Ohio Police & Fire Pension Fund

2017 COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR YEAR ENDED DECEMBER 31, 2017

2017 Comprehensive Annual Financial Report
For year ended Dec. 31, 2017
Prepared through the combined efforts of OP&F staff

Prudence • Integrity • Empathy
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Columbus, Ohio 43215

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2017
COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR YEAR ENDED DEC. 31, 2017

PREPARED THROUGH THE COMBINED EFFORTS OF OHIO POLICE & FIRE PENSION FUND STAFF

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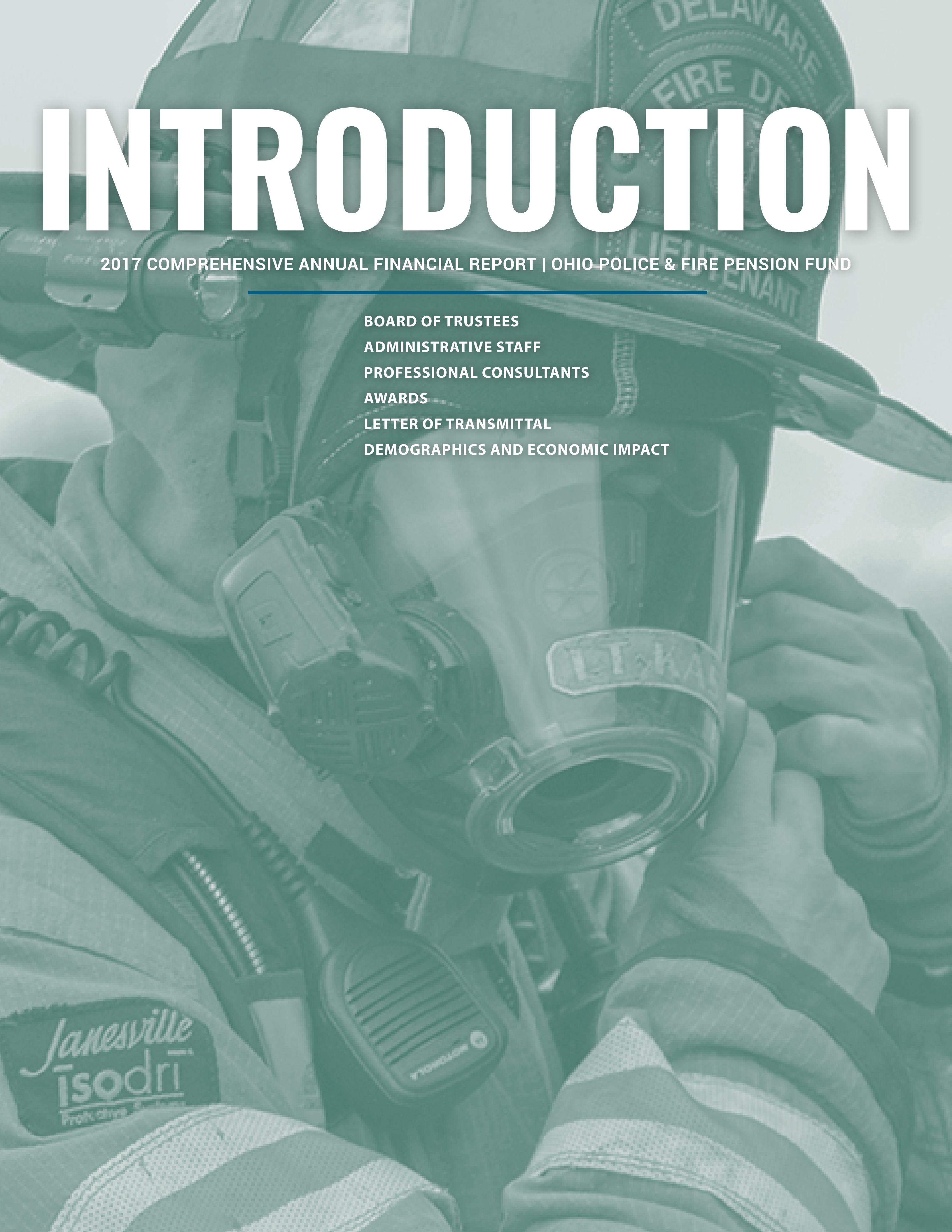


BOARD OF TRUSTEES


William E. Deighton


Daniel J. Desmond


Edward L. Montgomery


Jeffrey H. Moore


Timothy P. Patton, Jr.


John L. Wainscott


J. David Heller


Charles O. Moore


Karin Maloney Stifler

About the Board of Trustees

Ohio law provides for the Ohio Police & Fire Pension Fund (OP&F) Board of Trustees to be comprised of nine members. There are six employee members elected to four-year terms by their respective member groups: two active representatives of police departments, two active representatives of fire departments, one retired police officer and one retired firefighter. The Board of Trustees also includes three statutory members. Each statutory member – one appointed by the Governor of Ohio, one by the Ohio Treasurer of State and one appointed jointly by the Ohio Senate President and the Ohio Speaker of the House – must have professional investment expertise.

The OP&F Board of Trustees appoints the Executive Director, an actuary and other advisors necessary for the transaction of business. By law, the Ohio Treasurer of State is custodian of OP&F's funds. The Board of Trustees meets monthly, except for one month each year. In 2017, the Board of Trustees did not meet in the month of July and in 2018 the Board of Trustees will not meet in the month of July. The Board of Trustees receives no compensation, but is reimbursed for necessary expenses.

Board of Trustee Members

William E. Deighton
Retired, Cleveland Fire, term began on June 1, 2015, expires on June 2, 2019.

Daniel J. Desmond
Toledo Fire, term began on June 1, 2015, expires on May 31, 2020.

Edward L. Montgomery
Chair, Columbus Police, term began on June 6, 2016, expires on May 31, 2020.

Jeffrey H. Moore
Chair, West Chester Fire, term began on June 1, 2015, expires on June 2, 2019.

Timothy P. Patton, Jr.
Chair Elect, Cleveland Police, term began on June 1, 2015, expires June 2, 2019.

John L. Wainscott
Vice Chair, Retired, Cincinnati Police, term began on June 6, 2016, expires on May 31, 2020.

J. David Heller
Investment Expert Member, appointed by the Ohio Senate and the Ohio House of Representatives, term began on Nov. 5, 2016, expires on Nov. 5, 2020.

Charles O. Moore
Investment Expert Member, appointed by the Governor of Ohio, term began on April 28, 2017, expires on Sept. 27, 2020.

Karin Maloney Stifler
Investment Expert Member, appointed by the Ohio Treasurer of State, term began March 4, 2015, expires on March 4, 2019.

ADMINISTRATIVE STAFF

Executive Staff

John J. Gallagher, Jr.
Executive Director

Scott K. Miller
Deputy Executive Director

Mary Beth Foley
General Counsel

David B. Graham
Communications Director

Theodore G. Hall
Chief Investment Officer

Caren R. Sparks
Chief Audit Executive/Privacy and Ethics Officer

Keisha D. Proctor
Human Resources Director

Jennifer L. Harville
Member Services Director

Professional Consultants *(not pictured)*

Actuary
Conduent Business Services, LLC

Legal Counsel
Ohio Attorney General, the Honorable Mike DeWine

Custodian of OP&F's Funds
Ohio Treasurer of State, Josh Mandel

Custodial Banks
Huntington National Bank - Domestic
Northern Trust - International

Independent Accountants
RSM US LLP
(Under contract with the Ohio Auditor of State)

Medical Advisors
Gregory M. Jewell, M.D., M.S., M.M.M.,
OP&F Board Medical Advisor

Joel S. Steinberg, M.D.,
Disability Evaluation Panel Medical Advisor

Investment Consultants and Money Managers
(See page 70)

Schedule of Brokers' Fees Paid
(See page 71)

AWARDS

OP&F has been recognized by financial experts for their commitment to the highest possible fiscal standards. OP&F is honored to have been recognized with the following:

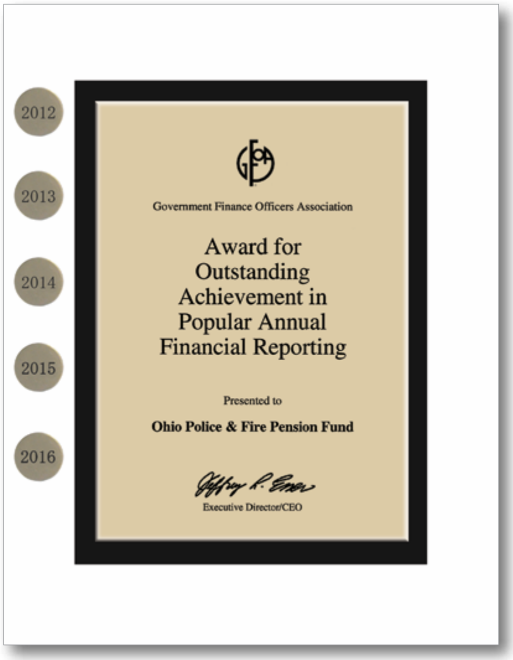
2016 Certificate of Achievement for Excellence in Financial Reporting

For 28 years, the Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to OP&F for its Comprehensive Annual Financial Report. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report that satisfies both generally accepted accounting principles and applicable legal requirements.

2017 Distinguished Budget Presentation Award

OP&F was again recognized by GFOA's Distinguished Budget Presentation Award in 2017, representing the 16th consecutive year OP&F has achieved this distinction. OP&F has received the award annually since 2002. The GFOA established the Distinguished Budget Presentation Awards Program (Budget Awards Program) in 1984 to encourage and assist state and local governments to prepare budget documents of the very highest quality that reflect both the guidelines established by the National Advisory council on State and Local Budgeting and the GFOA's best practices on budgeting and then to recognize individual governments that succeed in achieving that goal.

AWARDS



2016 Award for Outstanding Achievement in Popular Annual Financial Reporting

For 16 years, the GFOA has awarded a Certificate of Outstanding Achievement in Popular Annual Financial Reporting to OP&F for its Popular Annual Financial Report. This award is a prestigious national award recognizing conformance with the highest standards of creativity, presentation, understandability and reader appeal for preparation of governmental popular reports.


Public Pension Coordinating Council

Recognition Award for Administration 2017

Presented to

Ohio Police & Fire Pension Fund

In recognition of meeting professional standards for plan 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)

Alan H. Winkle
Program Administrator

2017 Public Pension Standards Award

Awarded to OP&F by the Public Pension Coordinating Council (PPCC). OP&F has received the award annually since 2009. This award recognizes OP&F's professional standards attained for administration. The PPCC's standards were established in 2002 to promote excellence in pension plan design and administration. These standards serve as a benchmark by which to measure current practices of defined benefit plans.

LETTER OF TRANSMITTAL

Ohio Police & Fire Pension Fund

140 East Town Street / Columbus, Ohio 43215-5164 / Tel. (614) 228-2975 / www.op-f.org

June 29, 2018

Dear Chair and Members of the Board of Trustees:

We are pleased to submit to you the Comprehensive Annual Financial Report (CAFR) of the Ohio Police & Fire Pension Fund (OP&F) for the fiscal year ending Dec. 31, 2017. This CAFR was prepared to aid interested parties in assessing OP&F's financial status on Dec. 31, 2017 and its results for the year then ended.

Accounting System and Internal Controls

The financial statements were prepared in accordance with accounting principles generally accepted in the United States of America (U.S.) applicable to governmental units, including the pronouncements of the Governmental Accounting Standards Board (GASB). Additional information on OP&F's significant accounting policies is contained in the Notes to the Basic Financial Statements in the Financial Section.

Management is responsible for establishing and maintaining an effective internal control structure designed to ensure that the assets of OP&F are protected from loss, theft, or misuse; and to ensure that adequate accounting data is compiled to allow for the preparation of Basic Financial Statements in conformity with accounting principles generally accepted in the U.S. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that:

(1) The cost of a control should not exceed the benefits likely to be derived; and
(2) The valuation of costs and benefits requires estimates and judgments by management.

Management believes its internal control structure meets these objectives.

OP&F History and Overview

OP&F is a cost-sharing, multiple–employer public employee retirement system and was created by the Ohio General Assembly in 1965, replacing 454 separate local police and firefighter relief and pension funds in Ohio. OP&F began operating as a statewide Retirement Fund on Jan. 1, 1967. On that date, the local pension funds transferred their assets and liabilities to OP&F. Assets transferred to OP&F totaled approximately $75 million, while OP&F's actuary computed the liabilities accrued up to 1966 at approximately $490 million. Employers are paying the remaining unfunded accrued liability, which began in 1969, over a 67-year period. As of Dec. 31, 2017, the balance totaled nearly $22.0 million.

OP&F provides pension, disability, deferred retirement option plan (DROP) and health care benefits to qualified members. In addition, OP&F provides survivor benefits, death benefits and sponsors health care programs for eligible survivors, spouses, children and dependent parents. Please refer to the Plan Summary in the Actuarial Section for further information on plan benefits.

Membership in OP&F is mandatory under Ohio law for all full–time police officers employed by Ohio municipalities and appointed under the required statutory provisions. Membership is also mandatory for all full–time firefighters employed by Ohio municipalities, townships (fire only), villages, joint fire districts or other political subdivisions. In order to become a member of OP&F, a full-time firefighter is required to satisfactorily complete or have satisfactorily completed a firefighter training course approved under former Section 3303.07, Section 4765.55, or conducted under Section 3737.33 of the Ohio Revised Code (ORC). The table below is a tabulation of current participating employers at Dec. 31, 2017:

Participating Employers*

	Police	Fire	Total
Municipalities	248	199	447
Townships	–	162	162
Villages	282	35	317
TOTAL	**530**	**396**	**926**

* Beginning in 2017, OP&F reclassified fire districts under townships.

Financial Overview

OP&F receives virtually all of its funds from the following sources: investment earnings, employer contributions, member contributions, benefit recipient health care premiums, state subsidies and reimbursements. Additions to the fiduciary net position were $2,781.8 million in 2017 which included appreciation on investments due to a positive return of 14.30 percent.

Contributions increased by 2.7 percent in 2017. The majority of this increase is due to an increase in the number of active members contributing into OP&F as well as an increase in the average annual salary of the contributing members.

The statutory employer contribution rate remained unchanged from the prior year at 19.5 percent for police employers and 24 percent for fire employers. Both member and employer contributions are due monthly.

Statutory penalties are assessed if payments and/or the member contribution reports are received late and if a pre-employment physical is received late. It is OP&F's goal to help employers avoid penalty situations. For example, just before each due date, OP&F sends an automated voice message to all employers if OP&F has not yet received their payment or report. OP&F also offers to our employers the ability to report electronically using OP&F's secured Employer Self Serve Web and to pay electronically using the online Automated Clearing House (ACH) payment options.

	2017	
Additions to Fiduciary Net Position *(dollars in millions)*	**Amount**	**Percent**
Net Investment Income	$1,923.5	69.2%
Contributions	829.4	29.8%
Other Additions	28.9	1.0%
TOTAL ADDITIONS	**$2,781.8**	**100.0%**

	2017	
Deductions to Fiduciary Net Position *(dollars in millions)*	**Amount**	**Percent**
Benefits	$1,429.2	97.2%
Refund of Member Contributions	20.6	1.4%
Administrative Expenses	20.3	1.4%
TOTAL DEDUCTIONS	**$1,470.1**	**100.0%**

Benefit payments represent the largest deduction and usage of the additions to fiduciary net position. In 2017, OP&F experienced a 2.4 percent increase in retirement benefits. This increase is due to a 3.0 percent cost-of-living allowance (COLA) for eligible benefit recipients and a 1.8 percent increase in the number of beneficiaries receiving pension benefits. DROP withdrawal payments also saw an increase of 11.8 percent in 2017.

Upon termination of active service in a police or fire department, a member may withdraw their accumulated employee contributions on deposit with OP&F. Refunds of member contributions increased 1.4 percent in 2017.

In 2017, there was a 13.4 percent decrease in the amount of health care benefit payments. This decrease can be attributed to the new strategies in OP&F's pharmacy program approved by the Board of Trustees. While the medical plan's costs remained flat, the prescription plan saw a tremendous decrease of 24.8 percent in 2017.

Administrative expenses increased this year by 3.6 percent. This increase is primarily due to an increase in GASB 68 pension expense. In accordance with GASB 68, OP&F is required to amortize a proportionate share of OPERS net pension liability and thus recognize a portion of this liability as pension expense based on the amortization schedule. Other deductions in 2017 were not material to the overall change in plan assets.

Please refer to the Management's Discussion and Analysis in the Financial Section for additional financial details.

Funding Practices and Actuarial Overview

Funds are derived from the excess of additions over deductions and are accumulated by OP&F in order to meet current and future benefit obligations to retirees and other beneficiaries. OP&F experienced a $1,311.7 million increase in the 2017 fiduciary net position primarily due to the appreciation of the fair value of investments. OP&F also administers a self-insured health care plan for its members. A portion of employer contributions and a portion of investment income are both set aside to operate the health care program.

The OP&F investment portfolio achieved a gross return of 14.30 percent in 2017. By adhering to the sound principles and strategies that are in place, OP&F is strategically positioned to weather market fluctuations. As of Dec. 31, 2017, total investments at fair value stood at $15.85 billion.

In 2017, OP&F achieved a 28-year amortization period. In 2016, OP&F achieved a 29-year amortization period on the annual actuarial valuations completed by Conduent. This is a direct reflection of the pension legislation changes enacted in 2012. The report also shows that OP&F's pension funding ratio as of Jan. 1, 2017 was 69.8 percent based on the actuarial value of assets. These results reflect the changes in assumptions from the experience study completed in 2017 which reduced the assumed rate of return, or discount, rate from 8.25 percent to 8.00 percent. The actuarial valuation confirms that OP&F is able to meet its current and future pension obligations. For more information on assumption changes as a result of the experience study, please refer to the Actuarial Section.

OP&F is not required by statute or GASB to pre-fund health care. As of Jan. 1, 2017, OP&F's Health Care Stabilization Fund had a solvency period until the year 2025, or nine more years. In recognition of the declining funds available for retiree health care, the Board of Trustees looked for a more efficient use of the funds still available in an effort to extend the solvency of the health care trust fund. The self-insured model, which has been in place for many years, is not sustainable. Therefore, the Board of Trustees has established a new framework for the retiree health care plan that will be effective Jan. 1, 2019. The new health care plan will extend the solvency of the trust from nine years to 15 years.

A report by Wilshire, an independent investment consultant, showed that OP&F's investment portfolio continues its exceptional long term performance. In 2017, OP&F's performance ranked in the top 58 percent of its relevant peer group, with a 14.30 percent gross return. OP&F's portfolio returns ranked in the top 21 percent in the 10-year period and ranked in the top 22 percent in the five-year period ending December 2017. In the 10-year period, OP&F realized a 6.67 percent gross return on investments while the five-year period realized 9.88 percent and the three-year period realized 8.66 percent. The three and five year investment periods all outpaced OP&F's assumed rate of return of 8.00 percent. Please see the Notes to the Basic Financial Statements, the Statistical Section and the Required Supplementary Information (RSI) Sections of this report for more detailed information.

Investment Policy

OP&F invests all available funds in order to maximize both current income and long–term appreciation. The primary objective of OP&F's investment policy is to ensure that OP&F meets its responsibilities for providing retirement and other benefits. The investment portfolio is diversified to provide adequate cash flow and to provide the highest possible total return for OP&F's assets while maintaining an acceptable level of risk. Over the past two years, OP&F's total rate of return on its investment portfolio was favorable with a gross return of 14.30 percent in 2017.

Details of portfolio composition, rates of return, analysis of significant economic conditions, and additional information concerning OP&F's investment policy are provided in the Investment Section of this report.

Material Plan Amendments

There were no material plan amendments in 2017. See the Actuarial Section for the assumptions used within this report.

Independent Audit

RSM US LLP, independent certified public accountants, audited the financial statements of OP&F for the year ended Dec. 31, 2017, and their opinion thereon is included in the Financial Section.

Notes to Basic Financial Statements

The Notes to the Basic Financial Statements, which follow the Basic Financial Statements, contain additional information and are an integral part of such statements.

Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to OP&F for its CAFR for the fiscal year ended Dec. 31, 2016. The Certificate of Achievement is the highest form of recognition for excellence in state and local government financial reporting.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized CAFR, whose contents conform to program standards. Such reports must satisfy both accounting principles generally accepted in the U.S. and applicable legal requirements. A Certificate of Achievement is valid for a period of one year only. OP&F believes the current report continues to conform to the Certificate of Achievement Program requirements and is submitting it to the GFOA to determine its eligibility for another certificate.

Acknowledgments

The preparation and contents of this report reflect the combined efforts of OP&F's staff under the direction of the Board of Trustees and are the responsibility of OP&F's management staff. It is intended to provide complete and reliable information as a basis for making management decisions, to disclose compliance with legal provisions and as a means of demonstrating responsible stewardship for the assets contributed by the members and their employers.

The cooperation of OP&F's employers is vital to our success and is greatly appreciated.

Respectfully submitted,

John J. Gallagher, Jr.
Executive Director

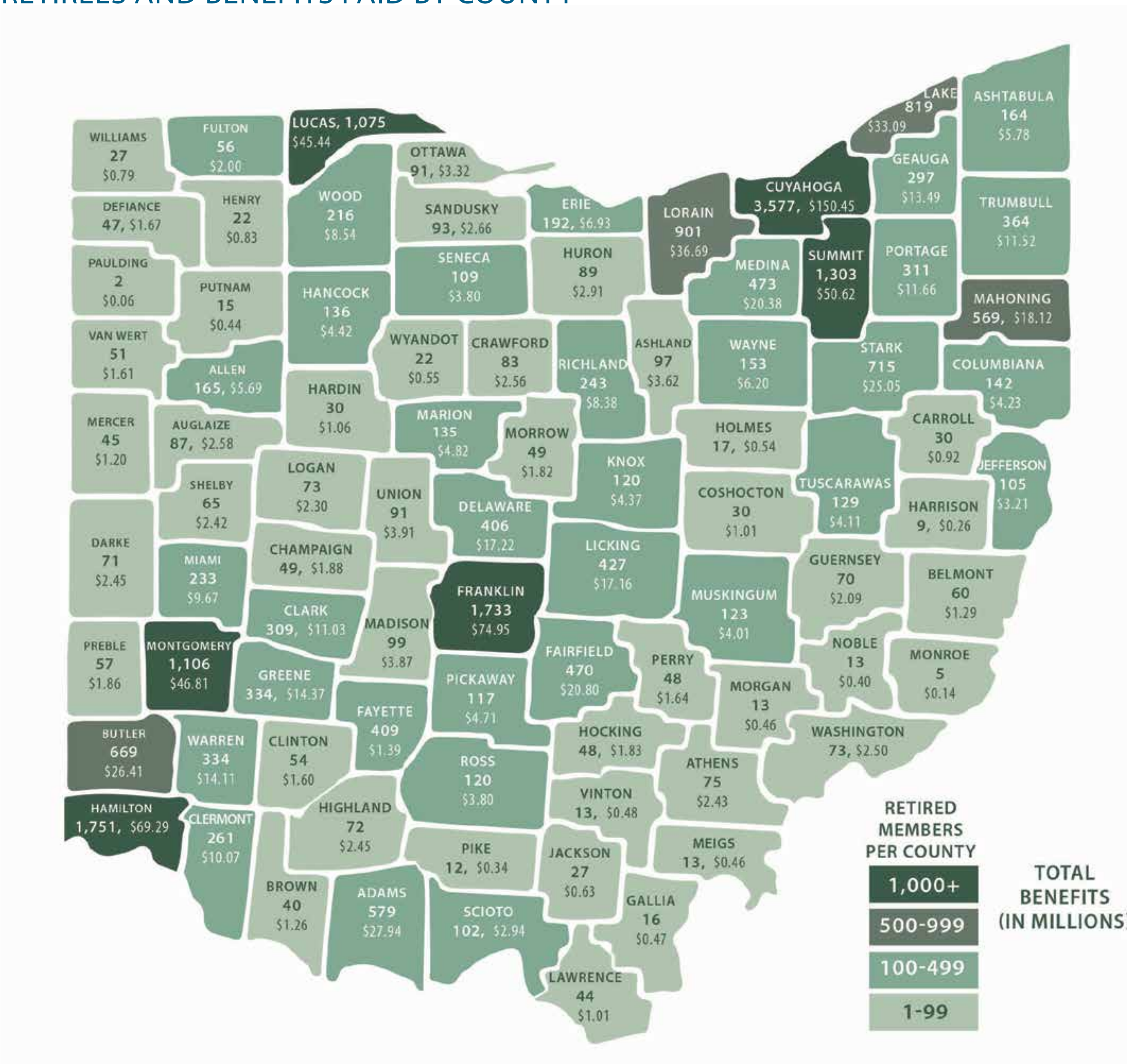
Scott K. Miller
Deputy Executive Director

DEMOGRAPHICS AND ECONOMIC IMPACT

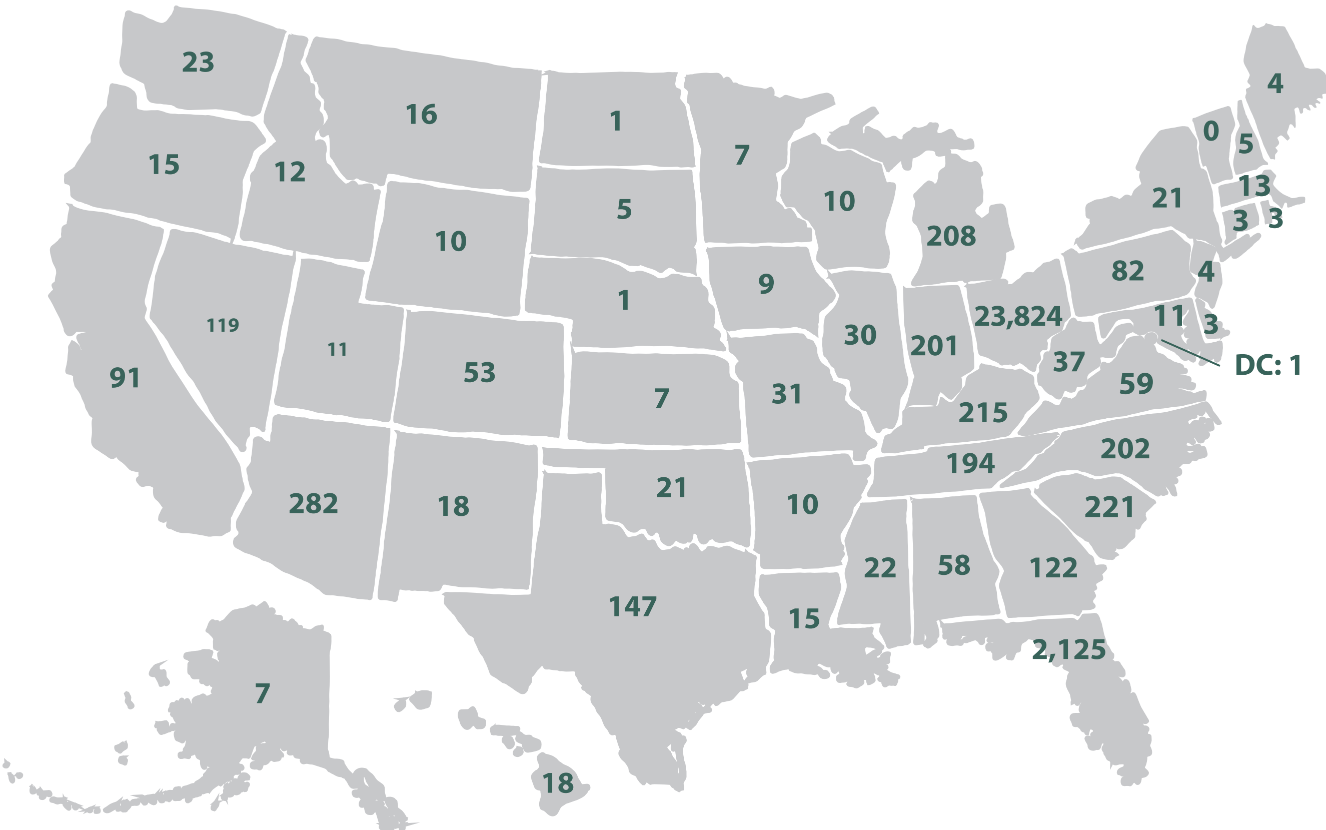
MEMBERSHIP RESIDENCE

Type of Member	Total Persons	Ohio Residents	Non-Residents	Percent of Non-Residents
Active Members (excluding DROP)	24,254	23,926	328	1.4%
Active Members in DROP	4,083	4,037	46	1.1%
Retirees	21,871	18,376	3,495	16.0%
Survivors	6,758	5,448	1,310	19.4%
TOTAL	**56,966**	**51,787**	**5,179**	**9.1%**

RETIREES AND BENEFITS PAID BY COUNTY

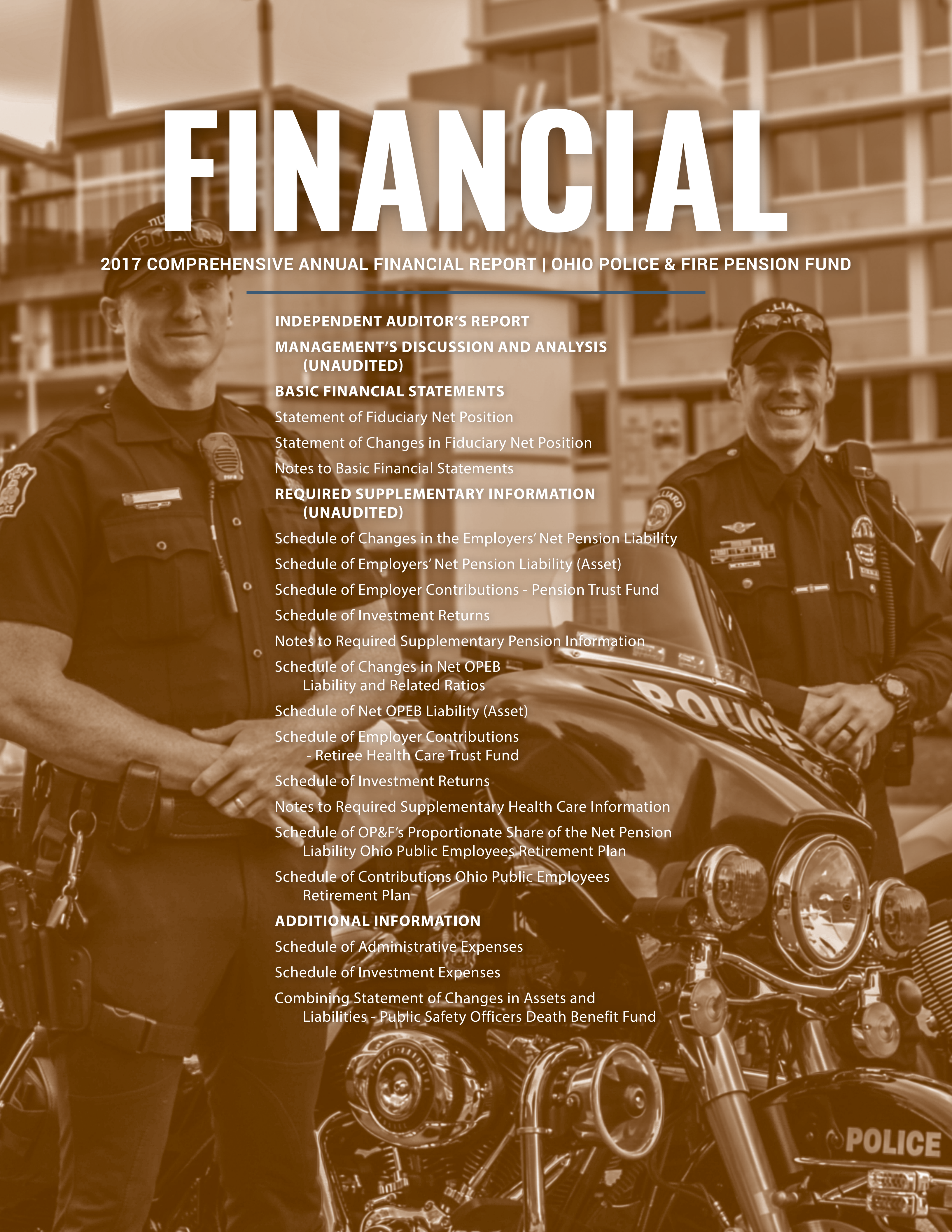


BENEFICIARIES BY STATE



BENEFICIARIES BY COUNTRY

Location	Retirees
United States	28,607
Canada	11
France	1
Ireland	1
Philippines	3
Portugal	1
Puerto Rico	1
Thailand	2
Virgin Islands	1
Armed Forces	1



FINANCIAL

2017 COMPREHENSIVE ANNUAL FINANCIAL REPORT | OHIO POLICE & FIRE PENSION FUND

INDEPENDENT AUDITOR'S REPORT

RSM US LLP

Independent Auditor's Report

The Board of Trustees
Ohio Police & Fire Pension Fund and
The Honorable Dave Yost
Columbus, Ohio

Report on the Financial Statements
We have audited the accompanying basic financial statements of Ohio Police & Fire Pension Fund, which comprise the statement of fiduciary net position as of December 31, 2017, and the related statement of changes in fiduciary net position for the year ended December 31, 2017, and the related notes to the financial statements, (collectively, basic financial statements).

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

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

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

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

Opinion
In our opinion, the basic financial statements referred to above present fairly, in all material respects, the fiduciary net position of Ohio Police & Fire Pension Fund as of December 31, 2017, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

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

Other Information
Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise Ohio Police & Fire Pension Fund's basic financial statements. The additional information, including the schedule of administrative expenses, schedule of investment expenses, and the combining statement of changes in assets and liabilities – public officers' death benefit fund, 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 additional information is the responsibility of management and was derived from and relates 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 audit 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 additional information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

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

Other Reporting Required by *Government Auditing Standards*
In accordance with *Government Auditing Standards*, we have also issued our report dated June 29, 2018 on our consideration of Ohio Police & Fire Pension Fund's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Ohio Police & Fire Pension Fund's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Ohio Police & Fire Pension Fund's internal control over financial reporting and compliance.

RSM US LLP

Columbus, Ohio
June 29, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)

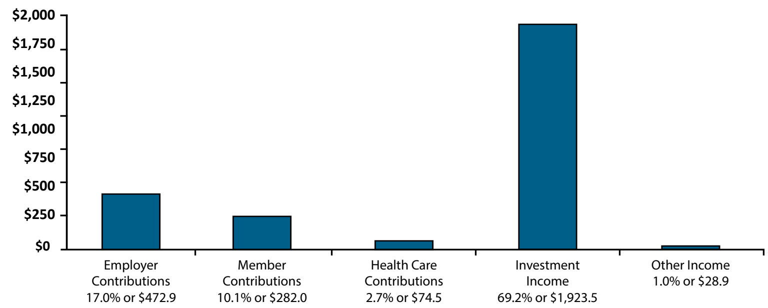
This Management Discussion and Analysis (MD&A) of OP&F's financial performance provides a narrative overview of financial activities for the fiscal year ended Dec. 31, 2017. The MD&A is designed to focus on the current year's activities, resulting changes and currently known facts. OP&F encourages reading this in conjunction with the Basic Financial Statements, Notes to the Basic Financial Statements and the Letter of Transmittal included in the Introductory Section of this CAFR.

Historically, OP&F's CAFR presented combined financial statements for two comparative years. Beginning in 2016, OP&F's CAFR presents financial statements for the most recent year-end only. Management elected to make the change due to the increased reporting requirements of the Governmental Accounting Standards Board (GASB). Management's goal was to streamline the Financial Section of the CAFR to include only the required information. Users of this CAFR can refer to the Statistical Section for historical financial information.

