\$ 20,268	\$ 27,191	\$ 28,150	\$ 28,750	\$ 23,806	\$ 32,182	\$ 25,633	\$ 17,615	\$ 14,933
Member contributions	7,201	6,751	6,418	6,340	5,414	5,355	4,396	4,698	5,136	4,893
Investment income gain/(loss)(net of expenses)	70,471	111,662	(4,851)	3,340	107,898	72,802	14,100	111,044	63,460	(119,445)
Total Additions	102,494	138,681	28,758	37,830	142,062	101,963	50,678	141,375	86,211	(99,619)
DEDUCTIONS										
Benefit payments	47,628	44,628	42,258	39,992	38,170	36,263	33,833	32,775	27,567	25,671
Refunds	460	561	461	391	237	369	317	359	335	249
Administrative expenses	1,811	1,675	1,696	1,587	1,487	1,565	1,453	1,366	1,323	1,359
Total Deductions	49,899	46,864	44,415	41,970	39,894	38,197	35,603	34,500	29,225	27,279
CHANGE IN FIDUCIARY NET POSITION	\$ 52,595	\$ 91,817	\$ (15,657)	\$ (4,140)	\$ 102,168	\$ 63,766	\$ 15,075	\$ 106,875	\$ 56,986	\$ (126,898)

SCHEDULE OF BENEFIT AND REFUND DEDUCTIONS

From Fiduciary Net Position by Type
for Years Ended June 30

(dollars in thousands)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Type of Benefit										
Retirees	\$ 42,965	\$ 40,379	\$ 38,268	\$ 35,806	\$ 34,348	\$ 32,618	\$ 30,547	\$ 29,225	\$ 24,289	\$ 22,515
Survivors	4,576	4,163	3,895	4,093	3,730	3,555	3,199	3,464	3,192	3,072
Disability benefits	87	86	95	93	92	90	87	86	86	83
Total Benefits	\$ 47,628	\$ 44,628	\$ 42,258	\$ 39,992	\$ 38,170	\$ 36,263	\$ 33,833	\$ 32,775	\$ 27,567	\$ 25,670
Refund of Contributions	\$ 460	\$ 561	\$ 461	\$ 391	\$ 237	\$ 369	\$ 317	\$ 359	\$ 335	\$ 249

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

As of July 1, 2017

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees and Survivors	59	172	164	189	279	325	273	1461
Average monthly benefit	\$466	\$692	\$1,137	\$1,650	\$2,764	\$3,563	\$4,683	\$2,642
Average final average salary	\$42,267	\$49,019	\$53,555	\$58,444	\$68,913	\$70,056	\$76,920	\$63,877
Average years of service	4.0	8.1	13.0	18.1	23.1	28.7	33.7	22.0

As of July 1, 2016

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees and Survivors	58	169	157	184	272	323	233	1,396
Average monthly benefit	\$ 455	\$ 684	\$ 1,144	\$ 1,633	\$ 2,757	\$ 3,537	\$ 4,722	\$ 2,593
Average final average salary	\$ 41,468	\$ 48,615	\$ 53,006	\$ 57,328	\$ 68,187	\$ 68,112	\$ 77,203	\$ 62,784
Average years of service	3.9	8.1	13.1	18.1	23.1	28.8	33.7	21.8

As of July 1, 2015

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees and Survivors	58	161	147	192	260	303	203	1,324
Average monthly benefit	\$ 467	\$ 703	\$ 1,166	\$ 1,733	\$ 2,772	\$ 3,578	\$ 4,761	\$ 2,580
Average final average salary	\$ 42,664	\$ 48,314	\$ 53,111	\$ 58,300	\$ 67,077	\$ 67,205	\$ 76,338	\$ 62,064
Average years of service	3.9	8.1	13.0	18.2	23.1	28.6	33.4	21.4