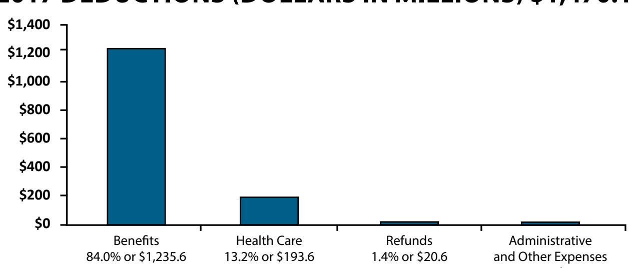
FINANCIAL HIGHLIGHTS

Additions are received primarily from investment income and employer and member pension contributions. For fiscal year 2017, these additions totaled $2,781.8 million compared to $2,160.9 million in 2016, which is a 28.7 percent increase. Investment income can fluctuate dramatically because it includes realized and unrealized investment gains and losses based on performance of global capital markets.

2017 ADDITIONS (DOLLARS IN MILLIONS) $2,781.8



2017 DEDUCTIONS (DOLLARS IN MILLIONS) $1,470.1



The employer contribution rates of 19.5 percent for police and 24 percent for fire remained unchanged in both 2017 and 2016. The member contribution rate was 12.25 percent for both police and fire in 2017 and 2016.

Deductions are incurred primarily for the purpose for which OP&F was created; the payment of pension, disability and survivor benefits to qualified members and survivors. Included in the deductions from OP&F's fiduciary net position for 2017 were benefits for retirement, DROP, disability, health care and survivors. Also included were contribution refunds, administrative and other expenses. Pension benefits are funded through a combination of investment earnings and employer and member contributions. Health care expenses are funded on a self-insured basis through a portion of employer contributions, health care premiums and investment income. Deductions totaled $1,470.1 million in 2017 and were $1,430.2 million in 2016, which is a 2.8 percent increase over 2016. Please refer to the Plan Summary in the Actuarial Section for further information on plan benefits.

OP&F administers the State of Ohio Public Safety Officers Death Benefit Fund. This program was established by the State of Ohio to provide monthly benefit payments to eligible surviving family members of Ohio public safety officers who have been killed in the line of duty or die of a duty-related injury or illness. Funds are disbursed to OP&F on a quarterly basis and are paid monthly by OP&F to eligible recipients. Annually, the unused balance is returned to the State of Ohio. The Public Safety Officers Death Benefit Fund is considered to be an agency fund administered by OP&F and accordingly, its assets of $0.4 million and $0.5 million at Dec. 31, 2017 and 2016, respectively, and the related liability for unpaid benefits as of the same dates are included in the accompanying financial statements.

OVERVIEW OF FINANCIAL STATEMENTS

Following the MD&A are the Statements of Fiduciary Net Position and the Statements of Changes in Fiduciary Net Position. OP&F's financial statements are prepared using the accrual basis of accounting and are in compliance with applicable GASB Statements.

The Statement of Fiduciary Net Position provides a snapshot view at year–end for the amount OP&F has accumulated in assets to pay for benefits. The Statement of Changes in Fiduciary Net Position reflects what has happened to OP&F's assets during the fiscal year. If the fiduciary net position increased, then additions were greater than the deductions. If the fiduciary net position decreased, then additions were less than the deductions.

In addition to the Basic Financial Statements and accompanying Notes to the Basic Financial Statements, certain Required Supplementary Information (RSI) is provided. The RSI consists of information pertaining to OP&F's actuarial methods and assumptions and provides data on the net pension liability and the changes in net pension liability. Also included in the RSI is data on contributions from employers, along with other information useful in evaluating the financial condition of OP&F. Following the RSI are Schedules of Administrative Expenses and the Schedule of Investment Expenses.

In accordance with GASB Statement No. 68, Accounting and Financial Reporting for Pensions, which significantly revised accounting for pension costs and liabilities, OP&F recorded as a liability its proportionate share of the Ohio Public Employees Retirement System (OPERS) Net Pension Liability (NPL). However, OP&F is not responsible for certain key factors affecting the balance of this liability. In Ohio, the employee shares the obligation of funding pension benefits with the employer.

Employee contribution rates are set by Ohio law. State law permits the Board of Trustees to adjust the employee contribution rate if, in consultation with its actuary following an actuarial review, OP&F determines that an adjustment to the rate is appropriate. The Board of Trustees may increase the employee contribution rate if it determines that the increase is necessary to preserve the fiscal integrity of the pension fund. Likewise, the Board of Trustees may decrease the employee contribution rate if it determines that the decrease would not materially impair the fiscal integrity of the pension fund.

Employer contribution rates are also set by Ohio law. A change in the employer rates requires action by both Houses of the General Assembly and approval by the Governor. OP&F's benefit provisions are also determined by state statute.

In Ohio, at this time it does not appear that there are any legal means to enforce payments of the net pension liability of the pension system by public employers. The pension system is responsible for the administration of the plan.

Most long-term liabilities have set repayment schedules or, in the case of compensated absences (i.e. sick and vacation leave) are satisfied through paid time-off or termination payments. There is no repayment schedule for the NPL. Changes in pension benefits, contribution rates and return on investments affect the balance of the net pension liability, but are outside the control of the public employer. In the event that contributions, investment returns and other changes are insufficient to keep up with required pension payments, state statute does not assign/identify the responsible party for the unfunded portion.

In 2017, OP&F implemented GASB Statement No. 74, Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans, which resulted in an additional note disclosure to the financial statements and additional Required Supplementary Information related to OP&F's Retiree Health Care program. In 2018, OP&F will implement the provisions of GASB Statement No. 75, Accounting and Financial Reporting for Post-Employment Benefits Other Than Pensions. Under GASB Statement No. 75, OP&F will be required to record a liability representing OP&F's proportionate share of OPERS' Other Post-Employment Benefit (OPEB) liability.

GASB Statement No. 75 is very similar to GASB Statement No. 68, in that, OP&F is not responsible for certain key factors affecting the balance of this OPEB liability. Both standards affect financial reporting only, not funding. The requirement to report these liabilities may represent a significant figure on OP&F's financial statements, but do not affect the amount OP&F is required to fund under Ohio law. In Ohio, governmental employers are not legally bound to pay off the unfunded liabilities of OPERS. The intent of the standards is to enhance both the pension and OPEB related information in financial reports by providing greater transparency and to standardize the valuation practices from entity to entity.

A condensed version of OP&F's financial information is being provided as part of this discussion.

CONDENSED FIDUCIARY NET POSITION INFORMATION (DOLLARS IN MILLIONS)

			2017 Change	
	2017	2016	Amount	Percent
Cash and Short-term Investments	$948.3	$923.9	$24.4	2.6%
Receivables	221.8	167.5	54.3	32.4%
Investments, at Fair Value	15,877.1	14,457.6	1,419.5	9.8%
Capital Assets, Net of Depreciation	15.8	16.7	(0.9)	(5.4)%
Other Assets	0.2	0.2	-	-%
TOTAL ASSETS	**17,063.2**	**15,565.9**	**1,497.3**	**9.6%**
DEFERRED OUTFLOWS	4.4	3.4	1.0	29.4%
Benefits and Accounts Payable	75.7	71.8	3.9	5.4%
Investments Payable	1,096.0	913.1	182.9	20.0%
TOTAL LIABILITIES	**1,171.7**	**984.9**	**186.8**	**19.0%**
DEFERRED INFLOWS	0.2	0.4	(0.2)	(50.0)%
FIDUCIARY NET POSITION, END OF YEAR	**$15,895.7**	**$14,584.0**	**$1,311.7**	**9.0%**

CONDENSED CHANGES IN FIDUCIARY NET POSITION INFORMATION (DOLLARS IN MILLIONS)

			2017 Change	
	2017	2016	Amount	Percent
Contributions	$829.4	$807.2	$22.2	2.8%
Net Investment Gain/(Loss)	1,923.5	1,317.4	606.1	46.0%
Other Additions	28.9	36.3	(7.4)	(20.4)%
TOTAL ADDITIONS	**2,781.8**	**2,160.9**	**620.9**	**28.7%**
Benefits	1,429.2	1,396.4	32.8	2.3%
Refunds	20.6	14.2	6.4	45.1%
Administrative Expenses and Other	20.3	19.6	0.7	3.6%
TOTAL DEDUCTIONS	**1,470.1**	**1,430.2**	**39.9**	**2.8%**
Net Increase/(Decrease)	**1,311.7**	**730.7**	**581.0**	**79.5%**
Fiduciary Net Position, Beginning of Year	**14,584.0**	**13,853.3**	**730.7**	**5.3%**
FIDUCIARY NET POSITION, END OF YEAR	**$15,895.7**	**$14,584.0**	**$1,311.7**	**9.0%**

FINANCIAL ANALYSIS

FIDUCIARY NET POSITION

The fiduciary net position available for benefits and expenses in 2017 was $15,895.7 million versus $14,584.0 million in 2016, which represents a 9.0 percent net increase. The overall net increase in 2017 can be primarily attributed to net appreciation on the fair value of investments. Please refer to the Investment Section for additional information on OP&F's investment activities in 2017.

REVENUE ADDITIONS TO FIDUCIARY NET POSITION

Based on the rounded numbers found on page six, overall contributions received by OP&F in 2017 increased 2.8 percent or $22.2 million compared to 2016. These changes are due to increases in the average annual salary and total annual payroll.

Pension contributions from employers increased $7.5 million, or 1.6 percent, in 2017. Employer pension contribution increases are also due to an increase in the average annual salary and total annual payroll. Employer contributions are not impacted by DROP and the employer contributions associated with DROP participation are not allocated to the individual DROP accounts.

In 2017, pension contributions from members increased $13.4 million, or 5.0 percent. The increase in 2017 can be attributed to the 4.1 percent increase in the average annual salary, from $73,557 to $76,608, and an increase in active member population, or contributing members, by 551 to 28,175, or by 2.0 percent.

In 2017, members purchasing service credit or transferring in their member contributions increased by $8.7 million. These purchases and transfers-in fluctuate year-to-year based on the number and amount of the service credit being purchased by the membership and the number and amount of members transferring contributions from other retirement systems.

Contributions paid by members and beneficiaries for their share of health care costs increased by 1.8 percent from $73.2 million in 2016 to $74.5 million in 2017. The annual changes in the contributions can be attributed to the annual increase in the contribution rates paid by plan participants along with fluctuations in the number of members and beneficiaries selecting to participate in the OP&F health care program.

In 2017, contributions received through the state-subsidy decreased 13.0 percent, or $51,686, from $398,161 to $346,475. This trend is due to a normal decline in the population of survivors receiving this subsidized benefit.

Net investment gain totaled $1,923.5 million in 2017. This can be attributed to a positive gross return of 14.30 percent from OP&F's portfolio of investments. In 2016, the net investment gain totaled $1,317.4 million. This was attributed to an overall positive gross return on OP&F investments of 11.51 percent.

EXPENSE DEDUCTIONS FROM NET POSITION

Overall benefit deductions for service retirement, DROP, health care, disability and survivors increased $32.8 million or 2.3 percent in 2017. Part of the increases in pension benefits is due to increases in the number of retirees and beneficiaries. Service retirees increased by 458 individuals, or 3.2 percent in 2017. Survivors and beneficiaries increased by 87 individuals, or 1.1 percent while disability retirees decreased by 34 individuals, or negative 0.5 percent. In addition, DROP benefit distributions increased $19.7 million or 11.8 percent.

In 2017, health care benefits decreased by 13.4 percent and gross health care payments totaled $193.6 million and represented 13.2 percent of all plan deductions. In 2016, health care benefits totaled $223.6 million and represented 15.6 percent of all plan deductions. These decreases in health care benefits can be attributed to new strategies in OP&F's pharmacy program approved by the Board of Trustees. While the medical plan's costs remained flat, the prescription plan saw a decrease of 24.8 percent in 2017.

Refunds to members increased by $6.4 million in 2017. These refunds include actual refunds of pension contributions and member contributions on deposit for inactive members.

BASIC FINANCIAL STATEMENTS

STATEMENT OF FIDUCIARY NET POSITION AS OF DEC. 31, 2017

	Pensions	Post-Employment Health Care	2017 Total	Death Benefit Agency Fund
Assets:				
Cash and Short-term Investments	$891,487,610	$56,777,996	$948,265,606	$455,321
Receivables:				
Employers' Contributions	50,843,743	1,203,350	52,047,093	-
Members' Contributions	29,410,506	-	29,410,506	-
Accrued Investment Income	35,389,363	2,253,915	37,643,278	-
Investment Sales Proceeds	75,905,057	4,834,321	80,739,378	-
Local Funds Receivable	21,953,080	-	21,953,080	-
TOTAL RECEIVABLES	**213,501,749**	**8,291,586**	**221,793,335**	-
Investments, at fair value:				
Domestic Bonds	3,246,986,167	206,797,450	3,453,783,617	-
Non-U.S. Bonds	3,243,891	206,600	3,450,491	-
Mortgage and Asset-Backed Securities	401,920,288	25,597,920	427,518,208	-
Domestic Stocks	3,010,880,745	191,760,123	3,202,640,868	-
International Equities	2,965,970,151	188,899,810	3,154,869,961	-
Real Estate	1,653,857,872	105,332,631	1,759,190,503	-
Commercial Mortgage Funds	34,542,847	2,200,001	36,742,848	-
Private Debt	390,709,004	24,883,884	415,592,888	-
Private Equity	1,044,518,377	66,524,379	1,111,042,756	-
Real Assets	316,453,889	20,154,646	336,608,535	-
Master Limited Partnerships	956,478,268	60,917,189	1,017,395,457	-
Domestic Derivatives	(5,846)	(372)	(6,218)	-
Non-U.S. Derivatives	(829,581)	(52,835)	(882,416)	-
TOTAL INVESTMENTS	**14,024,726,072**	**893,221,426**	**14,917,947,498**	-
Collateral on Loaned Securities	901,794,295	57,434,419	959,228,714	-
Capital Assets, net of accumulated depreciation, where applicable:				
Land	3,200,000	-	3,200,000	-
Building and Improvements	11,577,939	-	11,577,939	-
Furniture and Equipment	112,568	-	112,568	-
Computer Software and Hardware	924,313	-	924,313	-
TOTAL CAPITAL ASSETS, NET	15,814,820	-	15,814,820	-
Prepaid Expenses and Other	160,042	-	160,042	-
TOTAL ASSETS	**16,047,484,588**	**1,015,725,427**	**17,063,210,015**	**455,321**
DEFERRED OUTFLOWS OF RESOURCES				
Deferred Outflows - Pension	4,414,185	-	4,414,185	-
Liabilities:				
Health Care Payable	-	18,013,257	18,013,257	-
Investment Commitments Payable	128,592,952	8,189,962	136,782,914	-
Accrued Administrative Expenses	31,042,164	-	31,042,164	-
Due to State of Ohio	-	-	-	455,321
Obligations Under Securities Lending	901,794,295	57,434,419	959,228,714	-
Other Liabilities	26,656,033	-	26,656,033	-
TOTAL LIABILITIES	**1,088,085,444**	**83,637,638**	**1,171,723,082**	**455,321**
DEFERRED INFLOWS OF RESOURCES				
Deferred Inflows - Pension	199,325	-	199,325	-
FIDUCIARY NET POSITION HELD IN TRUST FOR PENSION AND POST-EMPLOYMENT HEALTH CARE BENEFITS	**$14,963,614,004**	**$932,087,789**	**$15,895,701,793**	**$-**

See the Notes to the Basic Financial Statements. The accompanying notes are an integral part of the financial statements.

BASIC FINANCIAL STATEMENTS

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION FOR THE YEAR ENDED DEC. 31, 2017

	Pensions	Post-Employment Health Care	2017 Total
Additions:			
From Contributions:			
Members'	$282,006,793	$-	$282,006,793
Employers'	462,047,728	10,871,479	472,919,207
State of Ohio-Subsidies	346,475	-	346,475
Health Care Premiums	-	74,450,891	74,450,891
TOTAL CONTRIBUTIONS	**744,400,996**	**85,322,370**	**829,723,366**
From Investment Income:			
Net Appreciation (Depreciation)			
Value of Investments	1,488,638,754	95,022,365	1,583,661,119
Bond Interest	120,740,456	7,707,070	128,447,526
Dividends	92,723,677	5,918,711	98,642,388
Alternative Investment Income	83,798,632	5,349,010	89,147,642
Master Limited Partnership Income	59,561,045	3,801,884	63,362,929
Other Investment Income (Loss)	7,034,406	449,018	7,483,424
Less Investment Expenses	(48,318,984)	(3,084,284)	(51,403,268)
NET INVESTMENT INCOME	**1,804,177,986**	**115,163,774**	**1,919,341,760**
From Securities Lending Activities:			
Securities Lending Income	11,773,968	751,553	12,525,521
Securities Lending Expense	(7,801,256)	(497,968)	(8,299,224)
NET INCOME FROM SECURITIES LENDING	**3,972,712**	**253,585**	**4,226,297**
Interest on Local Funds Receivable	952,196	-	952,196
Other Income	3,462,678	24,105,358	27,568,036
TOTAL ADDITIONS	**2,556,966,568**	**224,845,087**	**2,781,811,655**
Deductions:			
Retirement Benefits	710,330,998	-	710,330,998
Disability Benefits	251,973,779	-	251,973,779
Health Care Benefits	-	193,595,036	193,595,036
Survivor Benefits	86,881,880	-	86,881,880
DROP Withdrawls	186,463,832	-	186,463,832
Contribution Refunds	20,603,957	-	20,603,957
Administrative Expenses	19,402,727	815,977	20,218,704
Other Expenses	84,631	-	84,631
TOTAL DEDUCTIONS	**1,275,741,804**	**194,411,013**	**1,470,152,817**
CHANGE IN FIDUCIARY NET POSITION	1,281,224,764	30,434,074	1,311,658,838
FIDUCIARY NET POSITION - BEG OF YEAR	**13,682,389,240**	**901,653,715**	**14,584,042,955**
FIDUCIARY NET POSITION - END OF YEAR	**$14,963,614,004**	**$932,087,789**	**$15,895,701,793**

See the Notes to the Basic Financial Statements. The accompanying notes are an integral part of the financial statements.

NOTES TO BASIC FINANCIAL STATEMENTS (DEC. 31, 2017)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The following are the significant accounting policies followed by OP&F.

BASIS OF ACCOUNTING

OP&F's financial statements have been prepared using the accrual basis of accounting. Revenues are recognized when earned and expenses are recorded when a liability is incurred. Contributions are earned based on statutory requirements under Chapter 742 of the ORC.

NEW ACCOUNTING PRONOUNCEMENTS

During the year ended Dec. 31, 2017, OP&F adopted the provision of GASB Statement No. 74, Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans, which resulted in an additional note disclosure to the financial statements and additional Required Supplementary Information. In addition, OP&F adopted GASB Statement No. 80, Blending Requirements for Certain Component Units–an amendment of GASB Statement No. 14. GASB Statement No. 81, Irrevocable Split-Interest Agreements. GASB Statement No. 82, Pension Issues-an amendment of GASB Statements No. 67, No. 68 and No. 73. The adoption of these had no material impact on the financial statements.

The GASB also issued the following pronouncements: GASB Statement No. 75, Accounting and Financial Reporting for Post-Employment Benefits Other Than Pensions, is effective for fiscal years beginning after June 15, 2017. GASB Statement No. 83, Certain Asset Retirement Obligations, is effective for fiscal years beginning after June 15, 2018. GASB Statement No. 84, Fiduciary Activities, is effective for fiscal years beginning after Dec. 15, 2018. GASB Statement No. 85, Omnibus 2017, is effective for fiscal years beginning after June 15, 2017. GASB Statement No. 86, Certain Debt Extinguishment Issues, is effective for fiscal years beginning after June 15, 2017. GASB Statement No. 87, Leases, is effective for fiscal years beginning after Dec. 15, 2019. GASB Statement No. 88, Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements, is effective for fiscal years beginning after June 15, 2018. OP&F is analyzing the impact that these GASB pronouncements will have on the financial statements.

MANAGEMENT USE OF ESTIMATES

The preparation of the financial statements requires management to make a number of estimates and assumptions relating to the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the period. Significant items subject to estimates and assumptions include the fair value of certain investments, carrying amount of capital assets and assets and obligations related to employee and member benefits. Actual results could differ from those estimates.

INVESTMENTS

Investment purchases and sales are recorded on a trade-date basis. Dividend income is recognized on the ex-dividend date. Income on bonds, private equity, private debt, real estate funds and interest income are recognized when earned.

Investments are reported at fair value. Fair value is the amount reasonably expected to be received for an investment in a current sale between a willing buyer and a willing seller. Securities traded on a national or international exchange, including master limited partnerships, are valued at the last reported sales price at the then current exchange rates. Mortgages are valued on the basis of future principal payments discounted at prevailing interest rates for similar instruments. The fair value of real estate and timber are based on independent appraisals and internal valuations. Investments that do not have an established market are reported at estimated fair value received from the investment managers. The value of OP&F's private equity interests are based on values established by each partnership's valuation committee. Investments, for which no national exchanges or pricing services exist, such as private equity assets, are valued at fair value by the investment partnership based on the valuation methodology outlined in the partnership agreement. Real estate may be valued by the manager or independent appraisers. Commingled assets that are not traded on a national exchange are valued by the commingled manager. OP&F performs due diligence review of the investment pricing, process and infrastructure of private equity, commingled and real estate investments to assure that asset values provided by the managers are reasonable.

Net appreciation (depreciation) is determined by calculating the change in the fair value of investments between the end of the year and the beginning of the year, less the cost of investments purchased, plus reinvested proceeds from sales of investments at fair value. Investment expense consists of administrative expenses directly related to OP&F's investment operations and a proportional amount of all other administrative expenses allocated based on the ratio of OP&F's investment staff to total OP&F staff.

FEDERAL INCOME TAX STATUS

OP&F was determined to be a qualified trust under section 401(a) of the Internal Revenue Code that is exempt from Federal income taxes under Section 501(a) of the Internal Revenue Service Code. OP&F's DROP plan was also determined to be part of the 401(a) trust. A separate health care trust accrual account is maintained for health care benefits under Internal Revenue Service (IRS) Code Section 115 trust. IRS Code Section 401(h) account is maintained for Medicare Part B reimbursements.

ADMINISTRATIVE COSTS

The cost of administering the plan is financed by investment income.

CONTRIBUTIONS, BENEFITS AND REFUNDS

Employer and member contributions are recognized when due or in the period the related member salaries are earned. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

PROPERTY AND EQUIPMENT

Property and equipment are recorded at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the related assets. The range of estimated useful lives is as follows:

Buildings and Improvements:	40 years
Furniture and Equipment:	3 to 10 years
Computer Software and Hardware:	2 to 7 years

CHANGES IN CAPITAL ASSETS*

Non-Depreciable Capital Assets	Jan. 1, 2017	Additions	Disposals	Dec. 31, 2017
Land	$3,200,000	$-	$-	$3,200,000

Depreciable Capital Assets	Jan. 1, 2017	Additions	Disposals	Dec. 31, 2017
Building and Improvements	$21,396,130	$-	$(525)	$21,395,605
Furniture and Equipment	3,451,519	-	(321,044)	3,130,475
Computer Software and Hardware	16,925,025	359,788	(721,576)	16,563,237
TOTAL DEPRECIABLE CAPITAL ASSETS	**41,772,674**	**359,788**	**(1,043,145)**	**41,089,317**

Accumulated Depreciation	Jan. 1, 2017	Depreciation	Disposals	Dec. 31, 2017
Building and Improvements	9,281,345	536,846	(525)	9,817,667
Furniture and Equipment	3,310,231	28,719	(321,044)	3,017,906
Computer Software and Hardware	15,643,345	717,155	(721,576)	15,638,924
TOTAL ACCUMULATED DEPRECIATION	**28,234,921**	**1,282,721**	**(1,043,145)**	**28,474,497**
TOTAL DEPRECIABLE CAPITAL ASSETS, NET	**$13,537,753**	**$(922,933)**	**$-**	**$12,614,820**

* Additions in capital assets are related to purchases of property and equipment in 2017. Increases in accumulated depreciation are a result of depreciation expensed over the useful life of the asset which was expensed in 2017. Decreases in both capital assets and accumulated depreciation are related to the disposal of property and equipment in 2017.

2. DESCRIPTION OF THE SYSTEM

ORGANIZATION

OP&F is a cost-sharing, multiple–employer public employee retirement system established by the ORC Chapter 742 in 1965 to consolidate the various individual local police and firefighter's relief and pension funds into one statewide plan. OP&F is administered by a nine member Board of Trustees, consisting of two active representatives of police departments, two active representatives of fire departments, one retired police officer and one retired firefighter. The Board of Trustees also includes three statutory members. Each statutory member—one appointed by the Governor of Ohio, one by the Ohio Treasurer of State and one appointed jointly by the Ohio Senate President and Ohio Speaker of the House of Representatives—must have professional investment expertise.

OP&F administers pension, disability, DROP and health care benefits to qualified members. In addition, OP&F administers survivor benefits, death benefits and sponsors health care programs for eligible survivors, spouses, children and dependent parents. OP&F is a separate financial reporting entity in accordance with criteria established by Governmental Accounting Standards Board Statement No.14. Because OP&F is a legally separate entity, a voting majority of the governing board is not appointed by the State and it is fiscally independent of other state and local governments. OP&F also has a variety of professional consultants and money managers as listed on page vii and page 70.

PLAN MEMBERSHIP

Employer and member data as of Jan. 1, 2017, based on the most recent actuarial valuation, is as follows:

	2017		
Employee Members	**Police**	**Fire**	**Total**
Retirees and Beneficiaries			
Currently receiving benefits	16,523	12,390	28,913
Terminated employees entitled to benefits but not yet receiving them	128	72	200
TOTAL BENEFIT MEMBERS	**16,651**	**12,462**	**29,113**
Current Members			
Vested*	7,821	6,932	14,753
Non-vested	7,384	6,038	13,422
TOTAL CURRENT MEMBERS	**15,205**	**12,970**	**28,175**
TOTAL EMPLOYEE MEMBERS	**31,856**	**25,432**	**57,288**
Employer Members**			
Municipalities	248	199	447
Townships	-	162	162
Villages	282	35	317
TOTAL EMPLOYER MEMBERS	**530**	**396**	**926**

* Includes Rehired Retirees.

** Beginning in 2017 OP&F reclassified Fire Districts under Townships.

BENEFITS

Plan benefits are established under ORC Chapter 742. OP&F offers four types of service retirement: normal, service commuted, age/service commuted and actuarially reduced. Each type has different eligibility guidelines and is calculated using the member's allowable average annual salary.

Allowable average annual salary is subject to certain statutory and administrative limitations. Not all salary, earnings, or compensation may be used in the calculation. OP&F calculates allowable average annual salary as follows:

- For members with less than 15 years of service credit as of July 1, 2013, allowable average annual salary is an average of the five years of highest allowable earnings; regardless of when in their career the highest years occurred. Allowable average annual salary means one-fifth of the total salary during the five years for which the total allowable earnings were greatest.

- For OP&F members with 15 or more years of service credit as of July 1, 2013, allowable average annual salary is an average of the three years of highest allowable earnings; regardless of when in their career the highest years occurred. Allowable average annual salary means one-third of the total salary during the three years for which the total allowable earnings were greatest.

NORMAL SERVICE RETIREMENT

ELIGIBILITY

- For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52 with at least 25 years of service credit.
- For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48 with 25 years of service credit.

BENEFIT

An annual pension equal to a percentage of the allowable average annual salary. The percentage equals 2.5 percent for each of the first 20 years of service credit, 2.0 percent for each of the next five years of service credit and 1.5 percent for each year of service credit in excess of 25 years. The maximum pension of 72 percent of the allowable average annual salary is paid after 33 years of service credit.

SERVICE COMMUTED RETIREMENT

ELIGIBILITY

- For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52, they must have at least 15 years of service credit and 25 years have elapsed from the date of their full-time hire.
- For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48, they must have at least 15 years of service credit and 25 years have elapsed from the date of their full-time hire.

BENEFIT

An annual pension equal to 1.5 percent of the allowable average annual salary multiplied by the number of full years of service credit (up to 25 years of service credit).

AGE/SERVICE COMMUTED RETIREMENT

ELIGIBILITY

Age 62, 15 years of service credit and still working as a full-time police officer or firefighter.

BENEFIT

An annual pension that uses the same formula as the Normal Service Retirement benefit (up to 25 years of service credit).

ACTUARIALLY REDUCED

ELIGIBILITY

For members hired into an OP&F-covered position after July 1, 2013, age 48 with 25 years of service credit.

BENEFIT

An annual pension reduced to the actuarial equivalent of the amount payable had the member retired at age 52.

OTHER BENEFITS

In addition to retirement benefits, OP&F also provides disability, survivor and Death Benefit Fund (DBF) benefits. Disability benefits are available to all members and vary by length of service and type of disability. Statutory survivor benefits are specified dollar amounts paid to eligible surviving spouse, children and dependent parents upon the death of an active member or retiree. A one-time lump sum death benefit of $1,000 is payable to the surviving spouse, designated beneficiary or estate, as applicable, of each deceased retired member.

OP&F also administers the Ohio Public Safety Officers DBF, which is funded by the State of Ohio and provides special benefits to eligible survivors of public safety officers who are killed in the line of duty or who die from injuries or disease incurred in the performance of official duties. If the public safety officer had not qualified for age and service retirement these eligible survivors are entitled to receive the member's full base pay, which will be reduced at the member's retirement eligibility date. If the public safety officer would have qualified for age and service retirement, the survivors are eligible for a transitional benefit equal to 50 percent of the monthly base pay. The transitional benefit is paid in addition to any optional payment that may have been selected.

DEFERRED RETIREMENT OPTION PLAN

Effective January 2003, DROP is an optional benefit that allows eligible police officers and firefighters to accumulate a lump sum of money for retirement, subject to the member meeting certain criteria.

At Dec. 31, 2017, there were 4,154 members enrolled in the DROP program, with total values of the DROP accounts equaling $1,559.2 million.

ELIGIBILITY

When a member is eligible for a normal service retirement they can enter DROP by delaying retirement and continuing to work as a full-time police officer or firefighter.

- For members hired into an OP&F-covered position after July 1, 2013, normal service retirement eligibility is age 52 with at least 25 years of service credit.

- For members hired into an OP&F-covered position on or before July 1, 2013, normal service retirement eligibility is age 48 with at least 25 years of service credit.

BENEFIT

DROP is a cost neutral benefit offered by OP&F. Upon the DROP effective date, the member's pension is calculated as if that were their date of retirement. While the member continues to work and draw their normal salary, the amount they would have received in retirement benefits, a portion of their ongoing OP&F employee contributions and interest, accumulates tax-deferred at OP&F on their behalf. Since the member's pension has already been calculated:

- The years of DROP service do not apply towards the member's normal service retirement.

- If a member earns a higher salary after their DROP effective date due to a raise, job promotion, etc., it will not be used to recalculate their pension and, therefore, will not result in that member receiving a higher pension upon retirement.

The DROP interest rate is set by administrative rule and is subject to change at any time. OP&F credits interest to all DROP balances each month at a rate equal to the 10-year United States Treasury Note Business Day Series, as published by the U.S. Department of the Treasury, with a cap of five percent. This variable interest rate is adjusted quarterly to match the published 10-year U.S. Treasury Note Business Day Series rate for the last trading business day of the preceding quarter and is in effect for the subsequent quarter.

Members whose election to participate in DROP is effective after July 1, 2013 do not qualify for annual cost-of-living allowances (COLA) at any time during DROP. Members whose election to participate in DROP is effective on or before July 1, 2013 will continue to receive a cost-of-living allowance during DROP, but only when they reach 55 years of age and have been participating in DROP for at least one year. Those members whose enrollment date into DROP qualifies them for a cost-of-living allowance during DROP will receive three percent of their base pension.

Member contributions are credited to their DROP account based on the number of years of DROP service. For those members whose election to participate in DROP is effective after July 1, 2013, OP&F applies contributions to DROP in the following manner:

Years of DROP Service	Percentage of Member Contributions
Years 1-3	50 percent of member's contributions
Years 4-5	75 percent of member's contribution
Years 6-8	100 percent of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is five years and the maximum is eight years.

- If a member terminates employment within the first five years of joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing the required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the DROP minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable, will receive the entire DROP account balance determined at time of death.

- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit and salary earned during the DROP participation period.

For those members whose election to participate in DROP was on or before July 1, 2013, member contributions are applied to DROP under the following schedule:

Years of DROP Service	Percentage of Member Contributions
Years 1-2	50 percent of member's contributions
Year 3	75 percent of member's contribution
Years 4-8	100 percent of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is three years and the maximum is eight.

- If a member terminates employment within the first three years of joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing the required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the DROP minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable, will receive the entire DROP account balance determined at time of death.

- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit and salary earned during the DROP participation period.

All DROP members retiring before the eight-year maximum participation period will receive their Normal Service Retirement benefit determined at the time of DROP entry, with the COLA adjustment (if applicable) to date of retirement when eligible. These members will also receive the DROP account balance as a lump sum or monthly annuity.

If a member dies while participating in DROP, the member's surviving spouse, designated beneficiary or estate, as applicable, will receive the entire DROP account balance determined at the time of death. The surviving spouse or contingent dependent beneficiary will receive the greater of the retirement allowance made at the time of DROP entry or the Normal Service Retirement benefit paid with COLA adjustments (if applicable) to the date of death, paid as if the member had elected a 50 percent joint and survivor option at death. All other statutory death benefits will apply.

If the member becomes disabled while in DROP, and has not terminated employment, the member must choose between receiving a disability benefit or DROP and a service retirement benefit. If the member stays in DROP, the disability benefit is forfeited. If the member chooses the disability benefit, the member forfeits all DROP benefits and receives the disability benefit, with service credit during the DROP period included.

REFUNDS

Upon termination of active service in a police or fire department, members may withdraw their accumulated employee contributions on deposit with OP&F. Acceptance of a refund of employee contributions cancels the member's rights, benefits and total service credit with OP&F. Employer contributions to OP&F are not refundable.

HEALTH CARE

In 2017, OP&F sponsors a comprehensive health care program for eligible benefit recipients and their eligible dependents administered by a third party provider. This program is not guaranteed and is subject to change at any time upon action of the Board of Trustees. The program includes medical, prescription drugs, dental, vision and reimbursement of Medicare Part B premiums. Benefit recipients pay a portion of the health care cost through a monthly contribution.

Under Ohio law, health care costs paid from the funds of the plan are included in the employer contribution rates, which are currently 19.5 percent and 24 percent of salaries for police and fire employers, respectively. During 2017, the Board of Trustees has allocated employer contributions equal to 0.5 percent of annual covered payroll to the Health Care Stabilization Fund (HCSF). The HCSF is part of the Pension Reserve Fund.

OP&F maintains funds for health care in two separate accounts. There is one account for health care benefits and one account for Medicare Part B reimbursements. A separate health care trust accrual account is maintained for health care benefits under IRS Code Section 115 trust. IRS Code Section 401(h) account is maintained for Medicare Part B reimbursements.

Beginning Jan. 1, 2019 OP&F is changing its retiree health care model and the current self-insured health care plan will no longer be offered. In its place is a stipend-based health care model. OP&F has contracted with a vendor who will assist eligible retirees in choosing health care plans from their marketplace (both Medicare-eligible and pre-Medicare populations). A stipend funded by OP&F will be placed in individual Health Reimbursement Accounts that retirees will use to be reimbursed for health care expenses. As a result of changing from the current health care model to the stipend-based health care model, management expects that it will be able to provide stipends to eligible participants for the next 15 years.

3. CONTRIBUTIONS AND RESERVES

CONTRIBUTIONS

The ORC Chapter 742 requires contributions by active members and their employers. Contribution rates are subject to annual review by the Ohio Retirement Study Council (ORSC). Additionally, an actuary is used to determine the actuarial implications of the requirement. The adequacy of contribution rates is determined annually using the entry age normal actuarial cost method. Employee contribution rates are set by Ohio law. State law permits the Board of Trustees to adjust the employee contribution rate if, in consultation with its actuary following an actuarial review, OP&F determines that an adjustment to the rate is appropriate. The Board of Trustees may increase the employee contribution rate if it determines that the increase is necessary to preserve the fiscal integrity of the pension fund. Likewise, the Board of Trustees may decrease the employee contribution rate if it determines that the decrease would not materially impair the fiscal integrity of the pension fund.

Employer contribution rates are also set by Ohio law. A change in the employer rates requires action by both Houses of the General Assembly and approval by the Governor.

Rates established by the ORC Jan. 1 through Dec. 31, 2017:

Percentage of active member payroll	Police	Fire	Percent Contributed
Member	12.25%	12.25%	100%
Employer	19.50%	24.00%	100%
TOTAL STATUTORY RATE *	**31.75%**	**36.25%**	**100%**

*Combined member and employer contributions as a percentage of the total active member payroll required and made Jan. 1 through Dec. 31, 2017.

In accordance with the ORC, the State of Ohio is required to contribute additional amounts to finance the cost of certain state-legislated benefit improvements. The total amount contributed by the State of Ohio was $346,475 for the year ended Dec. 31, 2017.

The chart below summarizes the member and employer contributions for 2017:

LOCAL FUNDS RECEIVABLE

Local governments are required by state statute to pay the unfunded portion of the actuarially-determined liability of the local police and firefighter's relief and pension funds that were merged to form OP&F in 1967. The ORC designates this obligation of the local governments to the Employers' Accrued Liability. Interest on the outstanding balance is being accrued at the rate of 4.25 percent, compounded semi-annually. Local governments began repayment in 1969 and payments are required to be made until 2035. Between 1969 and 1973, payments of principal and interest were received at incremental semi-annual rates ranging from two percent to four percent of the original receivable balance. Between 1973 and 2035, semi-annual payments of principal and interest are required to be made by the local governments at a rate of five percent of the original receivable balance. The underpaid balance due at Dec. 31, 2017 includes $78,936 due from local governments, which had previously underpaid their semi-annual payment and from local governments that joined OP&F subsequent to 1967 according to a 20-year payment plan.

The following is a summary of the amounts due on the local funds receivable:

Year ending December 2018	$1,815,806
Year ending December 2019	1,815,806
Year ending December 2020	1,790,783
Year ending December 2021	1,784,799
Year ending December 2022	1,784,799
Thereafter	22,114,112
TOTAL PROJECTED PAYMENTS	**31,106,105**
Less future interest portion	(9,153,025)
BALANCE AT DEC. 31, 2017	**$21,953,080**

SUMMARY OF MEMBER AND EMPLOYER CONTRIBUTIONS

Year Ending Dec. 31	Police Member Contributions	Police Employer Contributions	Percent Contributed	Fire Member Contributions	Fire Employer Contributions	Percent Contributed
2017	$149,520,069	$225,292,066	100%	$132,486,724	$247,627,141	100%

RESERVES

The ORC requires that several reserve funds be maintained annually for tracking fund activities for both police and fire. Each year-end the reserve funds are managed and allocations are done to reflect the revenue and expense activities and funding balance transfers due to changes in membership status from active to retired.

The Guarantee Fund and Expense Fund are always zero at the end of each year as they are used to fund the Pension Reserve Fund from investment gains and losses and to account for the administrative operation expenses.

As required by the ORC, the following accounts have been established for the reserves held for current and future benefits and are separated between police and fire:

The Police Officers' and Firefighters' Contribution Fund
This fund accumulates the contributions deducted from the salaries of members. Upon retirement, a member's accumulated contributions are transferred to the Police Officers' or Firefighters' Pension Reserve Fund.

The Police Officers' and Firefighters' Employers' Contribution Fund
This fund is the depository for employer contributions. Based on actuarial valuations, amounts are transferred from this account to the Police Officers' and Firefighters' Pension Reserve Fund.

The Police Officers' and Firefighters' Pension Reserve Fund
This fund is the account from which all retirement, disability, DROP, health care and survivor benefits are paid. Included in this Fund is the Health Care Stabilization Fund from which payments for the health care benefits are made. Amounts are transferred into the Pension Reserve Fund from the Contribution Funds and the Guarantee Fund.

The Guarantee Fund
This fund records all investment earnings of OP&F. In addition, contributions from the State of Ohio, exclusive of death benefit contributions, are recorded in this fund. Annually, investment earnings are transferred to the Pension Reserve Fund and the Expense Fund, as defined below.

Ohio law provides that any deficit occurring in any other fund that will not be covered by payments to that fund, as otherwise provided by sections 742.01 to 742.61 of the ORC, must be paid by transfers of amounts from the Guarantee Fund to such fund or funds. Should the amount in the Guarantee Fund be insufficient at any time to meet the amounts payable therefrom, the amount of such deficiency, with regular interest, must be paid by an additional employer rate of current contributions as determined by the actuary and must be approved by the Board of Trustees of OP&F and the amount of such additional employer contribution will be credited to the Guarantee Fund.

The Expense Fund
This fund is used to record all expenses for the administration and management of OP&F. Annually funds are transferred from the Guarantee Fund to cover expenses incurred.

Fiduciary net position held in trust for benefits for the various funds were as follows:

	2017
Members' Contribution	$2,861,229,299
Employers' Contribution	1,535,290,494
Pension Reserve	11,499,182,000
TOTAL	**$15,895,701,793**

4. FAIR VALUE MEASUREMENT

OP&F measures and records its investments using fair value measurement guidelines established by the generally accepted accounting principles. These guidelines categorize the inputs to valuation techniques into three hierarchal levels, as follows:

Level 1
Quoted (unadjusted) prices for identical investments in active markets.

Level 2
Inputs other than quoted prices that are observable for the investments directly or indirectly. These inputs are quoted prices for similar assets in active markets, quoted prices for identical or similar assets in markets that are not active and observable inputs other than quoted prices. Such inputs may include interest rates, yield curves, implied volatilities and credit spreads.

Level 3
Level 3 inputs are prices based on unobservable sources. Level 3 inputs include the best information available under the circumstances, which can include OP&F's own data and takes into account all information about market participant assumptions.

The classification of the levels, within the hierarchy, is based on the asset type and the pricing transparency. Level 1 assets are valued based on prices quoted by external pricing vendors furnished to OP&F's custodial banks.

Level 2 securities in Cash and Short-Term Investments primarily consist of Commercial paper which are reported at cost plus earned discount which approximates market or fair value. Equity securities in Level 2 are valued using bid evaluation while fair values for debt and derivative securities in Level 2 are based on bid evaluations or matrix pricing method. Bid evaluations are typically based on market quotations, yields, maturities, call features and ratings. Matrix pricing technique is used to value securities based on the securities relationship to benchmark quoted prices.

The Level 3 securities within the Real Assets consists solely of investments in timberlands. Due to the significance of certain unobservable assumptions in the valuation of timberland this investment is valued using Income Capitalization, Sales Comparison or Cost methods. Income Capitalization method involves using a range of discount rates to determine the present value of the future income that can be produced over the holding period. Sales comparison approach is a method of estimating the fair value based on open market prices recently paid for similar timberland properties in the market area. The cost approach is a method of estimating the fair value based on the concept that a market participant would pay no more than the timberland property than the cost to purchase and develop a comparable property having utility.

The fair values of investments in certain equity, fixed income and marketable alternative funds are based on the investments' net asset value provided by the investee. Investments that are measured at fair value using the net asset value as practical expedient are not classified in the fair value hierarchy.

The following table shows the classification of OP&F fair value measurement for its investments as of Dec. 31, 2017 (Dollars in thousands).

		Fair Value Measurements Using:		
	Dec. 31, 2017	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				
Corporate Bonds and Obligations	$2,143,905	$-	$2,143,905	$-
Domestic Stocks	419,556	412,026	7,530	-
International Equities	2,341,248	2,334,570	6,678	-
International Pooled Stocks	18,714	18,714	-	-
Master Limited Partnership	1,017,395	1,017,395	-	-
Mortgage and Asset-Backed Obligations	427,518	-	427,518	-
Municipal Bond Obligations	5,124	1,154	3,970	-
Non U.S. Bonds	3,450	-	3,450	-
Real Assets	151,184	-	-	151,184
U.S. Government Agencies	2,591	-	2,591	-
U.S. Government Treasury Obligations	286,598	-	286,598	-
U.S. Government Treasury STRIPS	6,932	-	6,932	-
TOTAL INVESTMENT BY FAIR VALUE LEVEL	**$6,824,215**	**$3,783,859**	**$2,889,172**	**$151,184**
Investments measured at Net Asset Value (NAV)				
Commercial Mortgage	$36,743			
Domestic Commingled Bonds	1,017,383			
Domestic Pooled Stocks	1,608,729			
Domestic Stocks	1,165,606			
International Pooled Stocks	794,908			
Private Debt	415,593			
Private Equity	1,111,043			
Real Estate	1,759,191			
Real Assets	185,424			
TOTAL INVESTMENTS MEASURED AT NAV	**$8,094,620**			
Investment Derivatives				
Futures	$1	$1	$-	$-
Options/Swaptions	(71)	-	(71)	-
Foreign Currency Forwards	(882)	-	(882)	-
Interest Rate Swaps	64	-	64	-
Credit Default Swaps	(1)	-	(1)	-
TOTAL INVESTMENT DERIVATIVES	**$(889)**	**$1**	**$(890)**	**$-**
TOTAL INVESTMENTS	**$14,917,946**			
Securities not leveled in investment portfolio				
Cash Equivalents	**$947,550**			

INVESTMENTS MEASURED AT THE NET ASSET VALUE (DOLLARS IN THOUSANDS)

	Dec. 31, 2017	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Bond/Credit Funds (1)	$1,349,317	$259,627	Daily, Semi-annually, Not Eligible	0 days - Not Eligible
Domestic Equity Funds (2)	1,047,023	-	Daily	0 Days
Exchange Traded Funds (3)	391,057	-	Daily	0 Days
Hedge Funds (4)				
Global Macro	602,750	-	Monthly	5-90 Days
Credit	41,842	-	Quarterly	60 Days
Relative Value	37,516	-	Monthly	30 Days
Hedge Fund of Funds (5)				
Multi-Strategy	244,818	-	Daily	5 Days
Market Neutral	529,732	-	Daily, Quarterly	0-70 Days
International Equity Funds (6)	794,908	-	Daily	0-15 Days
Private Equity/Venture Capital Funds (7)	1,111,043	619,057	Not Eligible	Not Eligible
Real Estate Funds				
Open-End(8)	1,220,068	62,500	Quarterly	45-90 Days
Closed-End(9)	539,122	202,256	Not Eligible	Not Eligible
Real Assets Funds(10)	185,424	141,346	Not Eligible	Not Eligible
TOTAL INVESTMENTS MEASURED AT THE NAV	**$8,094,620**			

(1) **Bond/Credit Funds:** Three bond funds, nine private debt funds and one commercial mortgage fund are considered bond/credit funds. Each is valued at the net asset value at the end of the period based on the value of the underlying assets. Distributions from the private debt funds are received when the underlying assets are liquidated. This is estimated to occur between from 5 to 8 years.

(2) **Domestic Equity Fund**: Consists of one fund, which tracks the Russell 1000 Index. It is valued at net asset value on a daily basis. The fund is eligible for redemption on a daily basis.

(3) **Exchange Traded Funds**: Consisting of the SPDR S&P 500 ETF Trust which is an exchange-traded fund incorporated in the U.S. It tracks the S&P 500 Index. The trust consists of a portfolio representing all stocks in the S&P 500 Index. The ETF is structured as a Unit Investment Trust and is valued at the net asset value on a daily basis.

(4) **Hedge Funds:** Three Global Macro, one Credit and one Relative Value funds. These funds can be redeemed monthly to quarterly basis with five to ninety days' notice

(5) **Hedge Fund of Funds**: Consisting of one multi strategy and two market neutral funds. The multi strategy fund can be redeemed daily with five days' notice while the market neutral can be redeemed daily to quarterly with zero to 70 days' notice.

(6) **International Equity Funds:** Consisting of four commingled funds which invest in international developed and emerging markets equity securities. These investments are valued at net asset value on a daily basis. These funds are eligible for redemption on a daily basis.

(7) **Private Equity/Venture Capital Funds**: Consisting of 92 commingled funds, fund-of-funds, and secondary funds involving domestic, international and global buyout, distressed debt, growth equity and venture capital funds. These are long-term lock-up vehicles, typically with 10-year terms plus available extensions. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. Distributions are received when underlying assets are liquidated and this occurs from 5 to 15 years.

(8) **Open-End Real Estate Funds**: Consisting of 11 commingled funds which invest primarily in operating and substantially leased institutional quality properties located in the U.S. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. These funds are eligible for redemption on a quarterly basis subject to available liquidity.

(9) **Closed-End Real Estate Funds**: Consisting of 38 commingled funds which invest in properties on a global basis having more risk and correspondingly higher expected returns than those in the Open-End Real Estate Funds. These are long-term lock-up vehicles, typically with 10-year terms plus available extensions. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses.

(10) **Real Assets Funds**: Consisting of six commingled funds which invest in timberland markets on a global basis. These are long-term lock-up vehicles, typically with 10-year terms plus available extensions. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. These funds are not eligible for redemption and distributions are received when underlying assets are liquidated and this occurs from 5 to 15 years.

5. CASH AND INVESTMENTS

A summary of cash and short-term securities and investments held at Dec. 31, 2017 is as follows:

Category	2017 Fair Value
Cash and Cash Equivalents*	$947,549,532
U.S. Government Agencies	2,590,992
U.S. Government Obligations	286,598,278
U.S. Government STRIPS**	6,931,502
Municipal Bond Obligations	5,124,224
Corporate Bonds and Obligations	2,265,933,614
Domestic Commingled Bonds	886,605,007
Mortgage and Asset-Backed Obligations	427,518,208
Non-U.S. Bonds	3,450,491
Domestic Stocks	1,585,161,789
Domestic Pooled Stocks	1,617,479,079
International Equities	3,154,869,961
Real Estate	1,759,190,503
Derivatives	(888,634)
Commercial Mortgage Funds	36,742,848
Private Equity	1,111,042,756
Private Debt	415,592,888
Real Assets	336,608,535
Master Limited Partnerships	1,017,395,457
GRAND TOTAL	**$15,865,497,030**

The investment type classification is based on the characteristics of the individual securities.
*Cash and cash equivalents are included in cash and short-term investments on the Statement of Fiduciary Net Position.
** STRIPS = Separate Trading of Registered Interest and Principal Securities.

MONEY WEIGHTED RETURN ON INVESTMENT

The money weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. For the year ended Dec. 31, 2017, the annual money weighted rate of return on investments, net of investment expense was 13.867 percent.

CUSTODIAL CREDIT RISK

The custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, an organization will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the failure of the counterparty to a transaction, an organization will not be able to recover the value of investment or collateral securities that are in the possession of an outside party.

In accordance with ORC 135.18, the Ohio Treasurer of State, the statutory custodian for OP&F, requires that the amount in any demand deposit account not covered by federal deposit insurance be collateralized with securities permitted under ORC 135.18 at 102 percent of the value of the cash. Collateral is held in the Ohio Treasurer of State's name by a third party trustee for the benefit of OP&F. All of OP&F's depository-eligible securities are held in the custodial bank or its agent's nominee, for the benefit of OP&F. Any physical securities are held in the vaults of the custodial bank, or its agent. The custodial bank provides book entry accounting for OP&F's real estate and private market assets. The cash held in foreign local banks for immediate settlement of pending trade transactions are not collateralized.

DEPOSITS EXPOSED TO CUSTODIAL CREDIT RISK AS OF DEC. 31, 2017

Uninsured deposits collateralized with securities held by the pledging financial institution	$1,063,424
Uninsured and uncollateralized deposits	$1,027,393

CREDIT RISK

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the holder of the investment. This risk is measured by the assignment of a rating by a nationally recognized statistical rating institution. OP&F's risk management policy over credit risk is based on the type of fixed income instruments. For credit risk purposes, OP&F classifies its fixed income securities into three main types: core, high yield and short-term fixed income. The credit risk policies related to these types are as follows:

CORE FIXED INCOME

OP&F's six core fixed income portfolios, all managed externally, contain government, mortgage and asset-backed securities, U.S. Agency and corporate bonds. Two of these portfolios, PGIM Levered Core and Loomis Sayles Levered core, were funded in November 2017 but were not measured against their benchmarks until January 2018. All of these external managers invest in securities based on guidelines provided by the OP&F Board of Trustees. It is the policy of OP&F that a security in the core fixed income portfolio shall be rated BBB- or better by two standard rating services at the time of purchase. OP&F allows some of its investment managers to purchase securities that are "not rated" as long as they deem these securities to be at least equivalent to the minimum ratings at the time of purchase.

- Government instruments include those issued by the U.S. Treasury as well as fixed income instruments, other than mortgage-backed securities, of an agency or instrumentality of the U.S. government.

- Mortgage-backed instruments include collateralized mortgage obligations and Real Estate Mortgage Investment Conduits (REMIC's), whose payment of principal and interest is insured by the full faith and credit of the U.S. government, or an agency or instrumentality thereof. Also included in this category are secured assets issued by Government National Mortgage Association (GNMA) project loans, pools and participation certificates, Federal National Mortgage Association (FNMA) and Federal Home Loan Mortgage Corporation (FHLMC).

- U.S. Agency debt instruments include unsecured or uncollateralized securities issued by U.S. government agencies and government sponsored enterprises.

- Corporate bonds consist of debt instruments issued by domestic corporations or U.S. dollar-denominated debt issued by foreign entities and managed by a U.S. based investment manager.

- Global Inflation Protected Securities consist of bonds whose principal accrues with inflation during the life of the security and the entire accrued principal is paid out at maturity. Secondly, regular coupon payments are based on real rate of return since the interest payments are calculated on the inflation-accrued principal rather than on the nominal principal.

The following tables show ratings by asset class in OP&F's fixed income portfolio as of Dec. 31, 2017:

RATINGS BY ASSET CLASS – 2017

S&P Ratings	Corporate Bond Obligations	Domestic Commingled Bonds	Mortgage and Asset-Backed Securities	Municipal Bond Obligations	Non-U.S. Bonds	U.S. Government Agencies	U.S. Government Treasury Obligations	U.S. Government Treasury STRIPS	GRAND TOTAL
AAA	$20,144,544	$-	$101,261,908	$102,700	$-	$-	$-	$-	$121,509,152
AA+	11,349,180	886,605,007	221,770,359	-	-	2,590,992	196,441,334	6,931,502	1,325,688,374
AA	5,986,676	-	4,966,493	329,112	256,894	-	-	-	11,539,175
AA-	33,421,276	-	2,962,534	1,190,712	-	-	-	-	37,574,522
A	36,921,992	-	603,776	237,740	-	-	-	-	37,763,508
A+	58,474,963	-	41,233,501	1,433,793	936,373	-	89,917,375	-	191,996,005
A-	46,902,935	-	4,230,267	-	-	-	-	-	51,133,202
BBB+	62,687,687	-	-	-	-	-	-	-	62,687,687
BBB	68,752,627	-	992,381	-	266,200	-	-	-	70,011,208
BBB-	181,210,998	-	1,384,155	1,350,568	1,586,024	-	-	-	185,531,745
BB+	307,939,775	-	1,019,442	-	-	-	-	-	308,959,217
BB	248,508,790	-	232,270	-	405,000	-	-	-	249,146,060
BB-	349,059,683	-	2,453,248	-	-	-	-	-	351,512,931
B+	245,256,996	-	-	445,474	-	-	-	-	245,702,470
B	200,442,202	-	1,266,831	-	-	-	239,569	-	201,948,602
B-	138,030,634	-	660,690	-	-	-	-	-	138,691,324
CCC+	48,259,070	-	-	-	-	-	-	-	48,259,070
CCC	15,063,453	-	398,855	-	-	-	-	-	15,462,308
CCC-	10,285,262	-	258,585	-	-	-	-	-	10,543,847
CC	2,102,817	-	-	-	-	-	-	-	2,102,817
C	120,500	-	276,923	-	-	-	-	-	397,423
D	-	-	10,175,756	34,125	-	-	-	-	10,209,881
NR*	175,011,554	-	31,370,234	-	-	-	-	-	206,381,788
GRAND TOTAL	**$2,265,933,614**	**$886,605,007**	**$427,518,208**	**$5,124,224**	**$3,450,491**	**$2,590,992**	**$286,598,278**	**$6,931,502**	**$3,884,752,316**

*NR = Not Rated.

HIGH YIELD FIXED INCOME

As of Dec. 31 2017, OP&F had 12 high yield fixed-income portfolios, of which five invested in publicly traded securities and seven in private debt. All these portfolios were managed externally. The high yield bond asset class consists of the portion of the U.S. corporate bond market that is rated below BBB- by Standard & Poor's 500 (S&P) or below Baa3 by Moody's. Accordingly, credit risks associated with these bonds are greater than with core fixed income bonds. OP&F's policy is to invest in high yield bonds issued by U.S. Corporations with a minimum credit rating of CCC or equivalent. OP&F allows some of its investment managers to purchase securities that are "not rated" as long as they deem these securities to be at least equivalent to the minimum ratings at the time of purchase. It is possible after purchase that the security is downgraded. In the event of an investment guideline violation and in the event of a security downgrade, such that the ratings (Moody's, S&P, or Fitch Investor's Service) are below the allowable minimum security quality, the investment manager will inform OP&F in writing within five business days of such violation. Such notice will include the action the Manager intends to take with regard to the violation and over what time period that action will be taken. Both the method and timing of the violation resolution must be agreeable to OP&F.

SHORT-TERM INVESTMENTS

The short-term investment portfolio consists mainly of commercial paper. OP&F's policy is that, at the time of purchase, the short-term instrument must be rated within the two highest classifications established by two standard rating services. However, it is possible that after the purchase the ratings could change. The following table lists the commercial paper ratings as of Dec. 31, 2017:

S&P/Moody's Rating	Fair Value 2017	Percent 2017
A-1/P-1	$129,821,970	21.72%
A-2/P-1	40,934,152	6.85%
A-2/P-2	427,004,702	71.43%
GRAND TOTAL	**$597,760,824**	**100.00%**

INTEREST RATE RISK

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of fixed income investments. This relationship can be measured using duration, which shows the sensitivity of the price of a fixed-income investment to a change in interest rates. OP&F uses effective duration to measure the interest rate risk of the core fixed income portfolio. The effective duration takes into account that expected cash flows will fluctuate as interest rates change.

OP&F's policy is that three of the six core fixed income managers are allowed a range of permissible durations around that of their benchmark index; two were not measured against their benchmarks until January 2018. The remaining manager is required to have portfolio duration of one year or less. All the core fixed income managers are also required to monitor and report the effective duration of their portfolio(s) on a monthly basis.

As of Dec. 31 2017, the permissible ranges for the four core fixed income portfolio managers were:

Portfolio Benchmark	2017 Benchmark Duration (years)	Portfolio Manager	Portfolio Permissible Range
Bloomberg Barclays Aggregate Bond Index	6.23	Russell Transition Manager	+/- 10% of benchmark
	6.23	PIMCO Total Return Bond *	+/- 2 years
		PIMCO Unconstrained Bond *	-3 years to + 8 years
Custom weighted-average mix of Barclays country indexes	16.37	Bridgewater Associates**	Replicate benchmark

*Pacific Investment Management Company (PIMCO) is considered as one manager with two accounts; both are benchmarked against two times the Index
**Bridgewater Associates hold a 2:1 levered portfolio.

Since portfolio level duration is the best measure of interest rate risk, OP&F does not require its managers to measure or report on the duration of each security sector. The major risks for high yield bonds are credit risk and interest rate spread risk. The following table lists the effective duration for OP&F's fixed-income portfolio as of Dec. 31, 2017:

Investment Type	Fair Value 2017	Effective Duration 2017 (years)
U.S. Government Agencies	2,590,992	8.82
U.S. Government Obligations	$286,598,278	6.20
U.S. Government STRIPS	6,931,502	9.16
Municipal Bond Obligations	5,124,224	9.94
Corporate Bond Obligations	2,265,933,614	2.95
Mortgage and Asset-Backed Securities	427,518,208	2.50
Non-U.S. Bonds	3,450,491	4.15
Domestic Commingled Bonds	886,605,007	24.45
TOTAL FIXED INCOME EFFECTIVE DURATION	**$3,884,752,316**	**8.07**

COLLATERALIZED MORTGAGE OBLIGATIONS

In general, mortgage-backed securities entitle their holders to receive both principal and interest payments from the payments made by the borrowers of the underlying mortgages over the lives of those loans. The life of the mortgage that underlies a mortgage-backed security can be shortened by several economic events, including borrower refinancing. When interest rates fall and remain very low, a growing number of borrowers will refinance their existing loans causing mortgage-backed security holders to be repaid more quickly than anticipated. This early repayment is a form of market risk assumed by OP&F and other owners of mortgage-backed securities.

To the contrary, when interest rates begin to rise, the refinancing of existing mortgages begins to slow. If the rates remain high for long periods of time, fewer borrowers refinance their mortgages. This causes mortgage-backed security holders to be repaid over longer periods of time. This prolonged repayment is known as extension risk and is another form of market risk assumed by OP&F and other owners of mortgage-backed securities.

These securities are based on cash flows from interest payments on underlying loans. Therefore, they are sensitive to prepayments by the debtor, which may result from a decline in interest rates.

VARIABLE RATE SECURITIES

OP&F's core fixed income and high yield managers are permitted to hold variable-rate coupons whose rates may vary directly or inversely with changes in a related interest rate. As of Dec. 31, 2017, OP&F did not hold any security with a variable-rate coupon that had a multiplier greater than one or any security with an inverse variable rate.

CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss attributed to the magnitude of an entity's investment in a single issuer. OP&F does not permit more than 10 percent of the core fixed income portfolio to be invested in the securities of any one issuer, and no more than five percent in any one issue on a dollar duration basis, with the exception of U.S. Government or Agency securities. For the high yield portfolio, no more than 10 percent of the entire portfolio at market shall be invested in securities of a single issue or issuer, unless otherwise approved by the Board of Trustees. As of Dec. 31, 2017, OP&F did not hold investments in any one issuer that represented five percent or more of OP&F's net assets.

SECURITIES LENDING

OP&F participates in domestic and international securities lending programs, as authorized by the Board of Trustees. Securities are loaned to investment broker/dealers (borrower). Securities loaned are collateralized by the borrower at 102 percent of the domestic and 105 percent of the international loaned securities' fair value. OP&F has minimized its exposure to credit risk due to borrower default by having the lending agent bank determine daily that required collateral meets the specified collateral requirements. There are no restrictions on the amount of the securities that can be loaned. Contracts with lending agents require them to indemnify OP&F if the borrowers fail to return the securities or fail to pay OP&F for income distributions by the securities' issuer while the securities are on loan. All securities loans can be terminated on demand and the maturities of the investments made with an acceptable form of the collateral generally matches the maturities of the securities loans.

At year end, OP&F has no credit risk exposure to borrowers because the amounts that OP&F owes the borrowers exceed the amounts the borrowers owe OP&F.

OP&F has not experienced any losses due to credit or market risk on securities lending activity since implementation of the program. OP&F does have the ability to pledge or sell collateral securities in case of a borrower default. The following represents the balances relating to the securities lending transactions at Dec. 31, 2017:

SECURITIES LENT AS OF DEC. 31, 2017

Securities Lent	Underlying Security	Collateral Received	Collateral Fair Value	Type of Collateral
U.S. Government and Treasuries	$161,133,431	$ 164,489,176	$164,489,176	Cash
Domestic Corporate Fixed Income	229,554,631	236,590,552	236,590,552	Cash
Domestic Equities	536,866,011	558,148,986	558,148,986	Cash
TOTAL SECURITIES LENT	**$ 927,554,073**	**$959,228,714**	**$959,228,714**	

FOREIGN CURRENCY RISK

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. OP&F's target allocation to international equity holdings was 20.0 percent as of Dec. 31, 2017. While OP&F has no specific policy regarding the international custodial credit risk, OP&F limits its international investment managers to hold five percent or less of their total portfolio in cash. Apart from cash needed for immediate settlement of pending trade transactions, (local cash awaiting repatriation), any excess cash received in OP&F's trust accounts is invested in a U.S. dollar denominated Short-Term Investment Fund (STIF). For the years ending Dec. 31, 2017, OP&F's exposure to foreign currency risk is as follows:

2017 EXPOSURE TO FOREIGN CURRENCY RISK

Currency	Fair Value (Cash Deposits)	Fair value (Fixed Income)	Fair Value (Currency Contracts)	Fair Value (Equities)	Fair Value (Private Equity and Real Estate)	Total Fair Value (Cash Deposits and Securities)
Argentine Peso	$35,429	$-	$(23,739)	$-	$-	$11,690
Australian Dollar	8,931	-	(20,517)	72,688,483	-	72,676,897
Brazilian Real	81,651	-	297,025	21,396,024	7,252,710	29,027,410
British Pound	160,122	-	(174,006)	502,194,974	-	502,181,090
Canadian Dollar	32,404	-	(48,599)	140,583,838	-	140,567,643
Chilean Peso	69,923	-	-	9,418,248	-	9,488,171
Chinese Yuan	64	-	-	-	-	64
Colombian Peso	-	-	1,849	-	-	1,849
Danish Kroner	56	-	(440,047)	50,176,327	-	49,736,336
Egyptian Pound	-	-	3,082	-	-	3,082
Euro	80,172	676,622	(78,962)	534,421,939	138,573,456	673,673,227
Hong Kong Dollar	-	-	-	108,061,287	-	108,061,287
Hungarian Forint	-	-	-	810,875	-	810,875
Indonesian Rupiah	9,856	-	-	7,501,887	-	7,511,743
Japanese Yen	229,441	-	(150,636)	325,181,409	8,554,043	333,814,257
Malaysian Ringgit	123,895	-	-	6,435,097	-	6,558,992
Mexican Peso	31,187	-	(21,252)	2,217,279	-	2,227,214
New Turkish Lira	281	-	30,627	8,512,475	-	8,543,383
New Zealand Dollar	3,703	-	(2)	3,787,505	-	3,791,206
Norwegian Krone	-	-	-	24,206,405	-	24,206,405
Philippine Peso	-	-	-	413,526	-	413,526
Polish Zloty	-	-	-	2,072,772	-	2,072,772
Russian Ruble	-	-	76,918	2,208,246	-	2,285,164
Singapore Dollar	125,573	-	(26,999)	10,296,654	-	10,395,228
South African Rand	11,265	-	-	10,755,137	-	10,766,402
South Korean Won	-	-	(240,197)	62,372,048	-	62,131,851
Swedish Krona	36	-	-	54,281,298	-	54,281,334
Swiss Franc	20,319	-	-	187,432,816	-	187,453,135
Taiwanese New Dollar	-	-	(66,961)	27,434,572	-	27,367,611
Thailand Baht	-	-	-	13,789,864	-	13,789,864
UAE Dirham	-	-	-	1,491,451	-	1,491,451
GRAND TOTAL	**$1,024,308**	**$676,622**	**$(882,416)**	**$2,190,142,436**	**$154,380,209**	**$2,345,341,159**

DERIVATIVES

Derivatives are generally defined as investment instruments whose value depends on, or is derived from, the value of an underlying asset, reference rate, or index.

OP&F has classified the following as derivatives:

- Mortgage and Asset-Backed Securities: OP&F invested in Planned Amortization Class and Sequential Pay Real Estate Mortgage Investment Conduit bonds issued by GNMA, FHLMC, and FNMA. Planned Amortization Class bonds are retired according to a payment schedule so as to have a stable average life and yield even if expected prepayment rates change within a specified broad range of prepayment possibilities. Sequential pay bonds begin to pay principal when classes with an earlier priority have paid to a zero balance. Such bonds enjoy uninterrupted payment of principal until paid to a zero balance. In terms of credit risk, the U.S. government explicitly backs GNMA mortgage securities programs and is viewed by the market as implicitly backing FHLMC and FNMA mortgage securities programs.

- Futures Contracts: Futures contracts are contracts to buy or sell units of an index or financial instrument on a specified future date at a price agreed upon when the contract is originated.

  OP&F had futures exposure with eight external managers constituting $1.78 billion of notional value as of Dec. 31, 2017. This amount represented 11.24 percent of the total portfolio. OP&F uses this exposure to synthetics to maintain market exposure while also increasing liquidity and flexibility.

- Forward-Currency Contracts: Forward currency contracts are legal agreements between two parties to purchase and sell a foreign currency, for a price specified at the contract date, with delivery and settlement in the future. OP&F, through its external investment managers, enters into forward currency contracts to hedge underlying foreign currency exposure in its non-U.S. equity portfolios back to the U.S. dollar or to provide the quantity of foreign currency needed to settle trades.

All the contracts are valued at the spot foreign exchange rate at Dec. 31, 2017. The changes in the value of the open contracts are recognized as unrealized appreciation/depreciation. A realized gain or loss is recorded at the time of the delivery/closing of the contract. The realized gain or loss is the difference between the value of the original contract and the closing/delivery value of such contracts. Both realized and unrealized gains and losses are included in the Statement of Changes in Fiduciary Net Position as net appreciation/depreciation. The following tables represent the balances of the outstanding currency transactions as of Dec. 31, 2017:

OPEN CURRENCY CONTRACTS AS OF DEC. 31, 2017

Purpose	FairValue (Outstanding Purchases)	Fair Value (Outstanding Sales)	Unrealized Appreciation/ (Depreciation)
Trade Settlement	$9,550	$44	$9,506
Position Hedging	631,451	1,523,373	(891,922)
GRAND TOTAL	**$641,001**	**$1,523,417**	**$(882,416)**

On delivered/closed currency contracts OP&F had realized gains of $2,877,062 in 2017.

- Options: An option is the right, but not the obligation, to buy or sell a specific amount of a given security or other financial assets at a specified price during a specified period of time. OP&F invests in options as part of its portable alpha program. OP&F's exposure represented less than one percent of the total portfolio fair value at year-end.

- Swaps: A swap is a derivative contract through which two parties exchange financial instruments that involve cash flows based on a notional principal amount that both parties agree to. Usually, the principal does not change hands but each cash flow comprises one leg of the swap. One cash flow is generally fixed, while the other is variable and based on a benchmark interest rate, floating currency exchange rate or index price.

OP&F invested in interest rate and credit default swaps through one external manager. The notional principal and the fair value at Dec. 31, 2017 were:

OP&F has not violated any legal, regulatory, or contractual provisions by its participation in these types of derivative instruments and there is no known undue credit, market, or legal risk. These instruments were purchased in order to enhance OP&F's overall rate of return.