As of July 1, 2014

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees and Survivors	54	152	145	173	249	270	229	1,272
Average monthly benefit	\$ 452	\$ 691	\$ 1,082	\$ 1,603	\$ 2,752	\$ 3,441	\$ 4,600	\$ 2,540
Average final average salary	\$ 41,194	\$ 47,568	\$ 50,122	\$ 55,644	\$ 67,593	\$ 66,475	\$ 73,373	\$ 60,988
Average years of service	3.9	8.1	12.9	18.1	23.1	28.7	33.6	21.7

As of July 1, 2013

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees and Survivors	49	146	137	176	243	261	223	1,235
Average monthly benefit	\$ 446	\$ 698	\$ 1,064	\$ 1,605	\$ 2,687	\$ 3,441	\$ 4,545	\$ 2,524
Average final average salary	\$ 40,190	\$ 45,897	\$ 48,727	\$ 55,496	\$ 66,417	\$ 65,815	\$ 72,293	\$ 60,095
Average years of service	3.8	8.2	12.9	18.1	23.1	28.7	33.6	21.8

As of July 1, 2012

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees and Survivors	45	137	129	166	231	250	218	1,176
Average monthly benefit	\$ 464	\$ 701	\$ 1,035	\$ 1,615	\$ 2,612	\$ 3,405	\$ 4,450	\$ 2,508
Average final average salary	\$ 38,126	\$ 45,665	\$ 46,972	\$ 54,389	\$ 64,336	\$ 65,415	\$ 71,397	\$ 59,131
Average years of service	3.6	8.2	13.0	18.1	23.1	28.7	33.6	21.9

As of July 1, 2011

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees & Survivors	44	129	121	160	223	246	213	1,136
Average monthly benefit	\$ 667	\$ 655	\$ 994	\$ 1,604	\$ 2,489	\$ 3,293	\$ 4,218	\$ 2,431
Average final average salary	\$ 36,863	\$ 43,873	\$ 44,960	\$ 53,170	\$ 62,126	\$ 63,845	\$ 69,781	\$ 57,576
Average years of service	3.5	8.1	13.0	18.1	23.1	28.7	33.5	22.0

As of July 1, 2010

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees & Survivors	42	123	115	155	199	233	200	1,067
Average monthly benefit	\$ 390	\$ 635	\$ 950	\$ 1,567	\$ 2,429	\$ 3,191	\$ 4,137	\$ 2,347
Average final average salary	\$ 31,968	\$ 42,356	\$ 44,112	\$ 51,773	\$ 58,916	\$ 61,395	\$ 67,461	\$ 55,213
Average years of service	3.6	8.1	13.0	18.1	23.1	28.6	33.5	21.9

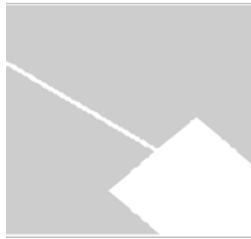
As of July 1, 2009

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees & Survivors	43	110	111	151	185	203	174	977
Average monthly benefit	\$ 408	\$ 645	\$ 944	\$ 1,550	\$ 2,423	\$ 3,137	\$ 4,191	\$ 2,294
Average final average salary	\$ 32,038	\$ 41,515	\$ 42,935	\$ 49,951	\$ 56,984	\$ 57,880	\$ 65,423	\$ 52,791
Average years of service	3.6	8.1	12.9	18.1	23.1	28.6	33.4	21.6

As of July 1, 2008

	Years of Credited Service ---->							Total
	0-5	6-10	11-15	16-20	21-25	26-30	>30	
Number of Retirees & Survivors	40	107	116	138	170	191	162	924
Average monthly benefit	\$ 102	\$ 627	\$ 927	\$ 1,406	\$ 2,285	\$ 3,020	\$ 4,114	\$ 2,184
Average final average salary	\$ 30,442	\$ 40,181	\$ 41,689	\$ 45,753	\$ 54,026	\$ 56,042	\$ 65,097	\$ 50,560
Average years of service	3.6	8.2	12.9	18.1	23.1	28.7	33.4	21.5

*Data for 2007 not readily available.



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