SWAP HOLDINGS AS OF DEC. 31, 2017:

Type of Swap	Notional Long	Notional Short	Total Notional	Fair value
Interest Rate Swap	$52,128,648	$(194,649,912)	$(142,521,264)	$64,337
Credit Default Swap	11,562,641	(2,380,320)	9,182,321	(436)
Total	**$63,691,289**	**$(197,030,232)**	**$(133,338,943)**	**$ 63,901**

6. DEFERRED COMPENSATION PLAN

OP&F does not sponsor a deferred compensation program. Accordingly, OP&F does not include the deferred compensation assets or liabilities of the Ohio Deferred Compensation Plan in its financial statements. OP&F employees are eligible to participate in the deferred compensation plan sponsored by the State of Ohio. The state-sponsored plan was created in accordance with IRS Code Section 457. The plan is available to all OP&F employees and permits them to defer a portion of their salary until future years. Deferred compensation assets are not available to employees until termination, retirement, death, or unforeseeable emergency.

7. DEFINED BENEFIT PENSION PLANS

NET PENSION LIABILITY

The net pension liability reported on the statement of fiduciary net position represents a liability to employees for pensions. Pensions are a component of exchange transactions, between an employer and its employees, of salaries and benefits for employee services. Pensions are provided to an employee, on a deferred-payment basis as part of the total compensation package offered by an employer for employee services each financial period. The obligation to sacrifice resources for pensions is a present obligation because it was created as a result of employment exchanges that already have occurred.

The net pension liability represents OP&F's proportionate share of each pension plan's collective actuarial present value of projected benefit payments attributed to past periods of service, net of each pension plan's fiduciary net position. The net pension liability calculation is dependent on critical long-term variables, including estimated average life expectancies, earnings on investments, cost of living adjustments and others. While these estimates use the best information available, unknown future events require this estimate to be adjusted annually.

The ORC limits OP&F's obligation for this liability to annually required payments. OP&F cannot control benefit terms or the manner in which pensions are financed; however, OP&F does receive the benefit of employees' services in exchange for compensation including pension.

GASB No. 68 assumes the liability is solely the obligation of the employer, because (1) they benefit from employee services; and (2) state statute requires all funding to come from these employers. All contributions to date have come solely from these employers (which also includes costs paid in the form of withholdings from employees). State law requires the pension plans to amortize unfunded liabilities within 30 years. If the amortization period exceeds 30 years, each pension plan's board must propose corrective action to the state legislature. Any resulting legislative change to benefits or funding could significantly affect the net pension liability. Resulting adjustments to the net pension liability may occur once the statutory changes become effective.

The proportionate share of each plan's unfunded benefits is presented as a long-term net pension liability on the accrual basis of accounting. Any liability for the contractually-required pension contribution outstanding at the end of the year is included in intergovernmental payable on the accrual basis of accounting.

PLAN DESCRIPTION – OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

Public employees participate in OPERS, a cost-sharing multiple-employer public employee retirement system administered by OPERS. OPERS provides retirement and disability benefits to members and death and survivor benefits to beneficiaries. OPERS also provides health care benefits to some retirees and beneficiaries. OPERS issues a stand-alone financial report that includes financial statements, RSI and detailed information about OPERS' fiduciary net position. That report can be obtained by writing to OPERS, 277 E. Town Street, Columbus, OH 43215, or by visiting the OPERS website: www.OPERS.org.

New members have a choice of three retirement plans: The Traditional Plan (defined benefit plan); the Combined Plan (combination of defined benefit and defined contribution plans); and the Member Directed Plan (defined contribution plan with the option upon retirement to use the defined contribution account balance to purchase a defined benefit annuity). Benefits are established by Chapter 145 of the ORC. The defined benefit (DB) plan offers an annual retirement allowance based on final average salary multiplied by a percentage that varies based on years of service.

Senate Bill (SB) 343 was enacted into law with an effective date of Jan. 7, 2013. In the legislation, members were categorized into three groups with varying provisions of the law applicable to each group. Members who were eligible to retire under law in effect prior to SB 343 or who will be eligible to retire no later than five years after Jan. 7, 2013 comprise transition Group A. Members who have 20 years of service credit prior to Jan. 7, 2013 or who will be eligible to retire no later than 10 years after Jan. 7, 2013 are included in transition

Group B. Group C includes those members who are not in either of the other groups and members who were hired on or after Jan. 7, 2013.

Benefit payments vary in amount depending on years of service credit, final average salary (FAS), age and plan of payment selection. FAS is the average of the three highest years of earnable salary for Group A and B; and the average of the five highest years of earnable salary for members in Group C. The age-and-service formula benefit cannot exceed 100 percent of the FAS (Law Enforcement is 90 percent) or the limits under IRC Section 415 and may be subject to the contribution-based benefit cap. The base benefit amount calculated by the formula will be reduced if a member begins receiving a retirement benefit before reaching the age-and-service requirements for an unreduced benefit.

In the Traditional Pension Plan (DB), the benefit formula for the state and local members in transition Group A and B applies a factor of 2.2 percent to the member's FAS for the first 30 years of service. A factor of 2.5 percent is applied to years of service in excess of 30. The benefit formula for state and local members in transition Group C applies a factor of 2.2 percent to the member's FAS for the first 35 years of service and a factor of 2.5 percent is applied to years of service in excess of 35.

In the Combined Plan, the benefit formula for the defined benefit component of the plan for state and local members in transition Group A and B applies a factor of one percent to the member's FAS for the first 30 years of service. A factor of 1.25 percent is applied to years of service in excess of 30. The benefit formula for transaction Group C applies a factor of one percent to the member's FAS and the first 35 years of service and a factor of 1.25 percent is applied to years in excess of 35.

When a benefit recipient has received benefits for 12 months, an annual COLA is provided. This COLA is calculated on the base retirement benefit at the date of retirement and is not compounded. For those retiring prior to Jan. 7, 2013, the COLA will continue to be three percent simple annual COLA. For those retiring after Jan. 7, 2013, beginning in calendar year 2019, the COLA will be based on the average percentage increase in the Consumer Price Index, capped at three percent.

A DB or Combined Plan member with five or more years of credit service who is determined to be disabled may qualify for a disability benefit.

FUNDING POLICY – OPERS

Employees covered by OPERS are required to contribute 10 percent of their salary to the plan and employers are required to contribute 14 percent. Both rates are at the statutory maximum.

OP&F's contractually required contribution to OPERS for employee and employer contributions was $2,162,137 for year end Dec. 31, 2017. Of this amount $1,101,128 of employer contributions was reported as a deferred outflow – contribution subsequent to the measurement date.

PENSION LIABILITIES, PENSION EXPENSE, DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

The net pension liability was measured as of Dec. 31, 2016 and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. OP&F's proportion of the net pension liability was based on OP&F's share of contributions to the pension plan relative to the contributions of all participating entities. Following is information related to the proportionate share and pension expense:

OPERS	Traditional	Combined	Member Directed	TOTAL
Proportionate Share of the Net Pension Asset	$-	$69,235	$1,011	**$70,246**
Proportionate Share of the Net Pension Liability	$(13,874,911)	$-	$-	**$(13,874,911)**
Proportion of the Net Pension Asset/Liability	0.06%	0.12%	0.24%	**0.07%**
Pension Expense	$2,827,962	$45,841	$149,426	**$3,023,229**

At Dec. 31, 2017, OP&F reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

OPERS	Traditional	Combined	Member Directed	TOTAL
Deferred Outflows of Resources				
Differences between expected and actual experience	$140,721	$-	$32,728	**$173,449**
Net difference between projected and actual earnings on pension plan investments	902,617	17,246	1,003	**920,866**
Changes of Assumptions	2,200,731	16,874	1,137	**2,218,742**
Changes in proportion and differences	-	-	-	**-**
Contributions subsequent to the measurement date	907,187	53,186	140,755	**1,101,128**
TOTAL DEFERRED OUTFLOWS OF RESOURCES	**$4,151,256**	**$87,306**	**$175,623**	**$4,414,185**
Deferred Inflows of Resources				
Differences between expected and actual experience	$(101,072)	$(22,966)	$(6,320)	**$(130,358)**
Net difference between projected and actual earnings on pension plan investments	(59,109)	(9,244)	(614)	**(68,967)**
Changes of Assumptions	-	-	-	**-**
Changes in proportion and differences	-	-	-	**-**
TOTAL DEFERRED INFLOWS OF RESOURCES	**$(160,181)**	**$(32,210)**	**$(6,934)**	**$(199,325)**

Deferred outflows of resources related to pensions resulting from OP&F's contributions subsequent to the measurement date were $1,101,128 and will be recognized as a reduction of the net pension liability in the year ending Dec. 31, 2017. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as indicated in the schedule below. Deferrals arising from differences between projected and actual earnings on pension plan investments will be amortized over five years for all three plans. Deferrals arising from differences between projected and actual experience will be amortized over the average remaining service life of the entire pool of employees. The Traditional Plan has 3.0856 years of average remaining service life. The Combined Plan has 9.1304 years of average remaining service life and the Member Directed Plan has 9.5420 years of average remaining service life.

OPERS Fiscal Year Ending Dec. 31	Traditional	Combined	Member Directed	TOTAL
2018	$905,835	$5,484	$18,627	**$929,946**
2019	1,194,018	2,990	1,317	**1,198,325**
2020	1,180,219	2,191	1,315	**1,183,725**
2021	(196,184)	(3,875)	984	**(199,075)**
2022	-	(1,564)	1,136	**(428)**
2023	-	(1,564)	1,136	**(428)**
2024	-	(1,588)	1,136	**(452)**
2025	-	(742)	1,128	**386**
2026	-	446	870	**1,316**
2027	-	132	285	**417**
TOTAL	**$3,083,888**	**$1,910**	**$27,934**	**$3,113,732**

ACTUARIAL ASSUMPTIONS – OPERS

OPERS' total pension liability was determined by their actuaries in accordance with GASB Statement No. 67, as part of their annual actuarial valuation for each defined benefit retirement plan. Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts (e.g., salaries, credited service) and assumptions about the probability of occurrence of events far into the future (e.g., mortality, disabilities, retirements, employment termination). Actuarially determined amounts are subject to continual review and potential modifications, as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employers and plan members to that point. The projection of benefits for financial reporting purposes does not explicitly incorporate the potential effects of legal or contractual funding limitations.

Actuarial calculations reflect a long-term perspective. For a newly hired employee, actuarial calculations will take into account the employee's entire career with the employer and also take into consideration the benefits, if any, paid to the employee after termination of employment until the death of the employee and any applicable contingent annuitant. In many cases actuarial calculations reflect several decades of service with the employer and the payment of benefits after termination.

Key methods and assumptions used in calculating the total pension liability in the latest actuarial valuation, prepared as of Dec. 31, 2016, are presented below:

KEY METHODS AND ASSUMPTIONS USED IN VALUATION OF TOTAL PENSION LIABILITY

Actuarial Information	Traditional Pension Plan	Combined Plan and Member Directed Plan
Valuation Date	Dec. 31, 2016	Dec. 31, 2016
Experience Study	5-Year Period Ended Dec. 31, 2015	5-Year Period Ended Dec. 31, 2015
Actuarial Cost Method	Individual entry age	Individual entry age
Actuarial Assumptions		
Investment Rate of Return	7.50%	7.50%
Wage Inflation	3.25%	3.25%
Projected Salary Increases	3.25%-10.75% (includes wage inflation at 3.25%)	3.25%-8.25% (includes wage inflation at 3.25%)
Cost-of-living Adjustments	Pre Jan. 7, 2013 Retirees: 3.00% Simple Post Jan. 7, 2013 Retirees: 3.00% Simple Through 2018, then 2.15% Simple	Pre Jan. 7, 2013 Retirees: 3.00% Simple Post Jan. 7, 2013 Retirees: 3.00% Simple Through 2018, then 2.15% Simple

Mortality rates are based on the RP-2014 Healthy Annuitant mortality table. For males, Healthy Annuitant Mortality tables were used, adjusted for mortality improvements back to the observation period base of 2006 and then established the base year as 2015. For females, Healthy Annuitant Mortality tables were used, adjusted for mortality improvements back to the observation period base year of 2006 and then established the base year as 2010. The mortality rates used in evaluating disability allowances were based on the RP-2014 Disabled mortality tables, adjusted for mortality improvements back to the observation base year of 2006 and then established the base year as 2015 for males and 2010 for females. Mortality rates for a particular calendar year for both healthy and disabled retiree mortality tables are determined by applying the MP-2015 mortality improvement scale to the above described tables.

DISCOUNT RATE – OPERS

The discount rate used to measure the total pension liability was 7.5 percent, post-experience study results, for the Traditional Pension Plan, Combined Plan and Member-Directed Plan. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and those of the contributing employers are made at the contractually required rates, as actuarially determined. 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 for the Traditional Pension Plan, Combined Plan and Member-Directed Plan was applied to all periods of projected benefit payments to determine the total pension liability.

SENSITIVITY OF OP&F'S PROPORTIONATE SHARE TO THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following table presents OP&F's proportionate share of the net pension liability calculated using the current period discount rate assumption of 7.5 percent as well as what OP&F's proportionate share of the net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower, (6.5 percent), or one-percentage-point higher, (8.5 percent), than the current rate.

OP&F's proportionate share of the Net Pension Liability (Asset)	One Percent Decrease	Current Discount Rate	One Percent Increase
Discount Rate	6.5%	7.5%	8.5%
Traditional Pension Plan	$21,197,159	$13,874,911	$7,773,269
Combined Plan	$4,976	$(69,235)	$(126,883)
Member Directed Plan	$2,427	$(1,011)	$(2,427)

Asset Class	Target Allocation for 2016	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Fixed Income	23.00%	2.75%
Domestic Equities	20.70%	6.34%
Real Estate	10.00%	4.75%
Private Equity	10.00%	8.97%
International Equities	18.30%	7.95%
Other Investments	18.00%	4.92%
TOTAL	**100.00%**	**5.66%**

The table above displays OPERS' Board-approved asset allocation policy of the Defined Benefit portfolio for 2016 and long-term expected real rates of return.

The long-term expected rate of return on defined benefit investment assets was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation.

During 2016, OPERS managed investments in four investment portfolios: the DB Portfolio, the 401(h) Health Care portfolio, the 115 Health Care Trust portfolio and the Defined Contribution portfolio. The 401(h) Health Care Trust portfolio was closed as of June 30, 2016 and the net position transferred to the 115 Health Care Trust portfolio on July 1, 2016. The DB portfolio contains the investment assets of the Traditional Pension Plan, the DB component of the Combined Plan and the annuitized accounts of the Member-Directed Plan. The DB portfolio historically included the assets of the Member-Directed retiree medical accounts funded through the VEBA Trust. However, the VEBA Trust was closed as of June 30, 2016 and the net position transferred to the 115 Health Care Trust portfolio on July 1, 2016. Within the DB Portfolio, contributions into the plans are all recorded at the same time, and benefit payments all occur on the first of the month. Accordingly, the money-weighted rate of return is considered to be the same for all plans within the portfolio. The annual money-weighted rate of return expressing investment performance, net of investment expenses and adjusted for the changing amounts actually invested, for the DB portfolio is 8.3 percent for 2016.

8. COMPENSATED ABSENCES

As of Dec. 31, 2017, $2.5 million were accrued for unused vacation and sick leave for OP&F employees. To help OP&F reduce and manage the vacation liability, all employees with at least one year of continuous service as of the beginning of the current calendar year are required to use five consecutive workdays of vacation leave each year. Upon termination of employment, employees will be paid for unused vacation time that has been earned through the last day of work. Three-fourths of accrued but unused sick leave will be paid at the employee's based rate upon termination of employment.

9. SELF-INSURED HEALTH CARE FOR EMPLOYEES OF OP&F

OP&F is self-insured for employee benefits for medical, dental, vision and hospitalization. A third-party administrator manages the program. OP&F holds a stop-loss policy per covered life per year with a $90,000 specific deductible.

10. OTHER POST-EMPLOYMENT BENEFITS (OPEB)

In addition to the pension benefits described in note seven, OPERS provides post-retirement health care coverage to age and service retirees with qualifying Ohio service credit. OPERS administers a cost-sharing, multiple-employer defined benefit post-employment healthcare plan, which includes a medical plan, prescription drug program and Medicare Part B premium reimbursement, to qualifying members of both the Traditional Pension and the Combined plans. Members of the Member-Directed Plan do not qualify for ancillary benefits, including post-employment health care coverage.

OPERS provides medical benefits to retired public employees of public employers who are subject to coverage under Chapter 145 of the ORC. Chapter 145 of the ORC assigns the authority to establish and amend benefit provisions to the OPERS Board of Trustees. OPERS issues a publicly available financial report that includes financial statements and RSI for OPERS. That report may be obtained by visiting www.opers.org, by writing to OPERS, 277 East Town Street, Columbus, OH 43215-4642, or by calling (614) 222-5601 or 800-222-7377.

Chapter 145 of the ORC provides that contribution requirements of the participating employers and of plan members to the OPERS (defined benefit pension plan) are established and may be amended by the OPERS Board of Trustees. Participating employers and active pension plan members are required to contribute to the pension plan at rates expressed as percentages of the payroll of active pension plan members, currently 14 percent and 10 percent of payroll, respectively. Chapter 145 of the ORC states that the employer contribution rate may not exceed 14 percent of payroll and that the employee contribution rate may not exceed 10 percent.

OPERS' post employment health care plan was established under, and is administered in accordance with, IRS Code Section 401(h). Each year, the OPERS Board of Trustees determines the portion of the employer contribution rate that will be set aside for funding of post employment health care benefits. For the year ended Dec. 31, 2017, the employer contribution allocated to the retiree health care plan was 1.0 percent of employer contributions. The amount of employer contributions allocated to the health care plan each year is subject to the Trustees' primary responsibility to ensure that pension benefits are adequately funded and also is limited by the provisions of Section 401(h).

The OPERS Board of Trustees is also authorized to establish requirements for contributions to the retiree health care plan by retirees or their surviving beneficiaries. Payment amounts vary depending on the number of covered dependents and the coverage selected.

The following chart lists OP&F's employer contributions to OPERS and the amounts OPERS allocated to health care.

OPERS ANNUAL REQUIRED PENSION AND HEALTH CARE CONTRIBUTIONS

Year Ended	Pension Annual Required Contributions	Pension Percent Contributed	Health Care Annual Required Contributions	Health Care Percent Contributed
2017	$1,403,108	100%	$100,182	100%
2016	1,356,608	100%	193,724	100%
2015*	1,301,933	100%	185,916	100%

* Annual Required Health Care Contributions for 2015 were restated to reflect 2.0 percent of employer contributions that were allocated to the retiree heal care plan.

11. COMMITMENTS AND CONTINGENCIES

OP&F is a defendant in a number of lawsuits pertaining to matters that are incidental to performing routine business functions. OP&F's management is of the opinion that ultimate resolution of such claims will not result in a material, adverse effect on OP&F's financial position as of Dec. 31, 2017.

OP&F is committed to making additional capital contributions to the following investment types as of Dec. 31, 2017:

Asset Class	Unfunded Commitments	Fair Value At Dec. 31, 2017
Private Equity*	$801,165,915	$1,111,042,756
Private Debt	259,627,079	415,592,888
Real Estate	268,973,563	1,759,190,503
Real Assets	304,257,507	336,608,535
TOTAL	**$1,634,024,064**	**$3,622,434,682**

* Included in the Private Equity are seven Euro based unfunded commitments totaling as of Dec. 31, 2017: € 62,517,161 (€ = Euro) ($75,070,612 U.S.D.)

12. STATE OF OHIO PUBLIC SAFETY OFFICERS DEATH BENEFIT FUND

Pursuant to ORC Section 742.62, the Board of Trustees of the OP&F administers the State of Ohio Public Safety Officers Death Benefit Fund. This program was established by the State of Ohio to provide monthly benefit payments to eligible surviving family members of Ohio public safety officers who have been killed in the line of duty or die of a duty–related injury or illness. Funds are disbursed to OP&F on a quarterly basis each state fiscal year (July 1-June 30) and are paid monthly by OP&F to eligible recipients. The unused balance at June 30 is returned to the State. The Public Safety Officers Death Benefit Fund is considered to be an agency fund administered by OP&F and, accordingly, its assets of $455,321 and the related liability for unpaid benefits are included in the accompanying financial statements as of Dec. 31, 2017.

13. EMPLOYERS' NET PENSION LIABILITY (SURPLUS)

The components of the net pension liability of employers as of Dec. 31, 2017:

Year Ending Dec. 31	(a) Total Pension Liability	(b) Plan Fiduciary Net Position	(a)-(b)=(c) Net Pension Liability (Surplus)	(b) / (a) Plan Fiduciary Net Pension as a Percentage of Total Pension Liability	(d) Covered Employee Payroll	(c) / (d) Net Pension Liability (Surplus) as a Percentage of Covered Employee Payroll
2017	$21,101,065,550	$14,963,614,004	$6,137,451,546	70.91%	$2,224,675,422	275.88%

The total pension liability is determined by OP&F's actuaries in accordance with GASB Statement No. 67, as part of their annual valuation. Actuarial valuations of an ongoing retirement plan involve estimates of the value of reported amounts and assumptions about probability of occurrence of events far into the future. Examples include assumptions about future employment mortality, salary increases, disabilities, retirements and employment terminations. Actuarially determined amounts are subject to continual review and potential modifications, as actual results are compared with past expectations and new estimates are made about the future.

The Schedule of Employers' Net Pension Liability presents multi-year trend information about whether the fiduciary net positions are increasing or decreasing over time relative to the total pension liability. These schedules are presented in the RSI section. The total pension liability as of Dec. 31, 2017, is based on the results of an actuarial valuation date of Jan. 1, 2017 and rolled-forward using generally accepted actuarial procedures.

A summary of the actuarial assumptions as of the latest actuarial valuation is shown below.

ACTUARIAL ASSUMPTIONS:

Valuation date	Jan. 1, 2017
Actuarial cost method	Entry age
Investment rate of return	8.00%
Projected salary increases	3.75% - 10.50%
Payroll increases	3.25%
Inflation assumptions	2.75%
Cost-of-living adjustments	2.20% and 3.00% simple

The long-term expected rate of return on pension plan investments was determined using a building-block approach and assumes a time horizon, as defined in the Statement of Investment Policy. A forecasted rate of inflation serves as the baseline for the return expected. Various real return premiums over the baseline inflation rate have been established for each asset class. The long-term expected nominal rate of return has been determined by calculating a weighted average of the expected real return premiums for each asset class, adding the projected inflation rate and adding the expected return from rebalancing uncorrelated asset classes. Best estimates of the long-term expected real rates of return for each major asset class included in OP&F's target asset allocation as of Dec. 31, 2017 are summarized below:

TARGET ALLOCATIONS

Asset Class	Target Allocation	10 Year Expected Real Rate of Return**	30 Year Expected Real Rate of Return**
Cash and Cash Equivalents	-%	-%	-%
Domestic Equity	16.0%	4.22%	5.39%
Non-U.S. Equity	16.0%	4.41%	5.59%
Private Markets	8.0%	6.67%	8.08%
Core Fixed Income *	23.0%	1.57%	2.71%
High Yield Fixed Income	7.0%	2.94%	4.71%
Private Credit	5.0%	6.93%	7.26%
U.S. Inflation Linked Bonds *	17.0%	0.98%	2.52%
Master Limited Partnerships	8.0%	7.50%	7.93%
Real Assets	8.0%	6.88%	7.24%
Private Real Estate	12.0%	5.58%	6.34%
TOTAL	**120.0%**		

Note: Assumptions are geometric.
* Levered 2x.
** Numbers are net of expected inflation.

OP&F's Board of Trustees has incorporated the risk parity concept into OP&F's asset liability valuation with the goal of reducing equity risk exposure, which reduces overall Total Portfolio risk without sacrificing return and creating a more risk-balanced portfolio based on the relationship between asset classes and economic environments. From the notional portfolio perspective above, the Total Portfolio may be levered up to 1.20 times due to the application of leverage in certain fixed income asset classes.

Total pension liability was calculated using the discount rate of 8.0 percent. The projection of cash flows used to determine the discount rate assumed the contributions from employers and from members would be computed based on contribution requirements as stipulated by state statute. Projected inflows from investment earnings were calculated using the longer-term assumed investment rate of return 8.0 percent. Based on those assumptions, OP&F's fiduciary net position was projected to be available to make all future benefit payments of current plan members. Therefore, a long-term expected rate of return on pension plan investments was applied to all periods of projected benefits to determine the total pension liability.

Net pension liability is sensitive to changes in the discount rate. To illustrate the potential impact the following table presents the net pension liability calculated using the discount rate of 8.0 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower, 7.0 percent, or one percentage point higher, 9.0 percent, than the current rate.

CHANGES IN DISCOUNT RATE

Sensitivity of the Net Pension Liability to Changes in the Discount Rate at Dec. 31, 2017

	One Percent Decrease	Current Discount Rate	One Percent Increase
Discount Rate	7.0%	8.0%	9.0%
Total Pension Liability	$23,471,731,174	$21,101,065,550	$19,167,570,790
Plan Fiduciary Net Position	$14,963,614,004	$14,963,614,004	$14,963,614,004
NET PENSION LIABILITY (SURPLUS)	**$8,508,117,170**	**$6,137,451,546**	**$4,203,956,786**

14. NET OTHER POST-EMPLOYMENT BENEFITS (OPEB) LIABILITY AND ACTUARIAL INFORMATION

PLAN ADMINISTRATION

The OP&F Board of Trustees is responsible for administering the OP&F retiree health care plan, a cost-sharing, multiple-employer, defined benefit OPEB plan that provides a comprehensive health care program for eligible benefit recipients and their eligible dependents. The OP&F Board of Trustees governs the health care plan under Chapter 742 of the ORC. The nine member Board of Trustees consists of four elected active members, two elected retired members and three state appointed professional investment experts.

PLAN MEMBERSHIP

As of Jan. 1, 2017, OP&F's health care plan membership consisted of the following:

PARTICIPANTS BY STATUS *

Status	Number
Active Members	27,990
Inactive Members Entitled To But Not Yet Receiving Benefits	190
Currently Receiving Benefits	
Retirees (10,856 Service Retirement + 4,198 Disability Retirement)	15,054
Spouses (5,173 Service Retirement + 1,635 Disability Retirement)	6,808
Children of Current Retirees	1,004
Survivors	4,155
Orphans	37
TOTAL	**55,238**

* There are also 1,289 participants who receive Medicare Part B reimbursements only.

BENEFITS PROVIDED

OP&F's health care plan provides health care benefits to eligible benefit recipients receiving retirement, disability and survivor benefits, and to their eligible dependents. On the effective date of the member's retirement, new benefit recipients and their dependents qualify for OP&F's medical, prescription drug, dental, vision and reimbursement of Medicare Part B premiums as long as they meet OP&F's eligibility and enrollment guidelines. Members who were hired prior to July 1, 2013 are eligible to receive a pension at age 48 with 25 years of service credit or age 62 with 15 years of service credit. Members who were hired after July 1, 2013 are eligible to receive a pension at age 52 with 25 years of service credit or age 62 with 15 years of service credit. In addition, a member is eligible to enroll in the plan if they are receiving a disability pension or they are the survivor of a member. A member may enroll a spouse, dependent children, generally until age 28, and sponsored dependents. Only benefit recipients are eligible for reimbursement of Medicare Part B reimbursement. OP&F's health care program is not guaranteed and is subject to change at any time upon action of the Board of Trustees.

CONTRIBUTIONS

OP&F's health care plan is financed through a combination of employer contributions, recipient premiums, investment returns, and funds received on behalf of OP&F's participants in Medicare Part D. Based on GASB accounting rules, the retiree drug subsidy OP&F receives under Medicare Part D has not been recognized in the actuarial valuation. A portion of OP&F's investment gain (loss) is allocated to the Health Care Stabilization Fund (HCSF). In 2017, OP&F's investment portfolio had a favorable gross return of 14.30 percent. During 2017, the Board of Trustees allocated employer contributions equal to 0.5 percent of annual covered payroll to the HCSF. As of Jan. 1, 2017 OP&F's HCSF had a solvency period until the year 2025, or nine more years. In recognition of the declining funds available for retiree health care, the Board of Trustees looked for a more efficient use of the funds still available in an effort to extend the solvency of the health care trust fund. The self-insured model, which has been in place for many years, is not sustainable. Therefore, the Board of Trustees has established a new framework for the retiree health care plan that will be effective Jan. 1, 2019. The new health care plan will extend the solvency of the trust from nine years to 15 years.

INVESTMENT POLICY

The health care plan follows the same investment policy and guidelines as the pension plan.

DISCOUNT RATE

The discount rate used to measure the total OPEB liability at Jan. 1, 2017 was 3.24 percent (using Dec. 31, 2017's S&P Municipal Bond 20 Year High Grade Rate Index of 3.16 percent). The discount rate used to measure the total OPEB liability as of Jan. 1, 2016 was 3.79 percent (using Dec. 31, 2016's S&P Municipal Bond 20 Year High Grade Rate Index of 3.71 percent). The projection of cash flows used to determine the discount rate assumed that OP&F will contribute at a rate equal to 0.50 percent of payroll, and that contributions apply first to service cost of current and future plan members and then to past service costs. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive members until 2025. After that time, benefit payments for current plan members will be funded on a pay-as-you go basis. The discount rate is the single equivalent rate which results in the same present value as discounting future benefit payments made from assets at the long term expected rate of return and discounting future benefit payments funded on a pay-as-you-go basis on the municipal bond 20-year index rate.

RATE OF RETURN

The long-term expected rate of return on plan assets is reviewed as part of the actuarial five-year experience study. The most recent study covered fiscal years 2012 through 2016. Several factors are considered in evaluating the long-term rate of return assumption including long-term historical data, estimates inherent in current market data, each major investment asset class and expected inflation. Based on this recent study it was recommended by the actuary and adopted by the Board of Trustees that the long-term expected rate of return be changed from 8.25 percent to 8.00 percent. This change was effective as of Jan. 1, 2017.

The long-term expected rate of return on pension plan investments was determined using a building-block approach and assumes a time horizon, as defined in the Statement of Investment Policy and Guidelines. A forecasted rate of inflation serves as the baseline for the return expected. Various real return premiums over the baseline inflation rate have been established for each asset class. The long-term expected nominal rate of return has been determined by calculating a weighted average of the expected real return premiums for each asset class, adding the projected inflation rate and adding the expected return from rebalancing uncorrelated asset classes.

PERIODS OF PROJECTED BENEFIT PAYMENTS

The projection of future benefit payments for all current plan members was until the benefit payments ran out.

ASSUMED ASSET ALLOCATION

The target asset allocation and best estimates of geometric real rates of return for each major asset class, are summarized as follows:

TARGET ALLOCATIONS

Asset Class	Target Allocation	10 Year Expected Real Rate of Return**	30 Year Expected Real Rate of Return**
Cash and Cash Equivalents	-%	-%	-%
Domestic Equity	16.0%	4.22%	5.39%
Non-U.S. Equity	16.0%	4.41%	5.59%
Private Markets	8.0%	6.67%	8.08%
Core Fixed Income *	23.0%	1.57%	2.71%
High Yield Fixed Income	7.0%	2.94%	4.71%
Private Credit	5.0%	6.93%	7.26%
U.S. Inflation Linked Bonds *	17.0%	0.98%	2.52%
Master Limited Partnerships	8.0%	7.50%	7.93%
Real Assets	8.0%	6.88%	7.24%
Private Real Estate	12.0%	5.58%	6.34%
TOTAL	**120.0%**		

Note: Assumptions are geometric.
* Levered 2x.
** Numbers are net of expected inflation.

OP&F's Board of Trustees has incorporated the risk parity concept into OP&F's asset liability valuation with the goal of reducing equity risk exposure, which reduces overall Total Portfolio risk without sacrificing return and creating a more risk-balanced portfolio based on the relationship between asset classes and economic environments. From the notional portfolio perspective above, the Total Portfolio may be levered up to 1.20 times due to the application of leverage in certain fixed income asset classes.

NET OPEB LIABILITY OF OP&F

The total OPEB liability as of Dec. 31, 2017 was determined based on a no gain (loss) roll-forward of the Jan. 1, 2017 valuation. The components of the net OPEB liability of OP&F at Dec. 31, 2017, were as follows:

NET OPEB LIABILITY OF OP&F (DOLLARS IN THOUSANDS)

Total OPEB Liability	$6,597,948
Plan Fiduciary Net Position	932,088
OP&F's Net OPEB Liability	**$5,665,860**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	14.13%
Net OPEB Liability as a Percentage of Covered Employee Payroll	259.79%

ACTUARIAL ASSUMPTIONS

The actuarial assumptions used in the valuation were adopted as of Jan. 1, 2017 and were based on the results from the most recent actuarial experience review covering the period 2012 through 2016. The total OPEB liability as of Dec. 31, 2017, is based on the results of an actuarial valuation dated Jan. 1, 2017 and rolled-forward using generally accepted actuarial procedures.

The total OPEB liability used the following assumptions and other inputs:

ACTUARIAL ASSUMPTIONS:

Valuation Date	Jan. 1, 2017
Long-Term Return on Plan Assets	8.00%
Dec. 31, 2017 Discount Rate	3.24%
Dec. 31, 2017 Municipal Bond Index	3.16%
Actuarial Cost Method	Projected benefit method with level percentage entry age normal cost and open-end unfunded accrued liability. Gains and losses are reflected in the accrued liability. Normal cost is expressed as a mid-year amount.
Asset Valuation Method	Market value of assets.
Payroll Growth Method	Inflation rate of 2.75 percent
Projected Depletion Year of OPEB Assets	2025
Non-Medicare Health Care Cost Trend Rates	(0.47)% - 4.50%
Medicare Health Care Cost Trend Rates	5.20% - 5.00%
Healthy Mortality	RP-2014 Total Employee and Healthy Annuitant Mortality Tables rolled back to 2006, adjusted and projected with the Conduent Modified 2016 Improvement Scale. Rates for surviving beneficiaries are adjusted by 120%.
Disability Mortality	RP-2014 Disability Mortality Tables rolled back to 2006, adjusted and projected with the Conduent Modified 2016 Improvement Scale.
Age of Spouse	Wives are assumed to be three years younger than their husbands.
Dependent Children	Each member is assumed to have two children, born when the member was age 32. Dependency is assumed to cease when the child is 22.

SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following table presents the net OPEB liability of OP&F as of Dec. 31, 2017, calculated using the discount rate of 3.24 percent, as well as what OP&F's net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower 2.24 percent or one percentage point higher 4.24 percent than the current discount rate:

SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGES IN THE DISCOUNT RATE AT DEC. 31, 2017

	One Percent Decrease	Current Discount Rate	One Percent Increase
Discount Rate	2.24%	3.24%	4.24%
Net OPEB Liability	$7,082,393	$5,665,860	$4,575,900

SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGES IN THE HEALTH CARE COST TREND RATE

The following table presents the net OPEB liability of OP&F as of Dec. 31, 2017, what OP&F's net OPEB liability would be based on a health care cost trend rate that is one percent lower and one percent higher than the current health care cost trend rate.

SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGES IN THE HEALTH CARE COST TREND RATE AT DEC. 31, 2017

	One Percent Decrease	Current Trend Rate	One Percent Increase
Net OPEB Liability	$4,401,342	$5,665,860	$7,370,002

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

REQUIRED SUPPLEMENTARY PENSION INFORMATION

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY *

Total Pension Liability	Year Ending Dec. 31, 2017	Year Ending Dec. 31, 2016	Year Ending Dec. 31, 2015	Year Ending Dec. 31, 2014
Service Cost	$289,911,106	$273,592,476	$267,624,727	$262,846,976
Interest	1,623,441,004	1,570,560,385	1,519,848,287	1,472,778,463
Plan Changes	-	-	-	-
Differences Between Expected and Actual Experience	109,199,474	2,143,161	(21,544,278)	-
Changes in Assumptions	318,479,524	-	-	-
Benefit Payments, Including Refunds of Member Contributions	(1,256,254,446)	(1,187,020,466)	(1,170,476,866)	(1,126,154,321)
NET CHANGE IN TOTAL PENSION LIABILITY	1,084,776,662	659,275,556	595,451,870	609,471,118
TOTAL PENSION LIABILITY - BEGINNING	20,016,288,888	19,357,013,332	18,761,561,462	18,152,090,344
TOTAL PENSION LIABILITY - ENDING (a)	**$21,101,065,550**	**$20,016,288,888**	**$19,357,013,332**	**$18,761,561,462**
Plan Fiduciary Net Position				
Contributions - Employer	$462,394,203	$455,143,532	$428,972,949	$418,493,468
Contributions - Member	282,006,793	268,594,295	245,834,623	223,989,055
Net Investment Income	1,812,565,572	1,240,580,488	(11,259,198)	786,522,451
Benefit Payments, Including Refunds of Member Contributions	(1,256,254,446)	(1,187,020,466)	(1,170,476,866)	(1,126,154,321)
Administrative Expense	(19,487,358)	(18,851,765)	(15,635,762)	(15,480,687)
Other Changes	-	-	(6,940,426)	-
NET CHANGES IN PLAN FIDUCIARY NET POSITION	1,281,224,764	758,446,084	(529,504,680)	287,369,966
PLAN FIDUCIARY NET POSITION - BEGINNING	13,682,389,240	12,923,943,156	13,453,447,836	13,166,077,870
PLAN FIDUCIARY NET POSITION - ENDING (b)	**$14,963,614,004**	**$13,682,389,240**	**$12,923,943,156**	**$13,453,447,836**
NET PENSION LIABILITY (SURPLUS) - ENDING (a)-(b)	**$6,137,451,546**	**$6,333,899,648**	**$6,433,070,176**	**$5,308,113,626**
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	70.91%	68.36%	66.77%	71.71%
Covered Employee Payroll	$2,224,675,422	$2,094,550,962	$2,046,601,668	$1,998,631,412
Net Pension Liability as a Percentage of Covered Employee Payroll	275.88%	302.40%	314.33%	265.59%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF EMPLOYERS' NET PENSION LIABILITY (ASSET) *

Year Ending Dec. 31	(a) Total Pension Liability	(b) Plan Fiduciary Net Position	(a)-(b)=(c) Net Pension Liability (Surplus)	(b) / (a) Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	(d) Covered Employee Payroll	(c) / (d) Net Pension Liability (Surplus) as a Percentage of Covered Employee Payroll
2017	$21,101,065,550	$14,963,614,004	$6,137,451,546	70.91%	$2,224,675,422	275.88%
2016	20,016,288,888	13,682,389,240	6,333,899,648	68.36%	2,094,550,962	302.40%
2015	19,357,013,332	12,923,943,156	6,433,070,176	66.77%	2,046,601,668	314.33%
2014	18,761,561,462	13,453,447,836	5,308,113,626	71.71%	1,998,631,412	265.59%
2013	18,152,090,344	13,166,077,870	4,986,012,474	72.53%		

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF EMPLOYER CONTRIBUTIONS - PENSION TRUST FUND *

Year Ended Dec. 31	(a) Statutorily Due Employer Contributions	(b) Actual Employer Contributions	(a)-(b)=(c) Contribution Deficiency (Excess)	(d) Covered Employee Payroll *	(a) / (d) Contributions as a Percentage of Covered Employee Payroll
2017	$462,047,728	$462,047,728	$-	$2,180,910,604	21.19%
2016	454,745,371	454,745,371	-	2,060,850,564	22.07%
2015	428,526,214	428,526,214	-	1,986,568,535	21.57%
2014	417,993,316	417,993,316	-	1,942,269,436	21.52%
2013	349,461,765	349,461,765	-	1,913,382,667	18.26%
2012	286,752,750	286,752,750	-	1,897,413,344	15.11%
2011	278,175,108	278,175,108	-	1,868,502,282	14.89%
2010	285,251,945	285,251,945	-	1,895,195,693	15.05%
2009	277,684,455	277,684,455	-	1,900,935,000	14.61%
2008	276,358,483	276,358,483	-	1,831,438,000	15.09%

* Actuarial Estimate.

SCHEDULE OF INVESTMENT RETURNS *

	2017	2016	2015	2014
Annual Money Weighted Rate of Return, Net of Investment Expenses	13.867%	10.048%	0.187%	6.540%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

NOTES TO REQUIRED SUPPLEMENTARY PENSION INFORMATION

1. SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY

The total pension liability contained in this schedule was provided by the OP&F's actuary, Conduent. The net pension liability is measured as the total pension liability less the amount of OP&F's fiduciary net position.

2. SCHEDULE OF EMPLOYER CONTRIBUTIONS

The required employer contributions and percent of those contributions actually made are presented in this schedule.

3. ACTUARIAL ASSUMPTIONS

The valuation was based on the actuarial assumptions and methods that have been adopted by the Board of Trustees, including a valuation interest rate of 8.00 percent per annum compounded annually. The assumptions were effective Jan. 1, 2017, and recommended by the actuary based on a five-year experience review covering the period 2012 through 2016.

The information presented in the required supplementary schedules was used in the actuarial valuation for purposes of calculating the actuarially determined contribution rate. The assumptions and methods used for this actuarial valuation were recommended by the actuary and adopted by the Board of Trustees. Additional information as of the latest actuarial valuation follows.

CHANGES IN ACTUARIAL ASSUMPTIONS FROM 2016

SUMMARY OF ASSUMPTION CHANGES

Demographic Assumption	Recommendation adopted as of Jan 1, 2017	Cost Impact
1) Withdrawal	Close to expectations, make minor adjustments.	Decrease
2) Disability retirement	Large decrease post-2013, reduce rates, reduce percentage of permanent and total disabilities.	Decrease
3) Service retirement	More than expected, earlier retirements, make adjustments.	Increase
4) DROP elections	Close to expectations, no changes.	None
5) Mortality	Overall fewer deaths than expected, adopt new tables.	Increase
6) Percent married and form of payment	Close to expectations, no change expect reduce assumed average benefit percent to joint annuitant.	None

Economic Assumption	Recommendation adopted as of Jan 1, 2017	Cost Impact
1) DROP interest rate	Below expectations, reduce from 4.5% to 4.0% based on economic projections.	Decrease
2) CPI-based COLA	Below expectations, reduce from 2.6% to 2.2% based on economic projection.	Decrease
3) Investment return *	Above expectations, but reduce from 8.25% to 8.00% based on economic projections.	Increase
4) Salary increases *	Below expectations, reduce salary inflation from 3.75% to 3.25% for lower inflation projection.	Decrease
5) Payroll growth *	Below expectations, reduce from 3.75% to 3.25% for lower inflation projection.	Increase funding period

* Inflation component for (3), (4) and (5) reduced from 3.25% to 2.75%; real rate of return for (3) increased from 5.00% to 5.25%.

ADDITIONAL ACTUARIAL INFORMATION

Defined Benefit Plan – Pension Trust Fund

Actuarial Assumptions

Valuation date	Jan. 1, 2017
Actuarial cost method	Entry age
Amortization method	Level percent of payroll, open
Amortization period	30 years
Asset valuation method	4-year adjusted fair value with a corridor of 20% of the fair value.
Investment rate of return	8.00%
Projected salary increases	3.75% - 10.50%
Payroll increases	3.25%
Inflation assumptions	2.75%
Cost-of-living adjustments	2.20% and 3.00% simple

REQUIRED SUPPLEMENTARY HEALTH CARE INFORMATION

SCHEDULE OF CHANGES IN NET OPEB LIABILITY AND RELATED RATIOS (DOLLARS IN THOUSANDS)*

Total OPEB Liability	Year Ending Dec. 31, 2017
Service Cost	$230,753
Interest	220,886
Changes of Benefit Terms	-
Differences Between Expected and Actual Experience	(32,754)
Changes in Assumptions	633,696
Net Benefit Payments	(103,062)
NET CHANGE IN TOTAL OPEB LIABILITY	949,519
TOTAL OPEB LIABILITY - BEGINNING	5,648,429
TOTAL OPEB LIABILITY - ENDING (a)	**$6,597,948**
Plan Fiduciary Net Position	
Contributions - Employer	$18,895
Net Investment Income	115,417
Benefit Payments	(103,062)
Administrative Expenses	(816)
Other	-
NET CHANGE IN PLAN FIDUCIARY NET POSITION	30,434
PLAN FIDUCIARY NET POSITION - BEGINNING	901,654
PLAN FIDUCIARY NET POSITION - ENDING (b)	**$932,088**
NET OPEB LIABILITY (SURPLUS) - ENDING (a)-(b)	**$5,665,860**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	14.13%
Covered Employee Payroll	$2,180,911
Net OPEB Liability as a Percentage of Covered Employee Payroll	259.79%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF NET OPEB LIABILITY (ASSET) - (DOLLARS IN THOUSANDS)*

Year Ending Dec. 31	(a) Total OPEB Liability	(b) Plan Fiduciary Net Position	(a)-(b)=(c) Net OPEB Liability (Surplus)	(b) / (a) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	(d) Coverd Employee Payroll	(c) / (d) Net OPEB Liability (Surplus) as a Percentage of Covered Employee Payroll
2017	$6,597,948	$932,088	$5,665,860	14.13%	$2,180,911	259.79%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF EMPLOYER CONTRIBUTIONS - RETIREE HEALTH CARE TRUST FUND

Year Ended Dec. 31	(a) Statutorily Due Employer Contributions	(b) Actual Employer Contributions	(a)-(b)=(c) Contribution Deficiency (Excess)	(d) Covered Employee Payroll *	(a) / (d) Contributions as a Percentage of Covered Employee Payroll
2017	$10,871,479	$10,871,479	$-	$2,180,910,604	0.50%
2016	10,708,739	10,708,739	-	2,060,850,584	0.52%
2015	10,211,723	10,211,723	-	1,986,568,535	0.51%
2014	9,895,274	9,895,274	-	1,942,269,436	0.51%
2013	68,720,879	68,720,879	-	1,913,382,667	3.59%
2012	130,285,935	130,285,935	-	1,897,413,344	6.87%
2011	129,297,720	129,297,720	-	1,868,502,282	6.92%
2010	128,774,894	128,774,894	-	1,895,195,693	6.79%
2009	126,649,859	126,649,859	-	1,900,935,000	6.66%
2008	129,544,343	129,544,343	-	1,831,438,000	7.07%

* Actuarial Estimate.

SCHEDULE OF INVESTMENT RETURNS *

	2017	2016	2015	2014
Annual Money Weighted Rate of Return, Net of Investment Expenses	13.867%	10.048%	0.187%	6.540%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

NOTES TO REQUIRED SUPPLEMENTARY HEALTH CARE INFORMATION

CHANGES OF BENEFIT AND FUNDING TERMS

There have been no changes to the benefit provisions, in regards to the Schedule of Employer Contributions.

CHANGES IN ACTUARIAL ASSUMPTIONS FROM 2016

SUMMARY OF ASSUMPTION CHANGES

Demographic Assumption	Recommendation adopted as of Jan 1, 2017	Cost Impact
1) Withdrawal	Close to expectations, make minor adjustments.	Decrease
2) Disability retirement	Large decrease post-2013, reduce rates, reduce percentage of permanent and total disabilities.	Decrease
3) Service retirement	More than expected, earlier retirements, make adjustments.	Increase
4) DROP elections	Close to expectations, no changes.	None
5) Mortality	Overall fewer deaths than expected, adopt new tables.	Increase
6) Percent married and form of payment	Close to expectations, no change expect reduce assumed average benefit percent to joint annuitant.	None

Economic Assumption	Recommendation adopted as of Jan 1, 2017	Cost Impact
1) DROP interest rate	Below expectations, reduce from 4.5% to 4.0% based on economic projections.	Decrease
2) CPI-based COLA	Below expectations, reduce from 2.6% to 2.2% based on economic projection.	Decrease
3) Investment return *	Above expectations, but reduce from 8.25% to 8.00% based on economic projections.	Increase
4) Salary increases *	Below expectations, reduce salary inflation from 3.75% to 3.25% for lower inflation projection.	Decrease
5) Payroll growth *	Below expectations, reduce from 3.75% to 3.25% for lower inflation projection.	Increase funding period

* Inflation component for (3), (4) and (5) reduced from 3.25% to 2.75%; real rate of return for (3) increased from 5.00% to 5.25%.

ADDITIONAL ACTUARIAL INFORMATION

Retiree Health Care Benefits – Health Care Trust Fund

Actuarial Assumptions

Valuation date	Jan. 1, 2017
Actuarial cost method	Entry age
Amortization method	Level percent of payroll, open
Amortization period	30 years
Asset valuation method	Fair value
Investment rate of return	8.00%
Projected salary increases	3.75% - 10.50%
Payroll increases	3.25%
Inflation assumptions	2.75%

OPERS RELATED REQUIRED SUPPLEMENTARY PENSION INFORMATION

SCHEDULE OF OP&F'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY OHIO PUBLIC EMPLOYEES RETIREMENT PLAN - TRADITIONAL PENSION PLAN LAST 10 FISCAL YEARS *

	2017	2016	2015
OP&F's proportion of the net pension liability (asset)	$13,874,911	$10,779,540	$7,534,305
OP&F's proportionate of the net pension liability (asset)	0.061%	0.062%	0.062%
OP&F's covered-employee payroll	$7,290,938	$7,745,508	$7,649,967
OP&F's proportionate share of the net pension liability (asset) as a percentage of its covered-employee payroll	190.30%	139.17%	98.49%
Plan fiduciary net position as a percentage of the total pension liability	77.25%	81.08%	86.45%

SCHEDULE OF OP&F'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY OHIO PUBLIC EMPLOYEES RETIREMENT PLAN - COMBINED PENSION PLAN LAST 10 FISCAL YEARS *

	2017	2016	2015
OP&F's proportion of the net pension liability (asset)	$(69,235)	$(63,275)	$(52,363)
OP&F's proportionate of the net pension liability (asset)	0.124%	0.130%	0.136%
OP&F's covered-employee payroll	$446,969	$473,208	$478,275
OP&F's proportionate share of the net pension liability (asset) as a percentage of its covered-employee payroll	(15.49)%	(13.37)%	(10.95)%
Plan fiduciary net position as a percentage of the total pension liability	116.55%	116.90%	114.83%

SCHEDULE OF OP&F'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY OHIO PUBLIC EMPLOYEES RETIREMENT PLAN - MEMBER DIRECTED PLAN LAST 10 FISCAL YEARS *

	2017	2016	2015
OP&F's proportion of the net pension liability (asset)	$(1,011)	$(837)	$(1,441)
OP&F's proportionate of the net pension liability (asset)	0.243%	0.219%	0.245%
OP&F's covered-employee payroll	$900,093	$1,045,000	$1,076,864
OP&F's proportionate share of the net pension liability (asset) as a percentage of its covered-employee payroll	(0.11)%	(0.08)%	(0.13)%
Plan fiduciary net position as a percentage of the total pension liability	103.40%	103.91%	N/A

* The amounts presented were determined as of Dec. 31 of the prior calendar year. GASB 68 was implemented in 2015. This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF CONTRIBUTIONS
OHIO PUBLIC EMPLOYEES RETIREMENT PLAN - TRADITIONAL PLAN
LAST 10 FISCAL YEARS *

	2017	2016	2015
Contractually required contributions	$947,822	$929,461	$917,996
Contributions in relation to the contractually required contributions	$947,822	$929,461	$917,996
Contribution deficiency (excess)	$-	$-	$-
OP&F's covered employee payroll	$7,290,938	$7,745,508	$7,649,967
Contributions as a percentage of covered-employee payroll	13%	12%	12%

SCHEDULE OF CONTRIBUTIONS
OHIO PUBLIC EMPLOYEES RETIREMENT PLAN - COMBINED PENSION PLAN
LAST 10 FISCAL YEARS *

	2017	2016	2015
Contractually required contributions	$58,106	$56,785	$57,393
Contributions in relation to the contractually required contributions	$58,106	$56,785	$57,393
Contribution deficiency (excess)	$-	$-	$-
OP&F's covered employee payroll	$446,969	$473,208	$478,275
Contributions as a percentage of covered-employee payroll	13%	12%	12%

SCHEDULE OF CONTRIBUTIONS
OHIO PUBLIC EMPLOYEES RETIREMENT PLAN - MEMBER DIRECTED PLAN
LAST 10 FISCAL YEARS *

	2017	2016	2015
Contractually required contributions	$126,013	$146,300	$150,761
Contributions in relation to the contractually required contributions	$126,013	$146,300	$150,761
Contribution deficiency (excess)	$-	$-	$-
OP&F's covered employee payroll	$900,093	$1,045,000	$1,076,864
Contributions as a percentage of covered-employee payroll	14%	14%	14%

* The amounts presented were determined as of Dec. 31 of the prior calendar year. GASB 68 was implemented in 2015. This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

ADDITIONAL INFORMATION

OHIO POLICE & FIRE PENSION FUND SCHEDULE OF ADMINISTRATIVE EXPENSES *

FOR THE YEAR ENDED DEC. 31

		2017
Personnel Services	Salaries and Wages	$10,317,285
	OPERS Contributions	4,426,337
	Insurance	3,023,774
	Fringe Benefits/Employee Recognition	14,706
	Tuition Reimbursement	10,850
	TOTAL PERSONNEL SERVICES	**17,792,952**
Professional Services	Actuarial	464,025
	Audit	166,446
	Custodial Banking Fees	804,838
	Investment Fees and Consulting	46,469,827
	Other Consulting (Disability, Software, Legal and Health Care)	1,227,891
	Banking Expense	69,045
	TOTAL PROFESSIONAL SERVICES	**49,202,072**
Communications Expense	Printing and Postage	269,626
	Telephone	80,627
	Member/Employer Education	11,638
	Other Communications	87,000
	TOTAL COMMUNICATIONS EXPENSE	**448,891**
Other Operating Expense	Conferences and Education	77,516
	Travel	134,169
	Computer Technology	830,701
	Other Operating	543,070
	Warrant Clearing	686
	ORSC Expense	54,176
	Depreciation Expense - Capital	1,282,721
	TOTAL OTHER OPERATING EXPENSES	**2,923,039**
NET BUILDING EXPENSES (includes rent)		**1,255,018**
TOTAL OPERATING EXPENSES		**71,621,972**
INVESTMENT EXPENSES		**(51,403,268)**
NET ADMINISTRATIVE EXPENSES		**$20,218,704**

* Includes investment related administrative expenses.

SCHEDULE OF INVESTMENT EXPENSES**

FOR THE YEAR ENDED DEC. 31

Category	2017
Investment Manager Services	$44,979,291
Custodial Banking Fees	804,838
Other Professional Services	1,490,536
Other Direct Investment Expenses	2,210,997
Allocation of Other Administrative Expenses	1,917,606
INVESTMENT EXPENSES	**$51,403,268**

** A portion of the non-Investment Department administrative expenses is allocated to Investment Expense based on the ratio of investment staff to total OP&F staff.

COMBINING STATEMENT OF CHANGES IN ASSETS AND LIABILITIES - PUBLIC SAFETY OFFICERS DEATH BENEFIT FUND

PUBLIC SAFETY OFFICERS DEATH BENEFIT FUND

	Balance Dec. 31, 2016	Additions	Subtractions	Balance Dec. 31, 2017
Assets:				
Cash and Short-term Investments	$517,051	$20,000,000	$20,061,730	$455,321
TOTAL ASSETS	**517,051**	**20,000,000**	**20,061,730**	**455,321**
Liabilities:				
Due to State of Ohio	517,051	20,000,000	$20,061,730	455,321
TOTAL LIABILITIES	**$517,051**	**$20,000,000**	**$20,061,730**	**$455,321**

INVESTMENTS

2017 COMPREHENSIVE ANNUAL FINANCIAL REPORT | OHIO POLICE & FIRE PENSION FUND

INVESTMENT REPORT (PREPARED THROUGH A COMBINED EFFORT WITHIN THE INVESTMENT DEPARTMENT)

INTRODUCTION

The investment authority of OP&F is specified in Chapter 742 of the ORC. Importantly, the ORC requires that the Board of Trustees and other fiduciaries discharge their duties solely in the interest of the participants and beneficiaries, for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering OP&F. Within the guidelines of the ORC, OP&F has developed an Investment Policy and Guideline statement that provides for appropriate diversification of assets and an acceptable expected return on investments after consideration of investment risks. Investment performance returns are prepared by Wilshire Associates. Investment activities are presented on a trade date basis and measurements are calculated using time weighted rates of return consistent with investment industry standards.

SIGNIFICANT DEVELOPMENTS IN 2017

The first half of 2017 was spent determining if OP&F's then long-term asset allocation policy was still the best policy for meeting its objectives. As part of this asset-liability valuation study, OP&F continued to incorporate factor-based asset allocation techniques to provide a deeper understanding of the economic drivers of asset class performance and to construct better-diversified portfolios. Building on these techniques, OP&F grouped, or "bucketed," asset classes into macro-asset class buckets that play similar roles in a portfolio for a better understanding of risk and diversification as well as to apply several different risk lenses to the asset allocation process to help orient decisions around organizational goals. The result of this study was the adoption of a new long-term asset allocation policy that, compared to the former policy, has a higher expected return, a lower standard deviation and an improved risk balance among "growth," "safety oriented" and "inflation-hedging" assets. Other significant changes included increasing the level of illiquid assets from 25 percent to 33 percent, concerting the inflation-linked bond allocation from global to U.S., and adopting private credit as a new asset class. Along with adoption of a new long-term asset allocation policy, other significant noteworthy investment endeavors and issues addressed last year include the following:

- Adopted OP&F's Real Assets Investment Policy to replace OP&F's Timberland Investment Policy.
- Adopted benchmark for the private credit asset class.
- Adopted benchmark for the U.S. inflation-linked bond asset class.
- Adopted new high yield investment structure.
- Adopted new non-U.S. equity investment structure.
- Adopted rebalancing ranges for the new long-term asset allocation policy.
- Adopted Total Fund policy implementation plan and forward-looking changes to the Total Fund policy benchmark.
- Amended investment manager guidelines for Bridgewater inflation-linked bond, Franklin Templeton international small cap equity and Western Asset Management mandates.
- Amended OP&F's Derivatives Policy Statement.
- Amended OP&F's Investment Manager Monitoring and Evaluation Policy.
- Amended OP&F's Investment Policy and Guidelines statement.
- Amended OP&F's Private Markets Investment Policy.
- Amended OP&F's Proxy Voting Policy.
- Amended OP&F's Real Estate Investment Policy.
- Approved investment manager guidelines for Prudential and Loomis Sayles levered core fixed income mandates.
- Approved the 2017 private markets investment plan.
- Approved the 2017 real assets investment plan.
- Approved the 2018 real assets investment plan.
- Approved the 2018 real estate investment plan.
- Completed annual evaluation of OP&F's real estate strategic portfolio for possible rebalancing.
- Continued to work toward target allocation in private markets:
    - Made commitments to Altaris Capital Fund IV, Altaris Constellation Partners IV, Apollo Investment Fund IX, Glendon Opportunities Fund II, GTCR Fund XII, KKR Asian Fund III, Marlin Equity V, Marlin Heritage II and Primus Capital Fund VIII.
- Continued to work toward target allocation to real assets:
    - Made commitments to ACM Fund II, IFM Global Infrastructure Fund and Meridiam Infrastructure North America III.
- Continued to work toward target allocation in real estate:
    - Made commitments to Hancock U.S. Real Estate Fund and Heitman Asia-Pacific Property Investors.
- Expanded OP&F's general investment consultant services to include private credit.
- Worked toward long-term asset allocation targets by rebalancing between overweight/underweight asset classes.
- Worked toward target allocation to private credit:

    - Made commitments to Capital Spring Investment Partners V, Owl Rock Capital Corp. Business Development Company and Tennenbaum Direct Lending Fund VIII.

- Funded PGIM and Loomis Sayles Levered Core Fixed Income mandates.
- Transitioned a bank loan portfolio to MacKay Shields.
- Initiated international securities lending program with Northern Trust.

ECONOMIC ENVIRONMENT

In the U.S., 2017 real gross domestic product (GDP) advanced 2.6 percent. A strengthening labor market, moderate inflation, historically low interest rates and rising household wealth all contributed to healthy consumer sentiment. Payroll employment continued to register solid gains in 2017, averaging 182,000 per month. The U.S. unemployment rate declined through the year hitting 4.1 percent in October, where it remained into year-end. This marked its lowest level since December 2000. After an early year push into the mid 2.0 percent range, U.S. inflation calmed over the remainder of the year, ending with a year-over-year consumer price index (CPI) increase of 2.1 percent in 2017. Consumer confidence climbed throughout the year, ultimately hitting levels not seen since late 2000.

On the back of an improving economy, the Federal Reserve (Fed) picked up the pace of interest rate increases during 2017 bumping up the federal funds rate three times, 25 basis points (bps) each in March, June and December. This left the funds rate in a range of 1.25 percent to 1.50 percent at year-end. Also, in September, the Federal Open Market Committee decided to initiate a program of gradually reducing the size of its balance sheet. Surprisingly, even with the move to higher short-term interest rates, the U.S. dollar weakened over the course of the year.

Elsewhere in the world, for calendar year 2017, GDP strengthened to a 2.3 percent rate in the euro area compared with 1.8 percent in 2016. Even with this uptick in growth, inflation remained calm. The European Central Bank (ECB) maintained its easy stance on both monetary and balance sheet stimulus and is expected to continue buying assets until September 2018. The United Kingdom expanded at a solid pace and economic activity also continued to expand in Japan. Consumer price inflation rose slightly in most advanced economies, boosted by rising commodity prices. However, headline and core inflation remained below the central banks' targets in the euro area and Japan. However, U.K. inflation rose above the Bank of England's 2.0 percent target. Meanwhile, the Bank of Japan kept its policy rates at historically low levels. Economic growth in China remained relatively strong through the second half of 2017 even though the government introduced policies aimed at limiting production in polluting industries, tightening financial regulations and curbing growth in home prices.

Early in 2018, the Fed continued to tighten monetary conditions by raising short-term interest rates by 25 bps in March to a range of 1.50 percent to 1.75 percent with expectations of two to three more rate hikes over the remainder of the year. Oil prices have risen back into the high $60's per barrel range while consumer confidence remains at lofty levels. The U.S. unemployment rate has remained steady at a 4.1 percent reading every month so far and payroll growth has maintained its positive momentum. Meanwhile, inflationary pressures appear to be building as the year-over-year measure of CPI recently reached 2.4 percent. First quarter GDP growth was reported at a 2.3 percent annualized rate, which repeats a pattern of the economy slowing in the first quarter in recent years. Fed officials will likely be more worried by the surge in inflation, with the core personal consumption expenditures (PCE) deflator increasing at a 2.5 percent annualized pace in the first quarter. On top of the already solid economic conditions, the Tax Cuts and Jobs Act, which went into effect at the start of 2018, is expected to provide a boost to businesses and, to a lesser degree, individuals. The additional economic stimulus that should be provided by this move adds to the issues the Fed must monitor as it walks a fine line between providing enough stimulus to maintain growth but not so much as to push inflationary pressures too high.

TOTAL FUND

The total portfolio, on a trade date basis, was valued at $15.85 billion at the end of 2017, up from $14.53 billion at the end of 2016. Within OP&F's portfolio, strong absolute returns in U.S. and non-U.S. equities and private markets combined to pull up the overall portfolio return in 2017. However, OP&F's significant exposure to master limited partnerships (MLPs) created downward pressure on the portfolio as these assets actually turned in a negative absolute return, which was something hard to find last year. For calendar year 2017, the total portfolio's investment return was 14.30 percent gross of fees (13.68 percent net) compared to a policy index return of 12.41 percent. This represents a healthy outperformance of the total portfolio's policy index by 189 bps gross and 127 bps net. OP&F's investments in U.S. equity, non-U.S. equity, core fixed income, real estate, MLPs and inflation protected securities all outperformed their respective asset class benchmarks over the course of 2017.

Last year's strong absolute performance did not translate into solid relative peer group performance as OP&F's significant exposure to MLPs pulled the peer group ranking downward into the 58th percentile of Wilshire's Master Trusts – All Plans Universe. With 2017's result, OP&F's three-year annualized gross of fees return now stands at 8.66 percent (8.05 percent net), while the five-year annualized gross of fees return is 9.88 percent (9.31 percent net) and the 10-year gross of fees return is 6.67 percent (6.22 percent net). The 2017 results versus the policy index still kept OP&F's three-year relative return above the policy index return of 7.01 percent for the same period, while OP&F's five-year return also beat the policy return of 8.46 percent and the 10-year return bested the policy return of 5.57 percent. As mentioned earlier, the total portfolio's 2017 results ranked in the 58th percentile of Wilshire's Master Trusts – All Plans Universe, while the three-year, five-year and 10-year results ranked in the 10th, 22nd and 21st percentiles, respectively, of that same peer universe.

Through the first quarter of 2018, all of OP&F's public markets asset classes, except cash and enhanced cash, have posted negative absolute returns. Meanwhile, OP&F's private asset classes are showing respectable positive returns. In addition, nearly all asset classes' composite returns are ahead of their respective benchmarks. All in all, OP&F's unaudited year-to-date return through March 31, 2018 of negative 0.57 percent is slightly outpacing its benchmark's return of negative 0.93 percent. Notably, MLPs are again dragging down the overall portfolio return as the Alerian Index slumped to a depressing negative 11.12 percent return through March. With the return of market volatility, OP&F's 2018 full year results are likely to hinge on global central bank actions, especially whether the Federal Reserve takes actions that differ markedly from what is discounted by the markets.

In mid-2017, OP&F adopted an updated asset allocation policy, which included a series of transitional policy benchmarks and asset class targets that laid out a roadmap to reach the new asset allocation benchmark over the course of several years. New target weights for each asset class kick in on Jan. 1 and July 1 each year. Generally, these six-month steps are de-risking the portfolio but in a risk parity sense. Equity exposures are slowly being reduced as fixed income, MLPs and alternative assets exposures are ramping up. The increasing fixed income exposures include a 2x levered U.S. inflation protected securities mandate, which is at its 8.0 percent target, and converting traditional core fixed income into a 2x levered core fixed income mandate. The managers for this latter mandate are in place and are partially funded, but the leverage component has not yet been put in place. OP&F shifted private credit assets out of high yield into their own asset class and continues to search for solid risk/reward opportunities to add in this area. Most recently, OP&F deployed a derivative overlay program that is meant to keep OP&F's asset classes better aligned with their policy target weights. OP&F also established a liquidity pool intended to fund monthly cash needs, thus reducing the number of times cash must be raised for benefit payments and private funds' capital calls.

The Board of Trustees and staff believe that a well-diversified portfolio will serve OP&F well over the long-term. As mentioned in prior reports, the Board of Trustee's 2010 adoption of and continued reaffirmation of risk parity and the ongoing implementation of that approach demonstrate that OP&F is committed to creating and maintaining a well-diversified portfolio. A combination of lower long-term equity targets inherent in risk parity and a generally rising stock market over the past several years have kept the equity portfolio above its allocation target; thus, making it a natural source of funds to diversify into rising target allocations for fixed income, MLPs and alternatives exposures. This ongoing shift out of equities has generally kept OP&F from any forced rebalancing efforts, but staff closely monitors the portfolio's status relative to asset class allocation ranges and occasional periods of extreme valuation. In addition to forcing OP&F to sell high and buy low, a disciplined rebalancing policy removes human emotion from the decision making process. As evident in the Board of Trustee's risk parity approach and recent asset class structure decisions, OP&F has and will continue to evaluate non-correlated, non-traditional strategies and asset classes in its search for optimal risk-adjusted returns.

EQUITIES – U.S. AND NON-U.S.

Global equity returns in 2017 were stronger and more broadly-based than in 2016. In 2017, U.S. equities continued their strong run from the previous year, rising 20.99 percent and 21.83 percent, as measured by the Wilshire 5000 and the S&P 500, respectively. The Wilshire U.S. Small Cap Index had a solid return year too rising 13.45 percent, though it lagged the larger cap indices. In spite of those strong returns, U.S. equities did not lead. In fact, The MSCI Emerging Markets Index nearly doubled the return of the U.S. indices, rising 37.3 percent. The MSCI All Country World ex U.S. Index, which includes emerging markets, also outperformed domestic equities, increasing 27.19 percent for the year. The MSCI Europe, Australasia, Far East (EAFE) index, which includes developed companies only and not emerging markets, rose 25.03 percent in 2017.

Equity markets started 2017 very strong, much the way they ended the prior year. In spite of the tumultuous presidential campaign, domestic equity markets rallied on several themes. First, anticipated benefits of three priorities of the new administration - tax cuts, regulatory reform (especially the banking sector) and infrastructure spending. Tax reduction legislation was passed before the end of the year and some regulatory reform was enacted as well. However, a comprehensive infrastructure spending bill was not passed. Second, although interest rates began rising in mid-2016, they still remained relatively low throughout the year, making equities generally an attractive option relative to bonds. Also, high yield bond spreads relative to government bonds remained historically narrow, providing further support to the economy by allowing small, mid-sized and higher debt companies to borrow at low rates. Lastly, the domestic and global economies continued on solid ground, if not strengthened somewhat throughout the year, as unemployment remained low and industrial and consumer activity improved.

The year was not without challenges for investors. Mainly, investors were concerned that rate hikes by the Federal Reserve would eventually slow the economy and/or make bonds a more attractive alternative to stocks. This issue was more relevant in the U.S. than abroad because other central banks were still in a holding pattern on rates while the Fed started increasing the federal funds rate in late 2015. However, Japanese and European central banks are moving closer to at least considering less accommodative monetary policies. The other issue cited often for concern, for U.S. equities particularly, was that of valuation. Depending on the metric used, valuation levels domestically are above long term historical averages. However, cyclical forces related to economic growth, earnings and interest rates will continue to drive stock prices in the short to intermediate term.

OP&F's U.S. Equity Composite for 2017 appreciated a strong 22.01 percent net of fees. This compared favorably to the Wilshire 5000 and S&P 500 indices, which returned 20.99 percent and 21.83 percent, respectively, for the calendar year.

The OP&F Total International Equity Composite in 2017 returned 28.68 percent net of fees. The OP&F portfolio exceeded the benchmark MSCI ACWI ex-U.S. Iran & Sudan Free Index, which rose 28.04 percent.

MASTER LIMITED PARTNERSHIPS (MLPs)

Though 2017 was not nearly as difficult as 2015 from a total return standpoint, it was very challenging in its own right for several reasons. First, the sector was generally plagued by concerns that equity and/or debt issuance would dilute per unit cash flow or further burden companies with additional debt service. In addition, several MLPs cut their distributions/dividends or announced intentions to slow the growth of those distributions. However, the most frustrating aspect of the year was that MLP prices declined while the overall stock market rose and crude oil prices increased modestly for the year, particularly in the second half of 2017.

Historically, MLPs have not had a particularly strong correlation to oil or natural gas prices because MLPs and their midstream operations (pipeline transmission, distribution, storage, processing and gathering, etc.) tend to have a business model that is relatively stable and not particularly dependent on changes in oil or natural gas prices. This business model stability stems from the fact that MLP/pipeline companies: 1) sign very long term (10 years or more) customer contracts; 2) have contracts that obligate their E&P (exploration and production) customers to pay the MLP (pipeline company) regardless of the volumes flowing through the pipelines; and 3) MLPs have a history of positive cash flow and increasing distributions. However, MLPs declined with, and were highly correlated to, falling oil prices in the first half of 2017. MLP prices continued to fall in the back half of the year in spite of a near 35 percent rise in crude prices from July 1 to Dec. 31. Challenges certainly remain in this space. However, valuation levels appear attractive and the demand for oil and natural gas continue to rise while the U.S. has become a world leading producer of both. Assuming production growth continues over the coming years, more pipelines will be needed to accommodate the flow of both of those commodities and pipeline companies should benefit.

The MLP portion of the overall fund was the only asset class to decline on an absolute basis in 2017. Though the OP&F MLP composite outperformed the Alerian MLP Index for the year by 1.88 percent, it did decline 4.64 percent net of fees in absolute terms.

FIXED INCOME – CORE AND INFLATION PROTECTED BONDS

The 10-year U.S. Treasury note yield finished the year almost exactly where it started, 2.4 percent at the end of 2017 compared to 2.5 percent at the beginning of the year. This observation obscures the volatility over the course of the year as rates peaked in March at just over 2.6 percent before falling to 2.0 percent in September, then rising again to 2.4 percent by year end. Part of the year-end increase in rates could be attributed to the passage of the tax cut package, which was expected to spur the economy and expand the federal budget deficit. Bond investors typically demand higher yields if economic growth picks up since a growing economy can lead to rising inflation, which erodes the value of a fixed interest rate, non-inflation protected bond.

The OP&F Core Fixed Income Composite returned 3.89 percent net of fees for the year, outperforming the Bloomberg (formerly the Barclay's) Aggregate Bond Index return of 3.54 percent. The Inflation Protected Securities Composite was up modestly in 2017, generating a net of fees return of 1.91 percent, precisely in line with its policy benchmark.

HIGH YIELD

Although High Yield (HY) bond returns were more muted compared to 2016, returns were still solid with OP&F's policy benchmark returning 7.47 percent. High yield spreads tend to decline during periods of economic strength and widen when bond investors fear deteriorating economic conditions, either for the broad economy or in certain sectors. Deteriorating conditions typically lead to lower corporate earnings and the potential that HY corporate debt issuers may have difficulty repaying their debt.

High yield bonds are considered high return/higher risk securities. Within high yield though, there is a range of credit quality, from credits that are just under investment grade to those credits that are highly distressed. For the second year in a row, the lower quality portion of the high yield bond market outperformed the higher quality by three to four percent. This presents a challenge for OP&F's high yield managers as they tend to focus on that higher quality tier of the market and underweight the lower quality segments. Over time, however, investment success in this space has been achieved through patience throughout the cycle and by avoiding significant positions in lower credit quality bonds, particularly when yields in those bonds do not fairly compensate the investor for the associated higher risk.

The OP&F High Yield Composite performed well on an absolute basis last year, rising 6.62 percent net of fees, but lagged relative to OP&F's High Yield Policy Index, which was up 7.47 percent. The underperformance can be broadly attributed to two factors: 1) as was previously mentioned, OP&F managers tend to have higher quality portfolios relative to the benchmark, holding relatively higher levels of better credit BB and B rated bonds and lower percentages of the lowest quality CCC credits; and 2) the inclusion in the OP&F High Yield Composite of dedicated bank loan portfolios, which tend to be higher quality and shorter maturity and, therefore, did not perform as well as high yield in 2017.

PRIVATE CREDIT

There were several important developments in 2017 within private credit. First, the Board of Trustees approved breaking out private credit into its own specific allocation with a long term target of 5.0 percent of total fund assets. Second, we hired two new direct lending managers, one a diversified private business development company and another a manager that specializes in the consumer sector. In addition, we invested in a new fund run by one of our original managers. Lastly, we expanded the services of one of our consultants to include private credit. They will work with the investment staff specifically for this expanding and important asset class.

Our objective for OP&F's allocation to private credit has been to focus on more senior secured lending in the corporate middle market space, also known as direct lending. The private credit allocation will increase going forward as we lower our high yield holdings over the coming three years. Research has demonstrated that historically the relatively higher quality end of the direct lending market (direct loans to mostly private, corporate small and mid-sized companies) has provided better yields and returns, better loan covenant protections, lower default rates and higher recoveries than the public high yield market. In addition, the vast majority of the direct lending market is comprised of floating, or adjustable, rate loans tied to short term benchmark rates and should help insulate these loan portfolios from rising rates.

Since the initial investment in April of 2014 through year-end 2017, OP&F's internal rate of return (IRR) for the overall private credit/direct lending program approximates 11.4 percent. This program is comprised of seven different funds managed by six distinct private credit managers.

REAL ESTATE

Real estate markets delivered solid returns in 2017. As in prior years, performance was driven by favorable capital market conditions and by continued improvement in demand from tenants. Appreciation during the year was stronger than initially anticipated, while income was generally in-line with expectations.

In 2017, OP&F's total real estate portfolio delivered a 10.30 percent return gross of fees and a 8.54 percent return net of fees. OP&F's net return exceeded the Open End Diversified Core Equity (ODCE) index net of fees by 185 bps during the year. Figures in this section are presented as of Sept. 30, 2017 due to the fact that private market reporting lags public market reporting.

The portfolio is designed to exceed the ODCE index by 50 bps per year on a net basis over full market cycles, and has accomplished that goal over most long-term and short-term measurement periods. The trailing 10-year period is an exception, with the portfolio delivering an annualized net return of 4.35 percent over that period, and exceeding the ODCE index by 27 bps per year. This result is due, in large part, to the fact the starting point for the 10-year measurement period is near the prior market peak.

The real estate program is divided into a lower-risk, lower-return strategic portfolio and a higher-risk, higher-return tactical portfolio. The strategic portfolio is designed to deliver steady cash distributions throughout market cycles. Looking forward, returns in the strategic portfolio are expected to be driven by current income, rather than by the broad capital market uplift that drove appreciation returns for the past several years.

During the year, OP&F approved modest redemptions from the strategic portfolio. This decision was driven by moderating return expectations and an overweight that resulted from strong appreciation. The reduction remains appropriate in light of increased market uncertainty.

In its tactical portfolio, OP&F seeks to generate higher returns over full market cycles by investing in assets that could benefit from improved operations, physical structure, capital structure, or tenant base; by seeking to benefit from market dislocations; and by accepting other calculated risks. While OP&F continues to see and pursue attractive opportunities in this space, dislocation-driven opportunities have not been abundant over the past few years, as markets have been operating fairly efficiently. OP&F has responded by investing at a measured pace to conserve capital, by reducing the overall risk profile of its tactical portfolio, and by seeking unique opportunities to add value. As it has done in past years, OP&F helped launch an open-end core-plus vehicle in exchange for meaningful founding investor benefits that help to drive returns without a proportional increase in risk.

As in other asset classes, risk is increased by heightened global macro uncertainty due to trade policy, geopolitical conflict, and other factors. Rising interest rates may operate as a headwind.

In addition to seeking to achieve its return target, OP&F remains focused on real estate's other strategic objectives: diversifying OP&F's broader portfolio and serving as a partial inflation hedge. Each investment is selected based on its risk/return profile and on its perceived ability to advance these other goals.

During the 12 months ended Dec. 31, 2017, OP&F's market exposure to real estate increased from 10.9 percent to 11.1 percent. Current exposure is below the 12 percent target allocation, but well within the targeted range for real estate. OP&F is maintaining its philosophy of investing patiently and prioritizing attractive risk-adjusted returns over capital deployment.

REAL ASSETS

During 2016, OP&F established a 5.0 percent allocation to real assets. In 2017, OP&F increased the allocation to 8.0 percent after an asset-liability study was conducted. The allocation currently covers timberland, agriculture, and infrastructure, and is distinct from the separate allocations that OP&F has established for real estate and MLPs. The program is designed to provide diversification, to hedge against inflation, to preserve capital, and to generate attractive risk-adjusted returns through a combination of income and appreciation.

The real assets program replaced the timberland program that OP&F initiated in 2012. Recognizing that the market for timberland was competitive, OP&F sought to build its exposure in that space gradually and deliberately, conserving capital to be deployed at a more opportune time. That action left capital available for the real assets program.

During 2017, OP&F made three new investments in the real assets portfolio: a global, diversified, core-plus infrastructure fund; a U.S.-focused infrastructure fund that pursues public/private partnerships; and a U.S.-focused permanent crop fund. New investments in timberland were not pursued as OP&F has a large foundation in that sub-sector. For 2018 and subsequent vintages, complementary investments are being pursued.

The real assets portfolio delivered a gross of fees time-weighted return of 4.65 percent, and a net of fees return of 3.26 percent in 2017. For the trailing three-year period, the gross return was 2.88 percent and the net return was 1.72 percent. For the trailing five-year period, the gross return was 4.11 percent and the net return was 3.02 percent. Figures in this section are presented as of Sept. 30, 2017 due to the fact that private market reporting lags public market reporting.

Because timberland comprises the vast majority of the real assets portfolio, timberland investments drove OP&F's returns for the broader asset class for all periods. While OP&F's timberland portfolio has kept pace with the broader timber markets, it has not achieved its initial performance objective, which was to exceed inflation by 5.0 percent net of fees. The modest performance of timberland in general, and of OP&F's timberland portfolio in particular, helps underscore the rationale behind OP&F's decision to move slowly, to conserve capital, and to ultimately create a broader real assets portfolio.

PRIVATE MARKETS

For the year ending Sept. 30, 2017 (private market returns are lagged by one quarter), OP&F's private markets portfolio provided a net return, on a time weighted basis, of 21.80 percent. It should be noted that evaluating private markets performance over short-time periods can be misleading. Saying that, for the 10-year period ending Sept. 30, 2017, the portfolio provided an annualized net return of 9.95 percent.

In 2014, OP&F adopted changes to how it evaluates the performance of the private markets portfolio. The methodology evaluates the performance of the private markets program by developing a Public Markets Equivalent (PME) comparison of the program's history. A PME comparison utilizes an IRR calculation of all historical cash flows, on a dollar-weighted basis, and compares the resulting performance to a public market proxy index, by assuming that all of the same cash flows were invested in the public market index. This methodology allows for the purest comparison of the private markets program performance to that of a public market alternative. Secondarily, the performance of the private markets program is evaluated relative to the Cambridge Associates Private Equity Pooled Horizon IRR: Net to Limited Partners peer universe, or equivalent. The Cambridge Associates peer universe data allows OP&F to compare the private markets program to other private markets programs and managers over specified periods. For the 10-year period ending Sept. 30, 2017, OP&F's private markets program provided a net IRR of 9.0 percent, outperforming the Wilshire 5000 PME by 0.3 percent annualized. Relative to the Cambridge Associates Private Equity Pooled Horizon IRR: Net to Limited Partners peer universe, OP&F's private markets program's net of fee IRR ranks above median across all time periods measured as of Sept. 30, 2017.

With respect to the state of private markets, assessing metrics such as fundraising, investment activity and exit environments across various strategies provides insights on the health of the industry as a whole. Across most strategies, fundraising continues to be strong. Fundraising remains strong given the continued level of healthy distributions returned to investors and the need to maintain or fill allocations to the asset class. Given elevated valuation multiples (i.e. pricing), investment levels remain restrained. Factors supporting elevated valuation multiples include the high level of un-invested capital across the industry leading to stiff competition for deals as well as the fact that credit remains available and is relatively inexpensive. On the exit front, the initial public offerings (IPO) market remains challenging for private equity-backed and venture-backed companies as companies prefer to remain private longer. The merger and acquisitions (M&A) market remains the most viable exit route for private equity-backed or venture-backed companies. Looking forward, favorable prospects for the majority of strategies within the private markets industry include continued global economic growth and supply of relatively inexpensive credit. Conditions dampening these prospects include a competitive deal environment, high purchase price multiples or valuation levels, rising interest rates, and lack of an IPO market.

OP&F continues to work prudently toward its eight percent target allocation to the private markets asset class. On an invested basis, private markets comprised approximately 6.8 percent of OP&F's total assets as of year-end. In the future, OP&F will continue to work toward its eight percent target by mainly targeting domestic and global direct partnerships, and on an opportunistic basis, secondary partnerships. OP&F and its dedicated private markets investment consultant will prudently recommend commitments that will seek for the private markets portfolio to remain compliant with its policies and guidelines.

2018 DEVELOPMENTS AND CHALLENGES AHEAD

In order to reduce performance-tracking error, improve returns and reduce administrative burdens, OP&F implemented a Total Fund derivative overlay program in 2018. The intent of the program is to keep OP&F's assets, from an overall Total Fund perspective, better aligned with its policy benchmark. As stated earlier, OP&F set-up a dedicated liquidity pool, the size of which represents approximately four months of cash needs. The intent of the liquidity pool is to reduce the number of times cash needs to be raised for benefit and other payments as well as for capital calls for private funds. OP&F believes the liquidity pool will improve trading and operational efficiency and reduce the probability of having to raise cash during periods of market stress. Below are some of the other items already addressed in 2018 and others that still lie ahead:

- Amended OP&F's Investment Policy and Guidelines statement.
- Amended OP&F's Proxy Voting Policy.
- Approved the 2018 private markets investment plan.
- Completed investment structure review for non-U.S. equity asset class.
- Completed investment structure review for domestic equity asset class.
- Continued to work toward target allocation in private credit:
    - Made commitment to MC Tax Services Fund.
- Continued to work toward target allocation in private markets:
    - Made commitments to EQT VIII and Resolute Fund Partners IV.
- Continued to work toward target allocation in real estate:
    - Made commitment to Almanac Realty Securities VIII.
- Hired Arrowstreet Capital and Harding Loevner as investment managers for non-U.S. equity investment mandate.
- Adopt Private Credit Investment Policy.
- Evaluate composition of real estate strategic portfolio for possible rebalancing.
- Implement the 2018 private markets investment plan.
- Implement the 2018 real assets investment plan.
- Implement the 2018 real estate investment plan.

In addition to the previously mentioned Total Fund derivative overlay program and liquidity pool initiatives, OP&F continues to look for ways to reduce the costs of OP&F's operations as well as to compare OP&F's current procedures to other approaches or best practices for areas of improvement or better efficiencies.

INVESTMENT PORTFOLIO SUMMARY

INVESTMENT PORTFOLIO SUMMARY - AS OF DEC. 31, 2017

Investment Type	Percent of Net Investment Value	Fair Value
Cash and Cash Equivalents	5.98%	$947,549,532
U.S. Government Agencies	0.02%	2,590,992
U.S. Government Obligations	1.81%	286,598,278
U.S. Government STRIPS	0.04%	6,931,502
Municipal Bond Obligations	0.03%	5,124,224
Corporate Bond Obligations	14.31%	2,265,933,614
Domestic Commingled Bonds	5.59%	886,605,007
Mortgage and Asset-Backed Securities	2.70%	427,518,208
Non-U.S Bonds	0.02%	3,450,491
Domestic Stocks	10.00%	1,585,161,789
Domestic Pooled Stocks	10.21%	1,617,479,079
International Equities	19.91%	3,154,869,961
Real Estate	11.10%	1,759,190,503
Derivatives	(0.01)%	(888,634)
Commercial Mortgage Funds	0.23%	36,742,848
Private Equity	7.01%	1,111,042,756
Private Debt	2.62%	415,592,888
Real Assets	2.12%	336,608,535
Master Limited Partnerships	6.42%	1,017,395,457
TOTAL FAIR VALUE - CASH AND SECURITIES	**100.11%**	**$15,865,497,030**
Accrued Income	0.24%	37,643,278
Sales Receivable	0.51%	80,739,378
Purchases Payable	(0.86)%	(136,782,914)
NET INVESTMENT VALUE (TRADE DATE BASIS)	**100.00%**	**$15,847,096,772**

TEN LARGEST COMMON STOCKS (BY FAIR VALUE)

Stocks	Shares	Fair Value
Volkswagen AG Pfd	183,818	$36,740,287
Oneok Inc	495,262	26,471,754
Barclay's PLC	9,405,452	25,840,874
British American Tobacco PLC	370,138	25,125,339
Grafton Group PLC	1,928,760	20,925,226
BP PLC	2,906,020	20,547,959
Royal Dutch Shell	602,929	20,459,635
ABB Ltd.	754,831	20,232,104
BASF AG	176,142	19,404,049
Encana Corporation	1,445,906	19,352,603

TEN LARGEST BONDS AND OBLIGATIONS (BY FAIR VALUE)

Description	Coupon	Maturity Date	Par Value	Fair Value
U.S. Treasury Note	2.000	May 31, 2024	29,100,000	$28,561,195
U.S. Treasury Note	1.750	Nov. 15, 2020	25,000,000	24,856,450
U.S. Treasury Note	1.500	Oct. 31, 2019	22,700,000	22,543,938
U.S. Treasury Note	1.500	Oct. 31, 2019	16,161,400	16,050,290
U.S. Government Treasury	5.000	May 15, 2037	9,971,600	13,672,390
U.S. Treasury Note	2.125	Nov. 30, 2024	13,125,000	12,952,734
U.S. Treasury Note	2.880	Aug. 15, 2045	12,000,000	12,309,844
U.S. Treasury Note	2.000	Oct. 31, 2022	11,343,800	11,244,984
U.S. Treasury Note	1.750	Nov. 15, 2020	10,368,000	10,308,467
U.S. Treasury Note	0.750	Feb. 28, 2018	9,285,000	9,276,291

TEN LARGEST REAL ESTATE HOLDINGS (BY FAIR VALUE)

Description	Fair Value
JP Morgan Strategic Property	$210,332,815
Prudential PRISA	207,907,583
UBS Trumbull Property Fund	143,665,282
Heitman Core Property Fund	141,421,994
Jamestown Premier Property Fund	117,747,479
Morgan Stanley Prime Property	95,453,820
LaSalle Property Fund, LP	81,782,135
Lion Industrial Trust	62,937,684
Exeter Industrial Value Fund III	55,420,248
USAA Eagle RE Feeder 1, LP	54,982,094

A complete listing of portfolio holdings is available upon request.

SCHEDULE OF INVESTMENT RESULTS (FOR THE YEAR ENDED DEC. 31, 2017)

	Annualized Rates of Return		
	1-Year	3-Year	5-Year
U.S. Equity			
OP&F	**22.41%**	**12.52%**	**16.52%**
Wilshire 5000	20.99%	11.36%	15.67%
International Equity			
OP&F	**29.12%**	**9.60%**	**8.51%**
International Equity Policy Benchmark *	28.04%	8.56%	7.46%
Fixed Income			
OP&F - Core	**4.26%**	**3.27%**	**2.60%**
Bloomberg Barclays Aggregate	3.54%	2.24%	2.10%
OP&F - High Yield (HY)	**7.05%**	**6.16%**	**5.48%**
CS First Boston High Yield *	7.47%	6.46%	5.73%
OP&F - TIPS	**2.89%**	**7.00%**	**5.52%**
Bloomberg Barclays U.S. Gov't Inflation Linked Bond Index	1.91%	5.13%	3.70%
OP&F - Commercial Mortgages **	**2.87%**	**3.90%**	**5.38%**
Bloomberg Barclays Mortgage Index **	0.30%	2.44%	1.96%
Master Limited Partnerships			
OP&F	**(4.08)%**	**(6.54)%**	**4.77%**
Alerian MLP Index	(6.52)%	(9.33)%	(0.06)%
Real Estate **			
OP&F	**10.30%**	**13.39%**	**14.75%**
NCREIF ODCE Index	6.69%	9.84%	10.57%
Private Markets **			
OP&F	**21.80%**	**16.00%**	**15.55%**
Wilshire 5000 + 3%	22.47%	14.31%	17.71%
Real Assets **			
OP&F	**4.65%**	**2.88%**	**4.11%**
CPI + 5%	7.21%	6.71%	6.50%
Total Portfolio			
OP&F	**14.30%**	**8.66%**	**9.88%**
Policy Index ***	12.41%	7.01%	8.46%

* a) International Equity benchmark is a blend of the MSCI ACWI ex U.S. (Net) through June 30, 2011, the MSCI ACWI ex U.S. Iran/Sudan Free (I/S Free) from July 1, 2011 through Sept. 30, 2012 and the MSCI ACWI ex U.S. Iran/Sudan Free IMI Index from Oct. 1, 2012 forward.
b) High Yield benchmark is a blend of the CS First Boston Dev. Countries HY through Aug. 31, 2016 and the CS First Boston High Yield from Sept. 1, 2016 forward.

** One quarter in arrears.

*** Interim Policy Index: 20 percent Wilshire 5000, 20 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 10 percent Bloomerberg Barclays Aggregate, 14 percent Merrill Lynch U.S. High Yield Constrained Index, 8.5 percent Bloomberg Barclays U.S. Government Inflation Linked Bond Index, 12 percent NCREIF ODCE Index (Net) Lagged, 6 percent Wilshire 5000 + 3 percent Lagged, 2 percent CPI + 5 percent (Net), 7.5 percent Alerian MLP Index.

Long-Term Policy: 16 percent Wilshire 5000, 16 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 23 percent Bloomberg Barclays Aggregate, 7 percent Merrill Lynch U.S. High Yield Constrained Index, 5 percent S&P LSTA Levered Loan Index, 17 percent Bloomberg Barclays U.S. Gov't Inflation Linked Bond Index, 12 percent NCREIF ODCE Index (Net) Lagged, 8 percent Wilshire 5000 + 3 percent Lagged, 8 percent CPI + 5 percent (Net) Lagged, 8 percent Alerian MLP Index. (adds to 120 percent as "Risk Parity" approach uses 2x levered U.S. Government Inflation-Protected Securities and 2x levered Core Fixed Income).

Time Weighted methodology, based upon fair market values, is used when calculating performance.

INVESTMENT CONSULTANTS AND MONEY MANAGERS (FOR THE YEAR ENDED DEC. 31, 2017)

INVESTMENT CONSULTANTS
TorreyCove Capital Partners
(The) Townsend Group
Wilshire Associates

INVESTMENT MANAGERS
U.S. EQUITY
Bridgewater Associates, LP
Grosvenor Capital Management, LP
Macquarie Investment Management
N.A. Investcorp, LLC
Russell Investments Implementation Services, LLC
State Street Global Advisors

INVESTMENT MANAGERS
INTERNATIONAL EQUITY
Causeway Capital Management, LLC
Dimensional Fund Advisors
Fidelity Institutional Asset Management Trust Co.
Franklin Templeton
Russell Investments Implementation Services, LLC

INVESTMENT MANAGERS
REAL ESTATE
Asana Partners
AEW Capital Management
Aermont Capital LLP
(The) Blackstone Group
Brookfield Asset Management, Inc.
CB Richard Ellis Investors, LLC
Clarion Partners
Colony Capital, LLC
DivcoWest Real Estate Services, LLC
Exeter Property Group
Fortress Japan Opportunity Management, LLC
Fremont Realty Capital, LP
(The) Gerrity Group
Greystar Investment Group, LLC
Hancock Capital Investment Management, LLC
Heitman Capital Management, LLC
Hunt Investment Management
Jamestown Premier GP, LP
JP Morgan Investment Management, Inc.
LaSalle Investment Management
Lone Star Funds
Lubert-Adler Management Co., LLC
Morgan Stanley Real Estate Advisors, Inc.
Prudential Real Estate Investors
Savanna Investment Management, LLC
Starwood Capital Group
Stockbridge Real Estate Fund
TA Realty Associates
Tricon Capital Group, Inc.
TriGate Capital
UBS Realty Investors, LLC
USAA Eagle Real Estate GP, LLC
VBI Real Estate
Walton Street Capital, LLC
Westbrook Partners, LLC

INVESTMENT MANAGERS
MASTER LIMITED PARTNERSHIPS
Harvest Fund Advisors, LLC
Salient Capital Advisors, LLC
Tortoise Capital Advisors, LLC

INVESTMENT MANAGERS
REAL ASSETS
ACM Management Company, LLC
Brookfield Timberlands Management
Forest Investment Associates
Global Forest Partners
Hancock Timber Resources Group
Meridiam Infrastructure North America Corporation

INVESTMENT MANAGERS
FIXED INCOME
Bridgewater Associates, LP
CapitalSpring Direct Lending Partners
GSO Capital Partners LP
Kohlberg Kravis Roberts & Co. LP
Loomis Sayles & Company, LP
MC Credit Partners, LP
MacKay Shields, LLC
Neuberger Berman
Owl Rock Capital Corporation
Pacific Investment Management Company, LLC
PENN Capital
Prima Capital Advisors, LLC
PGIM Inc.
Russell Investments Implementation Services, LLC
Tennenbaum Capital Partners LLC
Western Asset Management

INVESTMENT MANAGERS
PRIVATE EQUITY
Abbott Capital Management, LLC
Adams Street Partners
Advent International
Athenian Venture Partners
Blackstone Capital Partners
Blue Chip Venture Partners, LP
Blue Point Capital Partners, LP
Cinven
Coller Capital
Conway MacKenzie
EQT
Francisco Partners
Glendon Capital Management, LP
GTCR, LLC
HarbourVest Partners, LLC
Harvest Partners
Horsley Bridge Partners, LLC
(The) Jordan Company
Kirtland Capital Partners
Landmark Equity Partners
Leonard Green & Partners, LP
Lexington Capital Partners
Linsalata Capital Partners
Marlin Equity Partners
MBK Partners
Montauk TriGuard Management, Inc.
Morgenthaler Venture Partners
NGP Energy Capital Management
Northgate Capital Group
Park Street Capital
Peppertree Partners, LLC
Primus Venture Partners
Rhône Capital LLC
(The) Riverside Company
Riverstone Investment Group, LLC
RRJ Capital
Stonepoint Capital
Summit Partners
TA Associates, LP
Tenex Capital Management, LP
Veritas Capital
Vista Equity Partners
Warburg Pincus
Wilshire Private Markets, LLC

SECURITIES LENDING AGENTS
Key Bank Securities Lending
Northern Trust

OTHER PROFESSIONAL CONSULTANTS
(see page vii)

SCHEDULE OF BROKERS' FEES PAID (FOR THE YEAR ENDED DEC. 31, 2017)

Broker Name	Fees Paid	Units Traded	Average Cost Per Unit
Goldman Sachs	$348,980	6,418,104	$0.054
Morgan Stanley	160,379	21,214,995	0.008
JP Morgan	146,927	14,970,499	0.010
UBS Securities	125,100	10,466,487	0.012
Credit Suisse First Boston	122,584	12,593,914	0.010
Merrill Lynch	121,367	11,284,783	0.011
Investment Technology Group	101,613	12,232,968	0.008
Citigroup	93,743	6,308,352	0.015
Jefferies & Co., Inc.	60,312	7,134,878	0.008
Deutsche Bank	58,716	17,838,374	0.003
Barclays	55,871	3,742,938	0.015
Instinet	42,454	3,717,384	0.011
RBC Capital Markets	41,294	3,496,484	0.012
FBR Capital Markets	40,633	1,354,431	0.030
Macquarie	36,939	5,542,622	0.007
Nomura Securities	36,572	17,368,643	0.002
Wells Fargo Securities	35,896	4,132,710	0.009
Exane	33,362	1,444,893	0.023
Liquidnet Inc.	32,917	4,264,205	0.008
HSBC Securities Inc.	23,978	1,987,599	0.012
Carnegie Inc.	21,256	2,138,757	0.010
Brokers Less than $20,000	318,488	23,377,597	0.014
TOTAL	**$2,059,381**	**193,031,617**	**$0.011**

INVESTMENT POLICY AND GUIDELINES

Minor formatting edits have been made to the Board of Trustee approved investment policy and guidelines in order to provide style consistency throughout the CAFR.

1. INTRODUCTION

The purpose of this Investment Policy and Guidelines (Policy or Statement) is to define the framework for investing the assets (Total Portfolio) of the Ohio Police & Fire Pension Fund (OP&F or Plan). This Statement is intended to provide general principles for establishing the goals of OP&F, the allocation of assets and the employment of outside asset management. The statutory investment authority of the Investment Committee/Board of Trustees (the Board of Trustees or the Board) is set forth in Sections 742.11 to 742.113 and Sections 742.114, 742.116 of the Ohio Revised Code (ORC), as amended from time to time.

The objectives of OP&F have been established in conjunction with a comprehensive review of the current and projected financial requirements. These objectives are:

- To have the ability to pay all benefit and expense obligations when due.
- To maintain the purchasing power of the current assets and all future contributions by maximizing the rate of return on OP&F's assets at a reasonable level of risk.
- To maintain 30-year funding and achieve full funding on an actuarial accrued liability basis.
- To control the costs of administering OP&F and managing the investments.

The investment objectives of the Total Portfolio are:

- Long-term returns on Plan investments, in addition to contributions received from members and employers, should satisfy any current funding obligations of the Plan when and as prescribed by law and, once the Plan is fully funded, should keep pace with the growth of Plan liabilities.
- The investment performance goal for the Total Portfolio is to meet or exceed the return of the Total Portfolio policy benchmark over a full market cycle, generally measured over three to five years, without taking on additional risk as measured by standard deviation of returns. The Total Portfolio policy benchmark is a weighted average, based on the allocation target defined in Section 3 below, of each asset class benchmark.

In order to achieve these objectives, the Board of Trustees will conduct itself in accordance with ORC Section 742.11, which provides "The Board and other Fiduciaries shall discharge their duties with respect to OP&F solely in the interest of the participants and beneficiaries." These duties shall also be carried out "with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and like aims", as referenced in ORC Section 742.11. All aspects of this Statement should be interpreted in a manner consistent with OP&F's objectives. At least annually, the Board shall review and adopt policies, objectives or criteria for the operation of the investment program and make such changes as appropriate.

Investment policies and Investment Manager(s) guidelines referenced in this document are separate policies governing specific aspects of managing the Total Portfolio and are not reproduced in this Statement, but are incorporated by reference as governing documents of the Plan.

2. DEFINITION OF RESPONSIBILITIES

A. INVESTMENT COMMITTEE/BOARD OF TRUSTEES

The statutory investment authority of the Board with regard to the Plan is set forth in Chapter 742, as described above, provides that in its capacity as a fiduciary, the Investment Committee/Board of Trustees must discharge its duties in a prudent manner and for the exclusive benefit of the participants and beneficiaries of the Plan.

In discharging its duties, the responsibilities of the Investment Committee/Board of Trustees pursuant to this Policy include the following:

- Establish the strategic investment policy (Asset Allocation Policy) for OP&F in accordance with the above goals, and periodically review Asset Allocation Policy in light of any changes in actuarial variables and/or market conditions.
- Approve the investment structure for applicable asset classes identified in the Asset Allocation Policy.
- Select qualified Investment Consultant(s) and Investment Manager(s) to advise on and manage OP&F's assets recognizing the goals set forth in ORC Sections 742.11 and 742.116.
- Monitor and review the performance of selected Investment Manager(s) to determine achievement of goals and compliance with policy guidelines.
- Monitor the costs of the investment operations at least annually.
- Review, at least annually, the current investment policies of OP&F and make such changes as appropriate.

- Review applicable annual investment plan(s) prepared by the staff and/or Investment Consultant(s). As conditions warrant, revise the annual investment plan(s) as the year progresses.
- Monitor investment activity for compliance with Board policies and adherence by Investment Manager(s) to strategy and direction.
- Review the overall investment performance to determine whether it meets established benchmarks.
- Evaluate and assign all Investment Manager(s) to a rating category as outlined in OP&F's Investment Manager Monitoring and Evaluation Policy.
- Review suggested changes or additions to the functions and operations regarding the investment operations of similar institutional investors.
- Review the proposed investment department annual operating budget and report its recommendations to the Finance Committee.
- Fulfill any other responsibilities as provided in the ORC and Investment Committee Charter.

The Investment Committee/Board of Trustees may authorize others such as OP&F staff, and may utilize the services of external advisors, such as actuaries, auditors, consultants and legal counsel, to implement decisions made by the Board. The comments and recommendations of such parties will be considered by the Board in conjunction with Board discussion of the issues for the purpose of making informed and prudent decisions.

B. STAFF

Staff will be the primary liaison between the Investment Committee/Board of Trustees and the Investment Consultant(s), the Investment Manager(s), and the custodial bank(s). In doing so, the staff will:

- Manage OP&F assets under its care and/or control in accordance with this Policy's objectives and guidelines set forth herein.
- Implement Board decisions regarding asset allocation, investment structure, Investment Manager(s) selection, and portfolio rebalancing procedures.
- Coordinate the Investment Manager(s) selection, evaluation, and retention decisions for the Plan's investments, consistent with OP&F's Investment Manager Search Policy.
- Monitor both internally and externally managed assets to ensure compliance with guidelines set forth in this Policy.
- Establish a process to promptly vote all proxies and related actions in a manner consistent with OP&F's long-term interests and objectives set forth herein and OP&F's Proxy Voting Policy. Maintain detailed records of said voting of proxies and related actions and comply with all regulatory objectives related thereto.
- Manage the overall liquidity in the Total Portfolio to ensure timely payment of member benefit payments and Plan expenses and the investment of contributions consistent with established asset allocation and portfolio rebalancing policies.
- Report to the Board at least quarterly regarding the status of the Total Portfolio and its performance for various time periods. Meet with the Board at least annually to report on Investment Manager(s) performance and compliance with goals and objectives.
- Acknowledge and agree in writing to their fiduciary responsibility to fully comply with this Policy set forth herein, and as modified in the future.

C. INVESTMENT CONSULTANT(S)

The Investment Committee/Board of Trustees may retain an investment consulting organization or organizations (the Investment Consultant(s) to assist in the overall strategic investment direction of the Total Portfolio, or specific asset classes, and its implementation. Each such Investment Consultant(s), in recognition of its role as a fiduciary of the Plan, will assume specific duties. These duties shall generally include the following:

- Provide independent and unbiased information.
- Assist in the development of this Policy and other policies that govern the Plan investments.
- Assist in monitoring compliance with this Policy.
- Assist in the development and recommendation of strategic asset allocation targets, investment structure, and rebalancing procedures for the Total Portfolio or for a specified asset class.
- Assist in development of performance measurement standards.
- Assist in the Investment Manager(s) search and selection process consistent with OP&F's Investment Manager Search Policy.
- Monitor, evaluate and report to the Board on Total Portfolio and/or Asset Class and Investment Manager(s) performance on an ongoing basis.
- Conduct due diligence when an Investment Manager(s) fails to meet a standard.
- Establish a procedural due diligence search process.

D. INVESTMENT MANAGER(S)

The Investment Committee/Board of Trustees may, from time to time, cause the Plan to retain one or more qualified investment managers (Investment Manager(s) to manage a portion of the Plan assets. When applicable, the Investment Committee/Board of Trustees shall approve each Investment Manager(s) guidelines, which may set forth the purpose, Investment Manager(s) philosophy and approach, authorized investments, prohibitions, typical portfolio characteristics, performance objectives and evaluation, and Investment Manager(s) communications. The Investment Manager(s) have certain responsibilities that include the following:

- Manage OP&F assets under its care, custody, where applicable, and/or control in accordance with this Policy's objectives and guidelines set forth herein and its governing agreement with OP&F.
- Exercise full investment discretion over the assets in their care within the guidelines set forth in this Policy and, where applicable, the specific guidelines established for the Investment Manager(s) in the governing agreements with OP&F.
- Constructing a portfolio of securities that reflects the execution of a specific investment strategy.
- Promptly inform the Board and staff in writing regarding all changes of a material nature pertaining to the firm's organization and professional staff.
- If directed, promptly vote all proxies and related actions in a manner consistent with OP&F's long-term interests and objectives set forth herein and OP&F's Proxy Voting Policy. Each Investment Manager(s) designated to vote shall keep detailed records of said voting of proxies and related actions and will comply with all regulatory obligations related thereto.
- Provide reporting to the Board or staff or Investment Consultant(s) quarterly regarding the status of the portion of the Total Portfolio managed by the Investment Manager(s) and its performance for various time periods. Meet or participate via teleconference or webcast with the Board or staff or Investment Consultant(s) annually or as needed to report on their performance and compliance with goals and objectives.
- Acknowledge and agree in writing to their fiduciary responsibility to fully comply with this Policy set forth herein, and as modified in the future.

E. OFFICE OF THE OHIO TREASURER/BOARD OF DEPOSIT/ CUSTODIAN(S)

Per Section 742.11 of the ORC, the Treasurer of the State of Ohio (the Treasurer of State) is designated as custodian of investment assets. As custodian, the Treasurer of State or its designee (as described below) will be responsible for holding and safekeeping Plan assets, settling purchases and sales of securities; and identifying and collecting income which becomes due and payable on assets held. The Treasurer of State may engage a qualified bank or trust company, as authorized agent of the Treasurer of State, to perform certain services on behalf of the Treasurer of State to fulfill its responsibilities as custodian.

3. ASSET ALLOCATION AND REBALANCING

It is the responsibility of the Board to determine the allocation of assets among distinct public and private market asset classes. The allocation will be completed in a manner consistent with commonly recognized financial principles. Application of these principles is expected to lead to a portfolio with the highest level of return consistent with the risk tolerance of OP&F.

The procedure for determining the allocation will consider the relevant characteristics of the liabilities and potential assets of OP&F. The liability considerations shall include, but not be limited to, current and expected future values of the benefits, and future contributions. These factors are important for identifying the investment horizon of OP&F and its cash flow requirements. The asset characteristics considered shall include, but not be limited to, current asset value, the potential return relative to the potential risk, and diversification characteristics.

The asset allocation must be consistent with the investment standards specified in ORC Section 742.11.

The risk/return characteristics of OP&F shall be reviewed on a periodic basis (no less than every five years) through a comprehensive asset liability valuation study. The goal of the study shall be to formulate an Asset Allocation Policy which maximizes return while minimizing overall risk through the most efficient combination of acceptable asset classes under the prudent person standard.

Based on an asset liability valuation study, which analyzed the expected returns, risk and correlations of various asset classes, projected liabilities, liquidity, and the risks associated with alternative asset mix strategies, the Board has established the following Asset Allocation Policy. The asset classes are "bucketed" or grouped together into macro-asset class buckets (i.e. growth, safety oriented and inflation hedging) based on their expected correlations to one another to create a better understanding of risk and diversification, and based on asset class exposures to the economic factors of growth and inflation.

Asset Class	Long-Term Target Allocation-Market Value	Range
Domestic Equity	16.0%	± 4.8%
Non-U.S. Equity	16.0%	± 4.8%
Private Markets	8.0%	± 2.4%
High Yield	7.0%	± 2.1%
Private Credit	5.0%	± 1.5%
TOTAL GROWTH ASSETS	**52.0%**	**± 9.0%**
Core Fixed Income	11.5%	± 2.3%
Cash	-%	± 0.5%
TOTAL SAFETY ORIENTED ASSETS	**11.5%**	**± 2.3%**
U.S. Inflation Linked Bonds	8.5%	± 1.7%
Real Estate	12.0%	± 3.6%
Real Assets	8.0%	± 2.4%
Master Limited Partnerships (MLP or MLPs)	8.0%	± 2.4%
TOTAL INFLATION HEDGING ASSET	**36.5%**	**± 9.0%**
TOTAL	**100.0%**	

Asset Class	Long-Term Target Allocation-Notional Exposure
Domestic Equity	16.0%
Non-U.S. Equity	16.0%
Private Markets	8.0%
High Yield	7.0%
Private Credit	5.0%
TOTAL GROWTH ASSETS	**52.0%**
Core Fixed Income	23.0%
Cash	-%
TOTAL SAFETY ORIENTED ASSETS	**23.0%**
U.S. Inflation Linked Bonds	17.0%
Real Estate	12.0%
Real Assets	8.0%
MLPs	8.0%
TOTAL INFLATION HEDGING ASSETS	**45.0%**
TOTAL	**120.0%**

The most recent study has shown that this is a favorable asset mix for meeting longer-term goals under multiple market conditions. In addition, this study incorporates the "risk parity" concept into OP&F's asset liability valuation with the goal of reducing equity risk exposure, which reduces overall Total Portfolio risk without sacrificing return, and creates a more risk-balanced portfolio based on the relationship between asset classes and economic environments. From the notional portfolio perspective above, the Total Portfolio may be levered up to 1.20 times due to the application of leverage in certain fixed income asset classes.

The Asset Allocation Policy represents a long-term strategy and thus, the Total Portfolio should strategically meet its performance objectives in the long term but not necessarily every year.

Short-term market shifts may cause the asset mix to drift from the allocation targets. Should the target percentage fall out of the indicated range for a particular asset class, the staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class to the under-allocated asset class. This rebalancing discipline is intended to encourage "buying low" and "selling high" and to keep the Total Portfolio invested at an appropriate overall risk level. Except when there is a perceived extraordinary downside risk in a particular asset class, movement outside the normal ranges should be avoided.

Investments in private markets, private credit, private real estate and private real assets (infrastructure, timberland and agriculture/farmland) are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Policy. Under/overweights to these asset classes shall be invested in public markets securities with the most similar risk/return characteristics as a short-term proxy for the private asset classes. To assist in rebalancing, OP&F has retained a derivative overlay Investment Manager(s) which provides several benefits including: (1) reduce OP&F's tracking error relative to target allocations; (2) improve Total Portfolio returns; (3) enhance liquidity, and (4) reduce the administrative burden associated with management of monthly cash flows.

The Board may adopt interim Asset Allocation Policy target allocations to reflect the transition from previous policy target allocations to new policy target allocations. The interim target allocations will reflect dollar cost averaging and/or opportunistic implementation to most prudently reach the new policy target allocations over time.

4. INVESTMENT IMPLEMENTATION

The implementation of an investment portfolio designed to achieve the Total Portfolio objectives must be consistent with governing statutes as specified in Sections 742.11 to 742.113, 742.114, 742.116 and with the Ohio-Qualified Investment Manager Policy, the Ohio-Qualified Broker Policy, and OP&F's Broker Policy.

Where appropriate, OP&F will invest assets through the use of qualified Investment Manager(s). The allocations to these

Investment Manager(s) will be made in accordance with the results of the asset liability valuation study, investment structure analysis, and established procedures. For a complete description of the selection of Investment Manager(s), please see OP&F's Investment Manager Search Policy.

5. ASSET CLASS OBJECTIVES, CHARACTERISTICS AND INVESTMENT STRUCTURE

Investment structure targets will be established within applicable asset classes to address risk and return factors present in the respective asset class. For example, the domestic equity composite portfolio structural targets will be established to ensure style (growth vs. value) and market capitalization neutrality relative to the overall market, and to address active versus passive implementation decisions. External Investment Manager(s) will be hired to implement the structural targets in a diversified manner and will therefore have derived target weightings within the overall investment program. Where applicable, these are set forth below.

A. Growth Assets

1. DOMESTIC EQUITY

Investment Objectives

Total return of the domestic equity composite portfolio should exceed the return of the Wilshire 5000 Index over a full market cycle on an annualized basis. Total return of each Investment Manager'(s') portfolio should rank above the median when compared to their peer group, if applicable, over a full market cycle on an annualized basis and should exceed their benchmark return as specified in each Investment Manager'(s') guidelines or applicable documentation.

Investment Characteristics

The main focus of investing will be on companies headquartered and/or domiciled in the United States. The domestic equity composite portfolio shall have similar portfolio characteristics as that of the Wilshire 5000 Index, and should not exhibit size (market capitalization) or style (value vs. growth) bias.

Investment Structure

The structure of the domestic equity composite portfolio will be diversified among passive and active investment strategies as follows:

a. Passive Large Capitalization Core Exposure

The passive large capitalization core component has a target allocation of 30 percent of the domestic equity composite portfolio. This passive portfolio is intended to provide broad market exposure for and diversification to OP&F's domestic equity composite portfolio through holdings in large- and mid- capitalization equities or futures and is to be constructed so as to match the characteristics and return of the Russell 1000 Index.

b. *Active Large Capitalization Portable Alpha Exposure*

The active large capitalization portable alpha component has a target allocation of 60 percent of the domestic equity composite portfolio. The overall objective is to provide risk-adjusted returns greater than the return of the Standard & Poor's (S&P) 500 Index. S&P 500 market exposure, obtained through the use of derivatives and/or physicals, will be combined with strategies that represent diversified sources of alpha with a broad range of risk characteristics. For a complete description of the appropriate use of derivatives, please see OP&F's Derivatives Policy Statement.

c. Active Small Capitalization Core Exposure

The active small capitalization core component has a target allocation of 7.5 percent of the domestic equity composite portfolio.

d. Synthetic Small Capitalization Exposure

The synthetic small capitalization component has a target allocation of 2.5 percent of the domestic equity composite portfolio.

2. NON-U.S. EQUITY

Investment Objectives

Total return of the Non-U.S. equity composite portfolio should exceed the return of the Morgan Stanley Capital International All Country World Index ex-U.S. Investible Market Index – Iran and Sudan Free (MSCI ACWI-ex U.S. IMI I/S Free) over a full market cycle on an annualized basis. Total return of each Investment Manager'(s') portfolio should rank above the median when compared to their peer group, if applicable, over a full market cycle on an annualized basis and should exceed their benchmark return as specified in each Investment Manager'(s') guidelines or applicable documentation.

Investment Characteristics

The main focus of investing will be on companies headquartered or domiciled in the MSCI ACWI-ex U.S. IMI countries, which includes both developed and emerging markets. The Non-U.S. Equity composite portfolio shall have similar portfolio characteristics as that of the MSCI ACWI-ex U.S. IMI I/S Free Index.

Investment Structure

Non-U.S. equity assets will be managed on an active basis in order to exploit the perceived inefficiencies in the Non-U.S. equity markets. The structure of the Non-U.S. equity composite portfolio will be diversified among active ACWI-ex U.S. strategies and dedicated ACWI-ex U.S. small capitalization strategies as follows:

a. Active ACWI-ex U.S. Exposure

The Active ACWI-ex U.S. component has a target allocation of 75 percent of the Non-U.S. equity composite portfolio.

b. Active ACWI-ex U.S. Small Capitalization Exposure

The dedicated Active ACWI-ex U.S. Small Capitalization component has a target allocation of 25 percent of the Non-U.S. equity composite portfolio.

3. PRIVATE MARKETS

Investment Objectives

The private markets composite portfolio is designed to provide an attractive risk-adjusted rate of return to OP&F. The performance objective for the private markets composite portfolio and for individual investments is set forth in OP&F's Private Markets Investment Policy. Both the returns for the private markets composite portfolio and respective benchmark are lagged one quarter.

Investment Characteristics

Investments will be diversified by certain criteria as set forth in OP&F's Private Markets Investment Policy.

Investment Structure

The target allocation of Total Portfolio assets to private markets will be established by OP&F's long-term Asset Allocation Policy. In order to meet this allocation target, it will generally be necessary to make commitments in excess of the target because of the contribution and distribution cash flow characteristics inherent in the underlying private market investments. Annual commitment targets to such investments will be established by OP&F's Private Markets Investment Plan. OP&F may utilize any of the following types of vehicles in implementing the private markets composite portfolio: fund-of-funds, partnerships, limited liability companies or group trusts. OP&F may also participate in secondary offerings or purchase private markets placements from other investors on the secondary market.

4. HIGH YIELD

Investment Objectives

Total return of the high yield fixed income composite portfolio should exceed the return of the B of A ML US High Yield Constrained Index over a full market cycle on an annualized basis. Total return of each Investment Manager'(s') portfolio should rank above the median when compared to their peer group, if applicable, over a full market cycle on an annualized basis and should exceed their benchmark return as specified in each Investment Manager'(s') guidelines or applicable documentation.

Investment Characteristics

The main focus of investing will be on below investment grade fixed income securities, those securities rated below BBB- or equivalent. Positions may include publicly traded high yield bonds as well as public and private bank loans. The high yield fixed income composite portfolio shall have similar portfolio characteristics as that of the B of A ML US High Yield Constrained Index. Each Investment Manager'(s') portfolio shall have similar portfolio characteristics as that of their respective benchmark.

Investment Structure

High yield fixed income assets will be managed solely on an active basis in order to exploit the perceived inefficiencies in the high yield fixed income markets and to minimize the probability of exposure to securities in default.

5. PRIVATE CREDIT

Investment Objectives

The performance objective for the private credit composite portfolio and for individual investments is set forth in OP&F's Private Credit Investment Policy. Both the returns for the private credit composite portfolio and respective benchmark are lagged one quarter.

Investment Characteristics

Investments will be diversified by certain criteria as set forth in OP&F's Private Credit Investment Policy.

Investment Structure

The target allocation of Total Portfolio assets to private credit will be established by OP&F's long-term Asset Allocation Policy. In order to meet this allocation target, it will generally be necessary to make commitments in excess of the target because of the contribution and distribution cash flow characteristics inherent in the underlying private credit investments.

B. Safety Oriented Assets

1. CORE FIXED INCOME

Investment Objectives

Total return of the core fixed income composite should exceed the applicable levered return of the Barclays Aggregate Index over a full market cycle on an annualized basis. Total return of each Investment Manager'(s') portfolio should rank above the median when compared to their peer group, if applicable, over a full market cycle on an annualized basis and exceed their benchmark return as specified in each Investment Manager'(s') guidelines or applicable documentation.

Investment Characteristics

The main focus of investing will be a diversified mix of traditional and non-traditional fixed income securities and/or strategies. Each Investment Manager'(s') portfolio shall have similar portfolio characteristics as that of their respective benchmark, however, certain Investment Manager(s) may have broad investment guidelines to allow for greater flexibility in expressing each Investment Manager'(s') core investment themes and therefore, the core fixed income portfolio, as well as each Investment Manager'(s') portfolio, may exhibit different portfolio characteristics as that of the Bloomberg Barclays Aggregate Index and respective benchmark, respectively.

Investment Structure

Core fixed income assets will be managed on an active basis in order to exploit the perceived inefficiencies in traditional and non-traditional fixed income markets. Given the core fixed income allocation target set forth in the Asset Allocation Policy above, the core fixed income composite portfolio may be levered up to 2.0x.

2. COMMERCIAL MORTGAGES

Investment Objectives

While in existence, the total return of the commercial mortgage composite portfolio should exceed the return of the Bloomberg Barclays Mortgage Index; both the returns for the commercial mortgage composite portfolio and Bloomberg Barclays Mortgage Index are lagged one quarter.

Investment Characteristics

While in existence, the main focus of investing will be on commercial mortgage whole loans which provide for fixed income payments derived from underlying property cash flows. Risk shall be controlled through diversification strategies and the retention of qualified Investment Manager(s) with acceptable loan underwriting and/or commercial mortgage acquisition experience.

Investment Structure

While in existence, commercial mortgage assets will be managed solely on an active basis in order to exploit the perceived inefficiencies in the commercial mortgage market. OP&F will utilize commingled fund investments to manage its commercial mortgage allocation.

3. CASH EQUIVALENTS/ENHANCED CASH

Investment Objectives

Cash equivalents are managed with a focus on capital preservation and providing a high degree of liquidity to meet ongoing cash flow needs of the Plan. Total return of the internally managed cash equivalents composite portfolio should exceed the 91-day Treasury Bill rate of return over rolling twelve-month periods. Total return of externally managed cash equivalents should meet or exceed a 3-month LIBOR benchmark over rolling twelve-month periods.

Investment Characteristics

For internally managed cash, authorized investments, minimum short-term credit ratings, portfolio concentration limits and maturity limits for the short-term investment fund (STIF) shall be set forth in OP&F's Short-Term Cash Management Policy. In addition, the frequency of credit reviews of approved issuers of commercial paper will be based on the short-term credit rating of the issuer and set forth in OP&F's Short-Term Cash Management Policy.

For externally managed cash, the portfolio is expected to be invested in cash equivalents consistent with 2a7 money market rules and other short-duration fixed income securities that align with the specific mandate of the Investment Manager(s), including backing derivatives exposure for a total portfolio derivatives overlay program, and being a source of funds for near term benefit payments. Therefore, the portfolio will be managed to maintain a high amount of liquidity and may be laddered to meet cash flow needs.

Investment Structure

Cash, cash equivalents, and enhanced cash will be actively managed consistent with either OP&F's Short-Term Cash Management Policy for internally managed cash, or individual Investment Manager'(s') guidelines for externally managed cash.

C. *Inflation Hedging Assets*

1. U.S. INFLATION LINKED BONDS (TIPS)

Investment Objectives

Total return of the TIPS composite portfolio should exceed two times the Barclays U.S. Government Inflation-Linked Bond

Index minus the cost of financing over a full market cycle on an annualized basis. Total return of each Investment Manager'(s') portfolio should exceed their benchmark return as specified in each Investment Manager'(s') guidelines or applicable documentation. In addition, there is a portable alpha component to the TIPS composite portfolio whereas the overall objective is to provide risk-adjusted returns greater than two times the return of the Barclays U.S. Government Inflation-Linked Bond Index minus the cost of financing.

Investment Characteristics

The main focus of investing will be a U.S. inflation-linked securities. The TIPS composite portfolio, as well as each Investment Manager'(s') portfolio, shall have similar portfolio characteristics as that of the Barclays U.S. Government Inflation-Linked Bond Index.

Investment Structure

The TIPS allocation will be managed on an active basis. Given the TIPS allocation target set forth in the Asset Allocation Policy above, the TIPS composite portfolio will be levered approximately 2.0x. TIPS exposure, obtained through the use of derivatives and/or physical bonds, may be combined with a strategy that provides a diversified source of alpha with customized risk tolerances. Implementation of the TIPS composite portfolio will be consistent with OP&F's Derivatives Policy Statement, which provides a complete description of the appropriate use of derivatives in the Plan.

2. REAL ESTATE

Investment Objectives

The primary role of real estate in the Total Portfolio is to provide: (1) an inflation hedge, (2) diversify the Total Portfolio by providing a return that has a low or negative correlation with stock and bond returns and (3) provide a total return that is competitive on a risk–adjusted basis with stocks and bonds and is accretive to OP&F achieving its long-term target rate of return with acceptable levels of risk. The return target for the real estate composite portfolio is set forth in OP&F's Real Estate Investment Policy. Both the returns for the real estate composite portfolio and respective benchmark(s) are lagged one quarter.

Investment Characteristics

Investments will adhere to certain risk management and diversification criteria set forth in OP&F's Real Estate Investment Policy.

Investment Structure

The target allocation of Total Portfolio assets to real estate will be established by OP&F's long-term Asset Allocation Policy. In order to meet this allocation target, it will generally be necessary to make commitments in excess of the target because of the contribution and distribution cash flow characteristics inherent in the underlying real estate investments.

3. REAL ASSETS

Investment Objectives

The real assets program will consist of infrastructure, timberland and agriculture/farmland. The primary performance objective, along with the strategic goals, of the real assets program will be set forth in OP&F's Real Assets Investment Policy. Both the returns for the real assets program and respective benchmark are lagged one quarter.

Investment Characteristics

Real assets investments will seek to adhere to certain risk controls and diversification criteria set forth in OP&F's Real Assets Investment Policy.

Investment Structure

The target allocation of Total Portfolio assets to real assets will be established by OP&F's long-term Asset Allocation Policy. In order to meet this allocation target, it will generally be necessary to make commitments in excess of the target because of the contribution and distribution cash flow characteristics inherent in the underlying real assets investments.

4. MASTER LIMITED PARTNERSHIPS (MLP)

Investment Objectives

Total return of the MLP composite portfolio should exceed the return of the Alerian MLP Index over a full market cycle on an annualized basis. Total return of each Investment Manager'(s') portfolio should rank above the median when compared to their peer group, if applicable, over a full market cycle on an annualized basis and should exceed their benchmark return as specified in each Investment Manager'(s') guidelines or applicable documentation.

Investment Characteristics

The main focus of investing will be on publicly traded partnership units of energy-focused MLP companies. The MLP composite portfolio as well as each Investment Manager'(s') portfolio shall have similar portfolio characteristics as that of the Alerian MLP Index.

Investment Structure

MLP assets will be managed solely on an active basis in order to exploit the perceived inefficiencies in the MLP publicly-traded partnership markets.

6. PROXY VOTING

OP&F's Board of Trustees believes that common stock proxies are valuable and should be voted in the long-term interests and objectives of the Plan set forth herein and OP&F's Proxy Voting Policy. Common stock proxies may be executed by the Sr. Investment Officer or the Chief Investment Officer, or their designees. Staff or their designee that exercises a proxy vote shall keep detailed records of said voting of proxies and related actions and will comply with all regulatory obligations related thereto and the policies set forth in OP&F's Proxy Voting Policy. Staff shall provide a semi-annual summary report of proxy voting actions to the Investment Committee/ Board of Trustees.

7. SECURITIES LENDING

The investment objective for the securities lending program is to generate incremental income within a high quality investment program that safeguards the return of principal, maintains adequate daily liquidity, ensures diversification and tightly controls exposure to fluctuating interest rates. The program may be operated by a bank trustee or a third party lending agent. Marking to market shall be performed daily by the agent(s) and a minimum average of at least 102 percent for domestic, and 105 percent for Non-U.S. collateral shall be diligently maintained. Securities lending reports shall be provided monthly by the agent(s) to staff. Staff will present a semi-annual summary report to the Investment Committee/ Board of Trustees.

8. INVESTMENT MANAGER MONITORING AND EVALUATION POLICY

The purpose of OP&F's Investment Manager Monitoring and Evaluation Policy is to establish the process and discipline for managing the Investment Manager(s) relationship. The policy states the process, responsibilities and important factors for consideration in the monitoring and evaluation process. For a complete description of the monitoring and evaluation process, please see OP&F's Investment Manager Monitoring and Evaluation Policy.

9. COMMUNICATIONS

Each Investment Manager(s) will provide hard copy reports at least quarterly, including performance measurement, asset inventories, transaction summaries, market commentary or anything else deemed significant at the time of reporting. Each Investment Manager(s) is expected to meet or participate via teleconference or webcast with OP&F's Board or staff or Investment Consultant(s) annually or as needed.

10. INVESTMENT MANAGER SEARCH POLICY

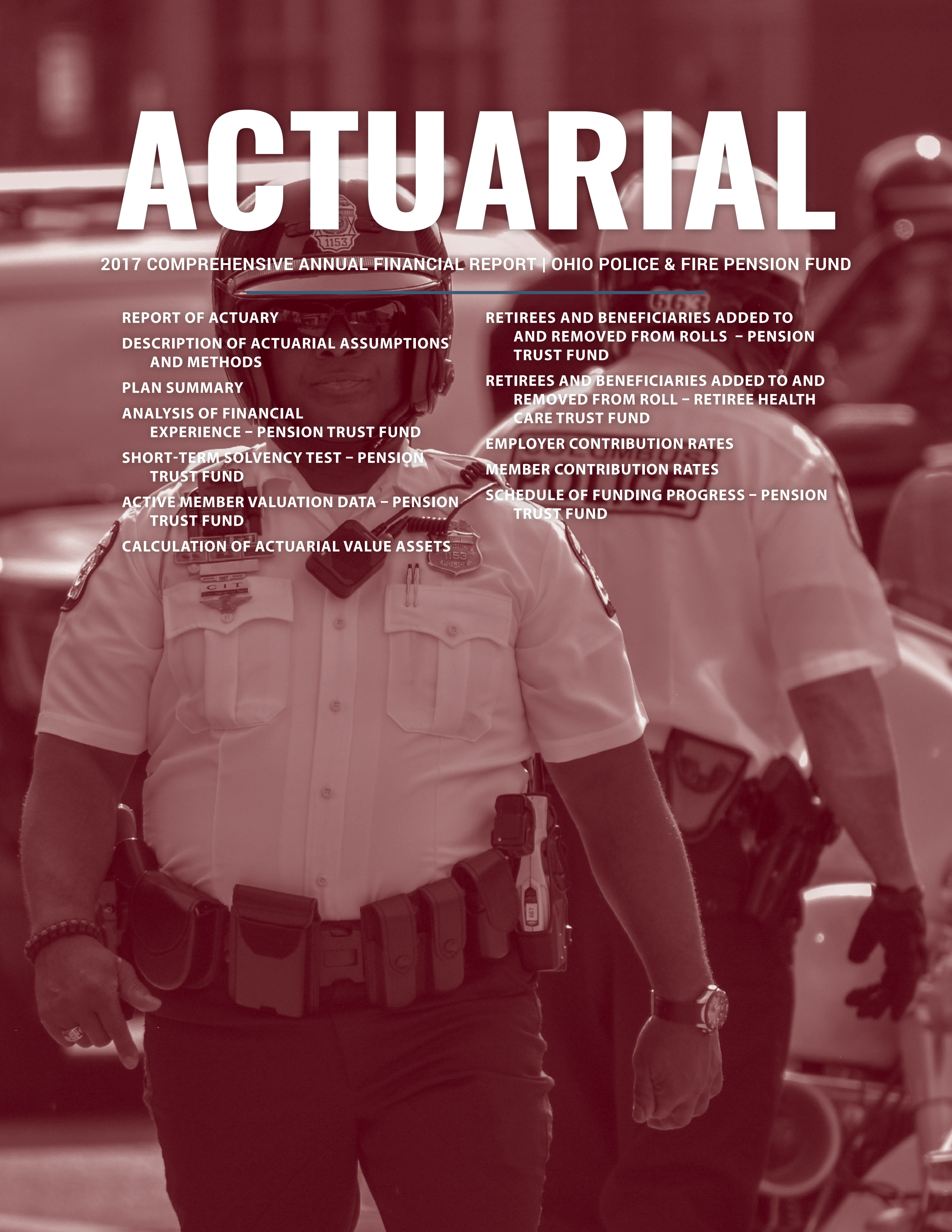
When applicable, the selection of Investment Manager(s) will be conducted under a Request for Proposal (RFP) process and the search may be on a closed or open manager universe basis. For a complete description of the selection of Investment Manager(s), please see OP&F's Investment Manager Search Policy.

11. SECURITIES LITIGATION POLICY

The Securities Litigation Policy has been adopted to ensure that OP&F takes prudent, effective, appropriate, and efficient actions to protect and increase the value of OP&F investments and to ensure that OP&F receives all money or assets which are due it as a result of the resolution of class action suits in a cost effective manner consistent with the Board's fiduciary duties. For a complete description of the policy objectives, monitoring, reporting requirements and procedures, please see OP&F's Securities Litigation Policy.

12. IRAN AND SUDAN DIVESTMENT POLICY

As required by uncodified provisions of Chapter 742 of the ORC, OP&F has adopted an Iran and Sudan Divestment Policy, the purpose of which is to divest and restrict the purchase of stocks and bonds issued by a publicly traded company with scrutinized business operations in Iran and Sudan, subject to the fiduciary responsibilities of the Board of Trustees, as set forth in Chapter 742 of the ORC. For a complete description of the responsibilities, process, reporting requirements, etc., please see OP&F's Iran and Sudan Divestment Policy.



ACTUARIAL

2017 COMPREHENSIVE ANNUAL FINANCIAL REPORT | OHIO POLICE & FIRE PENSION FUND

REPORT OF ACTUARY

CONDUENT

2135 City Gate Lane, 6th Floor
Naperville, IL 60563-3018

October 2017

Board of Trustees
Ohio Police & Fire Pension Fund
140 East Town Street
Columbus, Ohio 43215

Members of the Board:

Conduent HR Services, LLC (Conduent), formerly known as Buck Consultants, LLC, is pleased to present this report on the results of the actuarial valuation of the Ohio Police & Fire Pension Fund (OP&F). This report presents the results of the annual actuarial valuation of the assets and liabilities of OP&F as of Jan. 1, 2017, prepared in accordance with Chapter 742 of the Ohio Revised Code (ORC), as amended by Senate Bill No. 340. The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits.

The principal results of the valuation do not take into account Medicare Part B premium reimbursements or any other health care benefits. However, at the request of the Ohio Retirement Study Council (ORSC), supplemental results have been prepared that do take into account the liability for Medicare Part B premium reimbursements and are presented in Table 1A in the report.

The purpose of the valuation is to determine the financial status of OP&F on an actuarial basis. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Conduent will not accept any liability for any statement made about the report without prior review by Conduent.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

This report does not include accounting disclosure information under Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. Conduent will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2017 year-end. Conduent prepares a separate valuation of OP&F retiree health care benefits.

The valuation was based on the actuarial assumptions and methods that have been adopted by the Board of Trustees, including a valuation interest rate of 8.00 percent per annum compounded annually. The assumptions were effective Jan. 1, 2017 and recommended by the actuary based on a five-year experience review covering the period 2012-2016. The next experience review will cover the five-year period 2017-2021. Actuarial Standards of Practice require that the likelihood and extent of future mortality improvements be considered. We have reflected future mortality improvement in the valuation.

Assets and Membership Data

OP&F reported to the actuary the individual data for members as of the valuation date. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the pension trust fund taken into account in the valuation was based on financial statements prepared for us by OP&F.

An assumption is made by Conduent to account for salary adjustments reported by employers assumed to occur after the census information has been provided to Conduent by OP&F.

Funding Objectives and Progress

The actuary uses an actuarial cost method to determine the portion of OP&F's liabilities accrued by the members as of the valuation date and the portion that is attributable to future years of service. The rate of contribution necessary to systematically fund the future service liabilities, the normal cost rate, is calculated under the cost method to be a level percentage of active member payroll. The portion of the liabilities accrued as of the valuation date, the actuarial accrued liability (AAL), is compared to a market-related, actuarial value of OP&F's assets. The amount of liabilities in excess of the assets is called the unfunded actuarial accrued liability (UAAL).

The actuary determines how many years are required by OP&F to completely amortize the UAAL (the funding period), using the member and employer contributions reduced by the amount allocated to health care and the amount of normal cost for the year. For 2003-2012, the funding period was infinite years, meaning the annual contribution toward the unfunded when compared to the unfunded amount was not sufficient to pay it off. As a result of benefit and member contribution changes under Senate Bill No. 340, changes to the DROP program and a reduction in the contribution allocation to the Health Care Stabilization Fund by the Board of Trustees and favorable asset investment gains, the pension funding period has decreased to 47 years, 33 years, 30 years and 29 years for 2013, 2014, 2015 and 2016, respectively. As of Jan. 1, 2017, the funding period is 28 years.

Section 742.16 of the ORC, as adopted by Senate Bill No. 82, sets forth an objective that the funding period is no more than 30 years. If the funding period exceeds 30 years, a plan shall be developed and presented by the Board of Trustees to the ORSC to reduce the funding period to not more than 30 years. Section 742.14 of the ORC, as amended by Senate Bill No. 340, sets forth that the 30-year funding analysis be performed every three years and the 30-year funding plan, if necessary, be developed and presented not later than 90 days after the Board of Trustees' receipt of the actuarial valuation and 30-year funding analysis. The most recent triennial analysis was based on the Jan. 1, 2016 actuarial valuation, which showed the funding period was 29 years, so no 30-year funding plan was required. The next analysis will be performed based on the Jan. 1, 2019 actuarial valuation.

The funded ratio (i.e., the ratio of actuarial assets to the AAL) determined as of Jan. 1, 2017 is 69.8 percent, compared to 71.3 percent determined as of Jan. 1, 2016. If measured using the market value of assets, the funded ratio would be lower at 67.4 percent on account of net investment losses not yet reflected in the actuarial assets. Taking into account the AAL for Medicare Part B premium reimbursements, the funded ratio would be 68.0 percent using the actuarial assets and 65.7 percent using the market value of assets. The funded ratio is not intended to measure the adequacy of funding in any analysis of a possible settlement of plan liabilities.

Supporting Schedules and Certification

The valuation report shows detailed summaries of the financial results of the valuation and membership data used in preparing this valuation. The actuary prepared the following supporting schedules for inclusion in the Actuarial and Statistical Sections of the OP&F Comprehensive Annual Financial Report: Analysis of Financial Experience, Short-Term Solvency Test, Schedule of Funding Progress, Calculation of Actuarial Value of Assets, and Retirees and Beneficiaries Added to and Removed from the Rolls.

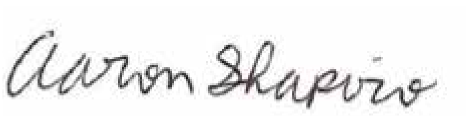
The valuation assumptions were chosen by the Board of Trustees with the advice of the actuary. The assumptions used to develop the Jan. 1, 2017 valuation are individually reasonable and in combination represent our best estimate of anticipated experience under the plan.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Because of limited scope, Conduent performed no analysis of the potential range of such future differences.

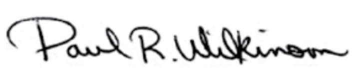
This report was prepared under the supervision of Aaron Shapiro and Paul Wilkinson who are pension actuaries, Enrolled Actuaries, Associates or Fellows of the Society of Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the pension actuarial opinions contained in this report. Bob Besenhofer is a health care actuary, Associate of the Society of Actuaries and Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report regarding the liability adjustments provided in Table 1A for Medicare Part B reimbursements. This report has been prepared in accordance with all Applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

Conduent is completely independent of OP&F and its officers and key personnel. Neither we, nor anyone closely associated with us, has any relationship with them that would impair our independence.

Respectfully submitted,



Aaron Shapiro, FSA, EA, MAAA
Principal, Retirement Consulting



Paul R. Wilkinson, ASA, EA, MAAA
Director, Retirement Consulting

Bob Besenhofer, ASA, MAAA
Director, Health and Productivity

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

ASSUMPTIONS

The actuarial assumptions were adopted as of Jan. 1, 2017, based on a five-year experience review covering the period 2012 through 2016. The next review of the actuarial assumptions is to be completed for adoption with the Jan. 1, 2022 valuation.

SUMMARY OF ASSUMPTION CHANGES

Demographic Assumption	Recommendation adopted as of Jan 1, 2017	Cost Impact
1) Withdrawal	Close to expectations, make minor adjustments.	Decrease
2) Disability retirement	Large decrease post-2013, reduce rates, reduce percentage of permanent and total disabilities.	Decrease
3) Service retirement	More than expected, earlier retirements, make adjustments.	Increase
4) DROP elections	Close to expectations, no changes.	None
5) Mortality	Overall fewer deaths than expected, adopt new tables.	Increase
6) Percent married and form of payment	Close to expectations, no change expect reduce assumed average benefit percent to joint annuitant.	None

Economic Assumption	Recommendation adopted as of Jan 1, 2017	Cost Impact
1) DROP interest rate	Below expectations, reduce from 4.5% to 4.0% based on economic projections.	Decrease
2) CPI-based COLA	Below expectations, reduce from 2.6% to 2.2% based on economic projection.	Decrease
3) Investment return *	Above expectations, but reduce from 8.25% to 8.00% based on economic projections.	Increase
4) Salary increases *	Below expectations, reduce salary inflation from 3.75% to 3.25% for lower inflation projection.	Decrease
5) Payroll growth *	Below expectations, reduce from 3.75% to 3.25% for lower inflation projection.	Increase funding period

* Inflation component for (3), (4) and (5) reduced from 3.25% to 2.75%; real rate of return for (3) increased from 5.00% to 5.25%.

INTEREST RATE

8.00 percent per annum, compounded annually.

SALARY INCREASE RATES

Assumed annual salary increases are as follows:

Years of Service	Salary Increase Rate
Less than 1	10.50%
1	9.00%
2	8.00%
3	6.00%
4	4.50%
5 or more	3.75%

PAYROLL GROWTH RATE

3.25 percent per annum, compounded annually, consisting of inflation rate of 2.75 percent plus productivity increase rate of 0.5 percent.

DROP INTEREST CREDITING RATE

4.0 percent per annum, compounded annually.

CPI-BASED COLA

2.2 percent simple for increases based on the lesser of the increase in CPI and three percent.

WITHDRAWAL RATES

The following sample withdrawal rates are based on age and service (for causes other than death, disability, or retirement):

POLICE

Years of Service	Age							
	25	30	35	40	45	50	55	60
0	9.62%	9.94%	15.93%	17.85%	15.22%	22.00%	18.68%	19.23%
1	5.88%	5.54%	6.49%	7.65%	5.99%	10.15%	11.21%	11.54%
2	3.27%	4.21%	3.92%	5.87%	5.80%	9.90%	9.34%	9.62%
3	4.11%	3.35%	4.66%	5.74%	5.61%	9.17%	8.78%	9.04%
4	3.64%	3.06%	4.29%	5.23%	4.95%	7.95%	7.47%	7.69%
5	2.59%	2.65%	3.49%	4.22%	4.22%	7.57%	8.79%	6.50%
6	2.64%	2.56%	3.28%	3.57%	3.44%	5.86%	7.03%	5.20%
7	2.58%	2.21%	3.18%	3.46%	3.44%	5.71%	6.90%	5.10%
8	2.39%	1.95%	2.56%	1.95%	2.06%	5.57%	6.63%	4.90%
9	2.12%	1.59%	1.74%	1.62%	1.18%	4.43%	6.09%	4.50%
10	1.56%	1.56%	1.66%	1.59%	1.09%	4.31%	6.03%	4.46%
11	1.49%	1.49%	1.58%	1.56%	1.00%	4.20%	5.98%	4.42%
12	1.41%	1.41%	1.50%	1.52%	0.91%	4.09%	5.92%	4.38%
13	1.31%	1.31%	1.42%	1.49%	0.83%	3.97%	5.87%	4.34%
14	1.21%	1.21%	1.33%	1.46%	0.74%	3.86%	5.82%	4.30%
15+	1.17%	1.17%	1.17%	0.91%	0.79%	0.91%	1.10%	1.96%

FIREFIGHTERS

Years of Service	Age							
	25	30	35	40	45	50	55	60
0	2.69%	3.46%	3.66%	6.22%	8.48%	6.93%	8.73%	19.11%
1	2.11%	1.46%	2.96%	4.98%	7.01%	5.00%	7.16%	15.66%
2	1.53%	1.64%	1.83%	3.04%	4.98%	4.54%	7.16%	15.66%
3	1.44%	1.55%	1.74%	2.90%	4.80%	4.32%	7.16%	15.66%
4	1.15%	1.46%	1.66%	2.77%	4.61%	3.97%	5.73%	12.53%
5	0.83%	0.94%	1.33%	1.64%	2.05%	2.91%	5.33%	11.94%
6	0.78%	0.87%	1.24%	1.53%	1.72%	2.58%	3.66%	8.19%
7	0.78%	0.80%	1.19%	1.42%	1.51%	2.37%	3.35%	7.51%
8	0.72%	0.73%	1.05%	1.31%	1.40%	2.26%	3.05%	6.82%
9	0.73%	0.73%	0.86%	1.10%	1.18%	1.62%	2.29%	5.12%
10	0.73%	0.73%	0.84%	1.07%	1.16%	1.55%	2.21%	4.95%
11	0.71%	0.71%	0.82%	1.05%	1.14%	1.49%	2.13%	4.78%
12	0.68%	0.68%	0.80%	1.03%	1.12%	1.42%	2.06%	4.60%
13	0.65%	0.65%	0.78%	1.01%	1.10%	1.36%	1.98%	4.43%
14	0.61%	0.61%	0.76%	0.99%	1.07%	1.29%	1.91%	4.26%
15+	0.90%	0.90%	0.90%	0.47%	0.50%	0.59%	0.92%	1.21%

RATES OF DISABILITY

The following are sample rates of disability and occurrence of disability by type:

	POLICE		FIRE	
Age	Hired Before July 2, 2013	Hired After July 1, 2013	Hired Before July 2, 2013	Hired After July 1, 2013
20	0.001%	0.001%	0.001%	0.001%
25	0.007%	0.007%	0.005%	0.005%
30	0.089%	0.089%	0.022%	0.022%
35	0.154%	0.154%	0.091%	0.091%
40	0.403%	0.403%	0.204%	0.204%
45	0.533%	0.533%	0.347%	0.347%
50	1.351%	0.691%	1.337%	0.475%
55	1.119%	1.119%	2.025%	2.025%
60	2.078%	2.078%	3.060%	3.060%
64	3.099%	3.099%	7.190%	7.190%

Upon and after attainment of normal retirement eligibility, the rate is 0.300 percent.

TYPE OF DISABILITY

On duty permanent and total	17%
On duty partial	58%
Off duty ordinary	25%

RETIREMENT RATES

The following rates of retirement apply to members who have not elected to be in DROP:

Age	Police	Firefighters
48	-%	-%
49-50	5%	4%
51	6%	4%
52	6%	6%
53	10%	6%
54	10%	7%
55-57	11%	11%
58	5%	16%
59	10%	16%
60	18%	20%
61	19%	20%
62	25%	50%
63	25%	20%
64	25%	25%
65-69	35%	25%
70	100%	100%

DEFERRED RETIREMENT OPTION PLAN ELECTIONS

90 percent of members who do not retire when first eligible are assumed to elect DROP.

DROP RETIREMENT RATES

The following rates of retirement apply to members in DROP on or before July 1, 2013:

POLICE

	Years in DROP								
Age	0	1	2	3	4	5	6	7	8
48	5%								
49	4%	4%							
50	4%	4%	4%						
51	4%	4%	4%	10%					
52	3%	4%	4%	9%	9%				
53	3%	4%	4%	9%	8%	12%			
54	4%	5%	5%	10%	9%	13%	13%		
55	5%	5%	5%	16%	16%	14%	18%	44%	
56	5%	5%	5%	15%	15%	13%	17%	41%	100%
57	5%	5%	5%	16%	15%	14%	17%	43%	100%
58	5%	5%	5%	16%	15%	14%	17%	42%	100%
59	15%	5%	5%	15%	16%	16%	18%	44%	100%
60	17%	5%	5%	16%	17%	18%	19%	47%	100%
61	17%	5%	5%	17%	18%	18%	20%	48%	100%
62	16%	5%	5%	16%	17%	17%	19%	46%	100%
63	18%	6%	6%	18%	19%	19%	21%	50%	100%
64	19%	5%	5%	17%	17%	18%	19%	49%	100%
65	24%	6%	6%	23%	22%	22%	25%	59%	100%
66	24%	5%	6%	20%	19%	22%	22%	54%	100%
67	24%	5%	5%	20%	19%	22%	22%	53%	100%
68	24%	5%	5%	15%	19%	22%	22%	53%	100%
69	24%	5%	5%	20%	19%	22%	22%	47%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

FIREFIGHTERS

	Years in DROP								
Age	0	1	2	3	4	5	6	7	8
48	2%								
49	4%	3%							
50	5%	4%	4%						
51	3%	3%	3%	9%					
52	3%	3%	3%	8%	9%				
53	4%	3%	4%	10%	11%	13%			
54	4%	3%	3%	9%	11%	13%	13%		
55	6%	4%	4%	13%	13%	15%	17%	38%	
56	5%	3%	4%	13%	12%	14%	17%	37%	100%
57	5%	3%	4%	13%	12%	14%	17%	37%	100%
58	5%	3%	4%	17%	15%	15%	18%	46%	100%
59	6%	3%	4%	17%	15%	16%	19%	46%	100%
60	6%	3%	4%	18%	16%	16%	19%	48%	100%
61	6%	3%	4%	17%	15%	15%	18%	45%	100%
62	6%	3%	4%	17%	15%	16%	18%	46%	100%
63	29%	3%	4%	20%	18%	20%	18%	52%	100%
64	32%	3%	4%	21%	20%	22%	19%	55%	100%
65	33%	4%	4%	22%	21%	23%	20%	57%	100%
66	38%	4%	5%	26%	24%	23%	24%	64%	100%
67	38%	4%	5%	26%	24%	23%	24%	65%	100%
68	38%	4%	5%	26%	24%	23%	24%	65%	100%
69	38%	4%	5%	20%	25%	23%	24%	65%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

The same rates apply for members entering DROP after July 1, 2013, except the rates for years three and four are replaced with the rates for year two.

The following rates of retirement apply to members who are not yet in DROP but may become eligible in the future:

POLICE

	Years Eligible for DROP									
Age	0	1	2	3	4	5	6	7	8	9+
47	6%									
48	12%									
49	7%	5%								
50	6%	5%	5%							
51	6%	5%	5%	5%						
52	6%	5%	5%	5%	5%					
53	11%	5%	5%	5%	5%	12%				
54	10%	5%	5%	5%	5%	13%	13%			
55	12%	6%	6%	6%	6%	14%	18%	43%		
56	12%	6%	5%	5%	5%	13%	17%	41%	96%	
57	13%	6%	5%	5%	5%	14%	17%	43%	94%	100%
58	7%	5%	5%	5%	5%	13%	17%	43%	98%	100%
59	10%	5%	5%	5%	5%	17%	18%	45%	97%	100%
60	20%	8%	6%	6%	6%	18%	20%	48%	98%	100%
61	32%	6%	5%	5%	5%	18%	19%	46%	93%	100%
62	29%	9%	5%	5%	5%	16%	17%	42%	92%	100%
63	33%	5%	7%	7%	7%	18%	19%	46%	95%	100%
64	31%	11%	7%	7%	7%	18%	19%	49%	93%	100%
65	47%	13%	6%	6%	6%	20%	22%	54%	100%	100%
66	47%	13%	5%	5%	5%	20%	20%	50%	100%	100%
67	47%	13%	18%	18%	18%	20%	20%	46%	100%	100%
68	47%	13%	18%	18%	18%	20%	20%	46%	100%	100%
69	47%	13%	18%	18%	18%	20%	20%	46%	100%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

FIREFIGHTERS

	Years Eligible for DROP									
Age	0	1	2	3	4	5	6	7	8	9+
47	3%									
48	6%									
49	6%	4%								
50	6%	4%	4%							
51	5%	3%	4%	4%						
52	5%	3%	3%	3%	3%					
53	5%	4%	4%	4%	4%	13%				
54	5%	3%	4%	4%	4%	13%	13%			
55	8%	5%	5%	5%	5%	15%	18%	38%		
56	8%	5%	4%	4%	4%	14%	17%	38%	95%	
57	8%	4%	5%	5%	5%	15%	17%	38%	98%	100%
58	8%	5%	4%	4%	4%	16%	19%	46%	97%	100%
59	9%	5%	5%	5%	5%	16%	19%	46%	97%	100%
60	10%	5%	7%	7%	7%	17%	20%	49%	86%	100%
61	11%	5%	4%	4%	4%	16%	19%	45%	93%	100%
62	15%	7%	12%	12%	12%	16%	20%	49%	95%	100%
63	33%	7%	4%	4%	4%	19%	16%	48%	100%	100%
64	37%	7%	3%	3%	3%	20%	18%	49%	100%	100%
65	37%	7%	8%	8%	8%	20%	18%	51%	100%	100%
66	37%	7%	4%	4%	4%	23%	23%	61%	100%	100%
67	37%	7%	4%	4%	4%	23%	23%	53%	100%	100%
68	37%	7%	4%	4%	4%	23%	23%	53%	100%	100%
69	37%	7%	4%	4%	4%	23%	23%	47%	100%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS

Commencement at age 48 and 25 years of service from full-time hire date, whichever is later.

HEALTHY MORTALITY

Mortality for non-disabled participants is based on the RP-2014 Total Employee and Healthy Annuitant Mortality Tables rolled back to 2006, adjusted according to the rates in the following table, and projected with the Conduent Modified 2016 Improvement Scale. Rates for surviving beneficiaries are adjusted by 120 percent.

Age	Police	Fire
67 or less	77%	68%
68 – 77	105%	87%
78 and up	115%	120%

DISABLED MORTALITY

Mortality for disabled retirees is based on the RP-2014 Disabled Mortality Tables rolled back to 2006, adjusted according to the rates in the following table, and projected with the Conduent Modified 2016 Improvement Scale.

Age	Police	Fire
59 or less	35%	35%
60 – 69	60%	45%
70 – 79	75%	70%
80 and up	100%	90%

CREDITED SERVICE

Credited service on the valuation date, as provided by OP&F, includes all service credited under the plan, including service transferred from other municipal plans and purchased service. The valuation assumes future service will be credited at the rate of one year per year worked, with no assumed future crediting of transferred service or purchased service.

415 LIMITS

Benefits are limited by the IRC Section 415, assumed to increase 2.75 percent per annum.

FUTURE EXPENSES

The normal cost is increased by all administrative expenses budgeted, net of the State Subsidy received from the State of Ohio.

UNKNOWN DATA FOR MEMBERS

Same as those exhibited by members with similar known characteristics. Deferred benefits are estimated at termination until OP&F has determined the actual amount at retirement.

Reported salaries that are less than $10,000 when annualized are assumed to be anomalous and are reset to $60,000. The adjustment for late reported salaries is not applied in this case.

LATE REPORTED SALARIES

1.427 percent load to 2016 reported salaries to account for salaries accrued but not reported for the valuation. This adjustment is based on plan experience for the prior two years. This adjustment will be reviewed annually for future late reported salaries.

PERCENT MARRIED

75 percent of active members are assumed to be married.

AGE OF SPOUSE

Wives are assumed to be three years younger than their husbands.

OPTIONAL FORM ELECTION

33 percent of service retirees and 10 percent of disability retirees are assumed to elect the 40 percent Joint and Survivor pension at retirement. If the joint annuitant predeceases the retiree, the increase, or pop-up, in the retiree's benefit associated with the 40 percent Joint and Survivor pension is assumed to be 14.36 percent for disability retirees and 10.50 percent for all other retirees.

DROP ACCOUNT DISTRIBUTIONS

For members who terminate DROP before the required three or five years, distribution of the account balance is assumed to be made in a lump sum payment at the end of the three or five year period. Distributions for other members are assumed to be made in a lump sum or installments at retirements in a pattern equivalent to 25 percent receiving lump sums, 30 percent receiving installments over two years, and 45 percent receiving installments over 10 years.

DEPENDENT PARENTS

None anticipated, but dependency of any dependent parent in receipt of benefits is assumed to continue for the parent's lifetime.

DEPENDENT CHILDREN

Each married member is assumed to have two children, born when the member was age 26. Dependency is assumed to cease when the child is 22.

MEDICARE PART B PREMIUM TREND RATES

The Medicare Part B premium subsidy ($134.00 per month for 2017) is assumed to increase as follows:

Year	Increase
2016	5.30%
2017	5.20%
2018	5.10%
2019 and Later	5.00%

MEDICARE PART B PREMIUM REIMBURSEMENT

90 percent of members are assumed to be eligible for reimbursement once they reach age 65.

The Medicare Part B Premium assumptions are only used to determine the cost if the Medicare Part B reimbursement payments were to be paid from the pension trust instead of the Health Care Stabilization Fund.

METHODS

ACTUARIAL COST METHOD

Projected benefit method with individual level percentage entry age normal cost and actuarial accrued liability. Gains and losses are reflected in the actuarial accrued liability.

ADJUSTMENT FOR RE-EMPLOYED RETIREES

The present value of future benefits and the actuarial accrued liability are increased by an amount for the re-employed retirees' defined contribution plan benefit equal to two times the re-employed retirees' post-retirement contribution balances on the valuation date.

ADJUSTMENT FOR EMPLOYER ACCRUED LIABILITY

The actuarial accrued liability is reduced by the present value of special employer contributions -- referred to as "Local Funds." Local governments are required by state statute to pay the unfunded portion of the actuarially-determined liability of the local police and firefighter's relief and pension funds that were merged to form OP&F in 1967. The ORC designates this obligation of the local governments to the Employers' Accrued Liability. Interest on the outstanding balance is being accrued at the rate of 4.25 percent, compounded semiannually. Local governments began repayment in 1969 and payments are required to be made until 2035. The present value of the remaining payments on the valuation date is determined using the valuation interest rate.

ASSET VALUATION METHOD

A four-year moving average market value of assets that spreads the difference between the actual investment income and the expected income on the market value (based on the valuation interest rate) over a period of four years. The actuarial value shall not be less than 80 percent or more than 120 percent of market value.

DATA

CENSUS AND ASSETS

The valuation was based on members of OP&F as of the valuation date and does not take into account future members. All census and asset data was supplied by OP&F. Salaries and benefits tabulated in the tables in this report were summed to pennies, but displayed to whole dollars, thus, totals may not be consistent with amounts displayed due to rounding.

PLAN SUMMARY

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

The following is intended to summarize the key provisions listed in this valuation. Members of OP&F and other parties should not rely on this summary as a substitute for or legal interpretation of the laws and rules covering this retirement plan.

MEMBERSHIP

Membership in OP&F is mandatory under Ohio law for all full-time police officers employed by Ohio municipalities and appointed under the required statutory provisions. Membership is also mandatory for all full-time firefighters employed by Ohio municipalities, townships, villages, joint fire districts or other political subdivisions. In order to become members of OP&F, full-time firefighters are required to satisfactorily complete, or have satisfactorily completed, a firefighter training course approved under former Section 3303.07, Section 4765.55 or conducted under Section 3737.33 of the ORC.

ELIGIBILITY FOR MEMBERSHIP

Full-time police officers or firefighters are eligible for membership in OP&F upon commencement of employment as a full-time police officer or firefighter.

CONTRIBUTIONS

Employer and member contributions are established by statute and both are due monthly. Employers of police officers pay 19.5 percent of salary; employers of firefighters pay 24 percent of salary. Members contributed 10 percent of salary through July 1, 2013. On July 2, 2013, the member contribution rate increased by 0.75 percent to 10.75 percent. The member contribution rate increased annually by 0.75 percent until it reached the current 12.25 percent on July 2, 2015.

EMPLOYER CONTRIBUTION RATES – PERCENTAGE OF ACTIVE MEMBER PAYROLL:

Time Frame of Rates	Police	Fire
Jan 1, 1986 thru Present	19.50%	24.00%

MEMBER CONTRIBUTION RATES – PERCENTAGE OF ACTIVE MEMBER PAYROLL:

Time Frame of Rates	Police	Fire
July 2, 2015 and Thereafter	12.25%	12.25%
July 2, 2014 thru July 1, 2015	11.50%	11.50%
July 2, 2013 thru July 1, 2014	10.75%	10.75%
Sept. 9, 1988 thru July 1, 2013	10.00%	10.00%

BENEFITS

SERVICE RETIREMENT

Upon attaining a qualifying age with sufficient years of service, a member of OP&F may retire and receive a lifetime monthly pension. OP&F offers four types of service retirement: normal, service commuted, age/service commuted and actuarially reduced. Each type has different eligibility guidelines and is calculated using the member's average annual salary.

Since average annual salary is subject to certain statutory and administrative limitations, not all salary, earnings, or compensation may be used in the calculation. OP&F calculates allowable average annual salary as follows:

- For OP&F members with 15 or more years of service credit as of July 1, 2013, average annual salary is an average of the three years of highest allowable earnings, regardless of when in their career the highest years occurred.
- For OP&F members with less than 15 years of service credit as of July 1, 2013, average annual salary is an average of the five years of highest allowable earnings, regardless of when in their career the highest years occurred.
- A "salary benchmark" is established for members with 15 or more years of service credit as of July 1, 2013, under which certain increases are excluded from salary for the purpose of determining allowable average annual salary. This benchmarking does not apply to members with less than 15 years of service credit as of July 1, 2013.

NORMAL SERVICE RETIREMENT

ELIGIBILITY

- For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52 with at least 25 years of service credit.
- For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48 with 25 years of service credit.

BENEFIT

An annual pension equal to a percentage of the allowable average annual salary. The percentage equals 2.5 percent for each of the first 20 years of service, 2.0 percent for each of the next five years of service, and 1.5 percent for each year of service in excess of 25 years. The maximum pension of 72 percent of the allowable average annual salary is paid after 33 years of service.

SERVICE COMMUTED RETIREMENT

ELIGIBILITY

- For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52, they must have at least 15 years of service credit and 25 years have elapsed from the date of their full-time hire.
- For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48, they must have at least 15 years of service credit and 25 years of service and 25 years have elapsed from the date of their full-time hire.

BENEFIT

An annual pension equal to 1.5 percent of the allowable average annual salary multiplied by the number of full years of service credit (up to 25 years).

AGE/SERVICE COMMUTED RETIREMENT

ELIGIBILITY

Age 62, 15 years of service credit and still working as a full-time police officer or firefighter.

BENEFIT

An annual pension that uses the same formula as for the Normal Service Retirement benefit.

ACTUARIALLY REDUCED

ELIGIBILITY

For members hired into an OP&F-covered position after July 1, 2013, age 48 with 25 years of service credit.

BENEFIT

An annual pension reduced to the actuarial equivalent of the amount payable had the member retired at age 52.

RIGHTS UPON SEPARATION FROM SERVICE DEFERRED PENSION

If a member meets the years of service credit requirement for any of the service retirement pension benefits but leaves service before attaining the minimum retirement age, a pension becomes payable upon attainment of the qualifying age and filing the appropriate paperwork with OP&F.

REFUND OF EMPLOYEE CONTRIBUTIONS

Upon termination of active service in a police or fire department, members may withdraw their accumulated employee contributions on deposit with OP&F. Acceptance of a refund of employee contribution cancels the member's rights, benefits and total service credit with OP&F. Employer contributions to OP&F are not refundable.

TERMINATION BEFORE RETIREMENT WITH 25 YEARS OF SERVICE CREDIT

BENEFIT

Same as the Normal Service Retirement benefit, except benefit commences once the member reaches minimum retirement age.

- For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52.
- For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48.

TERMINATION BEFORE RETIREMENT WITH 15 YEARS OF SERVICE CREDIT

BENEFIT

Same as the Service Commuted Retirement, except benefit commences once the member reaches minimum retirement age and 25 years have elapsed from the date of full-time hire.

- For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52.
- For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48.

TERMINATION BEFORE RETIREMENT WITH LESS THAN 15 YEARS OF SERVICE CREDIT

BENEFIT

A lump sum amount equal to the sum of the member's contributions to OP&F.

DEFERRED RETIREMENT OPTION PLAN

ELIGIBILITY

When a member is eligible for a normal service retirement they can enter DROP by delaying retirement and continuing to work as a full-time police officer or firefighter.

- For members hired into an OP&F-covered position after July 1, 2013, normal service retirement eligibility is age 52 with at least 25 years of service credit.
- For members hired into an OP&F-covered position on or before July 1, 2013, normal service retirement eligibility is age 48 with at least 25 years of service credit.

BENEFIT

DROP is a cost neutral benefit offered by OP&F. Upon the DROP effective date, the member's pension is calculated as if that were their date of retirement. While the member continues to work and draw their normal salary, the amount they would have received in retirement benefits accumulates tax-deferred at OP&F on their behalf, as well as a portion of their OP&F employee contributions and interest. Since the member's pension has already been calculated:

- The years of DROP service do not apply towards the member's normal service retirement.
- If a member earns a higher salary after their DROP effective date due to a raise, job promotion, etc., it will not be used to recalculate their pension and, therefore, will not result in that member receiving a higher pension upon retirement.

The DROP interest rate is set by administrative rule and is subject to change at any time. OP&F credits interest to all DROP balances each month at a rate equal to the 10-year United States Treasury Note Business Day Series, as published by the U.S. Department of the Treasury, with a cap of five percent. This variable interest rate is adjusted quarterly to match the published 10-year U.S. Treasury Note rate for the last trading business day of the preceding quarter and is in effect for the subsequent quarter.

Members whose election to participate in DROP is effective after July 1, 2013 do not qualify for annual cost-of-living allowances (COLA) at any time during DROP. Members whose election to participate in DROP is effective on or before July 1, 2013 will continue to receive a cost-of-living allowance during DROP, but only when they reach 55 years of age and have been participating in DROP for at least one year. Those members whose enrollment date into DROP qualify them for a cost-of-living allowance during DROP will receive three percent of their base pension.

Member contributions are credited to their DROP account based on the number of years of DROP service. For those members whose election to participate in DROP is effective after July 1, 2013, OP&F applies contributions to DROP in the following manner:

Years of DROP Service	Percentage of Member Contributions
Years 1-3	50 percent of member's contributions
Year 4-5	75 percent of member's contribution
Years 6-8	100 percent of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is five years and the maximum is eight.

- If a member terminates employment within the first five years of joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable, will receive the entire DROP account balance determined at the time of death.
- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit earned during the DROP participation period.

For those members whose election to participate in DROP was on or before July 1, 2013, member contributions are applied to DROP under the following schedule:

Years of DROP Service	Percentage of Member Contributions
Years 1-2	50 percent of member's contributions
Year 3	75 percent of member's contribution
Years 4-8	100 percent of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is three years and the maximum is eight.

- If a member terminates employment within the first three years of joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable, will receive the entire DROP account balance determined at the time of death.
- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit earned during the DROP participation period.

All DROP members retiring before the eight-year max receive their Normal Service Retirement benefit determined at the time of DROP entry, with the COLA adjustment (if applicable) to date of retirement when eligible. These members will also receive the DROP account balance as a lump sum or monthly annuity.

If a member dies while participating in DROP, the member's surviving spouse, designated beneficiary or estate will receive the entire DROP account balance determined at the time of death. The surviving spouse or contingent dependent beneficiary will receive the greater of the retirement allowance made at the time of DROP entry or the Normal Service Retirement benefit paid with COLA adjustments (if applicable) to the date of death, paid as if the member had elected a 50 percent joint and survivor option at death. All other statutory death benefits will apply.

If the member becomes disabled while in DROP and has not terminated employment, the member must choose either to receive a disability benefit or a service retirement with DROP. If the member chooses the disability benefit, the member forfeits all DROP benefits and receives the disability benefit, with service credit during the DROP period included.

DISABILITY BENEFITS

Members who become unable to perform their official duties and whose earning capacities are impaired may qualify for disability benefits. Disability benefits are classified as either service-incurred (on-duty) or non-service-incurred (off-duty) and differ in eligibility requirements and benefit formulas. Annual medical evaluations are required for disability benefit recipients who would not have met the age and service requirements for a Normal Service Retirement, unless the Board of Trustees waives this requirement based upon an OP&F physician's certification that the disability is ongoing and further evaluation would not be cost effective. Annual earnings statements are also required to be submitted to OP&F.

PERMANENT AND TOTAL DISABILITY (ON-DUTY)

ELIGIBILITY

No age or service requirement.

BENEFIT

An annual benefit equal to 72 percent of the allowable average annual salary.

PARTIAL DISABILITY (ON-DUTY)

ELIGIBILITY

No age or service requirement.

BENEFIT

If the member has less than 25 years of service credit an annual benefit fixed by the Board of Trustees to be a certain percent up to 60 percent of the allowable average annual salary. If the member has 25 or more years of service credit, the annual disability benefit is equal to the Normal Service Retirement amount.

NON-SERVICE INCURRED DISABILITY (OFF-DUTY)

ELIGIBILITY

Any age and five years of service credit.

BENEFIT

An annual amount is the percent awarded by the Board of Trustees and my not exceed 60 percent of the allowable average annual salary. Service over 25 years cannot be used in calculating an off-duty disability award.

PRE-RETIREMENT SURVIVOR ANNUITY

ELIGIBILITY

Upon death before retirement, but after having satisfied the requirements for a Normal Service Retirement or an Age/Service Commuted retirement.

BENEFIT

The surviving spouse or contingent dependent beneficiary will receive the equivalent of a 50 percent joint and survivor annuity, calculated under the assumption that the decedent had retired effective the day following his/her death.

STATUTORY SURVIVOR BENEFITS

ELIGIBILITY

Upon death of any active or retired member of OP&F.

BENEFIT

Surviving Spouse's Benefit
An annual amount equal to $6,600 ($550 monthly), plus an annual COLA of three percent of the original base benefit, paid each July 1, beginning July 1, 2000. The benefit is paid to the surviving spouse for life.

If the spouse is receiving a full death benefit under the Death Fund Benefit statute, the spouse's statutory survivor benefit is $4,920 ($410 monthly). The Death Benefit Fund is funded by the State of Ohio and provides special benefits to eligible survivors of public safety officers who are killed in the line of duty or who die from injuries or disease incurred in the performance of official duties. These eligible survivors are entitled to receive the member's full monthly salary, which will be reduced at the member's retirement eligibility date. These death benefit payments are in addition to any optional payment plan benefits elected by the member.

Surviving Child's Benefit
An annual amount equal to $1,800 ($150 monthly), payable until such child attains age 22 or marries, whichever occurs first. A dependent disabled child, regardless of age at time of member's death, is entitled to a benefit until death or recovery from disability. A COLA of three percent of the original base is payable each July 1.

Dependent Parents' Benefit
If there is no surviving spouse or dependent children, an annual amount of $2,400 ($200 monthly) is payable to one dependent parent or $1,200 ($100 monthly) each to two dependent parents for life or until dependency ceases or remarriage. A COLA of three percent of the original base is payable each July 1.

Survivors	Monthly Pension	Causes of Termination
Widow / Widower	current amount + future COLA	* Death
Dependent child	current amount + future COLA	* Death * Marriage * Attainment of age 22
Dependent disabled child	current amount + future COLA	* Death * Recovery from disability
One dependent parent	current amount + future COLA	* Death * Re-marriage * Termination of dependency
Two dependent parents	½ current amount (each) + future COLA	

Benefit Type	Base Monthly Benefit Amount	Base Monthly Benefit Amount Plus Increases Through July 1, 2017	Monthly Increases Effective July 1, 2018
Spouse *	$550	$826.10 **	$16.50
Child	150	225.30 ***	4.50
One Parent	200	300.40 ****	6.00
Two Parents	100	150.20	3.00

*Spouse's benefit is $410 if spouse is receiving a full death benefit under the Death Fund Benefit statute. There is no annual increase on this benefit payment.

** On July 1, 2000 the Statutory Surviving Spouse Benefit increased by $12.10 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was $16.50 or three percent of the base benefit.

*** On July 1, 2000 the Statutory Child Benefit increased by $3.30 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was $4.50 or three percent of base benefit.

**** On July 1, 2000 the Statutory Surviving One Parent Benefit increased by $4.40 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was $6.00 or three percent of base benefit.

LUMP SUM DEATH BENEFIT

ELIGIBILITY

Upon death of any retired or disabled member of OP&F.

BENEFIT

A lump sum payment of $1,000 is paid to the member's surviving spouse or, if no surviving spouse, to a designated beneficiary. If there is no surviving spouse or beneficiary, then it is paid to the member's estate.

ANNUITIES

Effective Feb. 28, 1980, for those members who are retiring on either a service pension or a disability benefit, optional annuity plans can be chosen, subject to certain limitations. The member can elect actuarially reduced benefits under a joint and survivor annuity, life annuity certain and continuous, or multiple beneficiary annuity plan. The optional annuity plans allow the member's beneficiary(ies) to receive a lifetime payment upon the member's death.

ANNUITY TYPES

SINGLE LIFE ANNUITY

This plan pays the maximum retirement allowance that the member is entitled to receive and, upon the member's death, none of the pension or benefit is continued to any beneficiary. For unmarried members, this is the standard annuity plan. Married members may elect this plan only if the spouse consents to the selection in writing.

JOINT AND SURVIVOR ANNUITY (JSA)

Under this plan, a member designates that, upon his or her death, a certain percentage of the member's actuarially reduced benefit is continued to a surviving designated beneficiary for life. Any percentage between one percent and 100 percent of the member's reduced pension may be continued to the surviving designated beneficiary, but the percent continued may be limited based on the beneficiary's age. The elected option may be cancelled within one year after benefits commence, with the consent of the beneficiary.

If a member is married at the time benefits are elected, the standard plan is a 50 percent JSA continuing one-half of the member's reduced monthly benefit to his or her surviving spouse. If the member wants to select a plan which provides for the continuation of benefits for someone other than the spouse or less than 50 percent JSA to the spouse, the spouse must consent in writing to this choice. This plan automatically terminates upon the death of the beneficiary, to be effective the month following OP&F's receipt of notice of death. It may also be cancelled upon divorce or dissolution of marriage with the consent of the member's spouse or a specific court order, at which point the annuity reverts to the single life annuity to the member.

MULTIPLE BENEFICIARY ANNUITY

Under the multiple beneficiary annuity plan, a member may designate up to four beneficiaries at the time of retirement so that, upon death, a certain percentage of the member's actuarially reduced benefit is continued to the surviving designated beneficiaries for their lives. If the member is married at the time of retirement, the spouse must consent in writing for an annuity selection that provides for less than 50 percent JSA payable to the spouse.

LIFE ANNUITY CERTAIN AND CONTINUOUS (LACC)

This plan provides a lifetime allowance to the member and will only be paid to a designated beneficiary if the member dies and the period elected by the member has not expired. The minimum guarantee period is five years and the maximum is 20 years. 100 percent of the member's reduced pension continues to the beneficiary for the guarantee period selected. The elected option may be cancelled within one-year after benefits commence, with the consent of the beneficiary. If the member is married at the time of retirement, the spouse must consent in writing for an annuity selection that provides for less than a 50 percent JSA payable to the spouse.

TIERED RETIREMENT PLAN – COLA OR TERMINAL PAY (NON-COLA)

Members retiring on or after July 24, 1986, who had 15 or more years of service credit as of Jan. 1, 1989, are eligible to select between two different pension calculation plans. Under the terminal pay method, a member's monthly pension benefit is calculated using terminal payouts at the time of retirement such as accrued sick leave and vacation compensation to increase the amount of the average annual salary, but subject to certain limitations, and these members are not eligible to receive cost-of-living allowance adjustments. Under the COLA method, terminal payments are not included in the calculation of a member's average annual salary, but the member is eligible to receive COLA increases. The COLA method is the automatic calculation method for any active member with fewer than 15 years of service as of Jan. 1, 1989.

Under the COLA method, members who are at least 55 years old and have been receiving OP&F pension benefits for at least one year are eligible for cost-of-living allowance adjustments. The age 55 provision for receiving a COLA does not apply to those who are receiving a permanent and total disability benefit, surviving beneficiaries under optional plans and statutory survivors.

The COLA amount for members who have 15 or more years of service credit as of July 1, 2013 and members who are receiving a pension benefit that became effective before July 1, 2013 will be equal to three percent of the member's base pension benefit.

The COLA amount for members who have less than 15 years of service credit as of July 1, 2013, and members whose pension benefit became effective on or after July 1, 2013, will be equal to a percentage of the member's base pension benefit where the percentage is the lesser of three percent or the percentage increase in the consumer price index, if any, over the twelve-month period that ends on the thirtieth day of September of the immediately preceding year, rounded to the nearest one-tenth of one percent.

Members who retired prior to July 24, 1986 or their surviving beneficiaries under optional plans are entitled to cost-of-living allowance increases. The annual increase is paid on July 1st of each year. The annual COLA increase is $360 under a Single Life Annuity Plan with proportional reductions for optional payment plans.

RE-EMPLOYED RETIREE'S DEFINED CONTRIBUTION PLAN BENEFIT

Effective June 30, 1991, every person who is retired under an Ohio public pension plan and who is re-employed in an OP&F covered position must contribute to OP&F at the same rate as other police officers or firefighters. The employer pays the normal rate as well. If the re-employed member terminates employment before age 60, Ohio law allows the member to receive a lump sum payment of post-retirement employee contributions made during the period of re-employment, plus interest. If the member waits until age 60 to receive this benefit, he or she can choose to receive either a lump sum payment in an amount equal to twice his or her contributions, plus interest, or a lifetime annuity paid monthly. If, after calculation, the member's lifetime monthly annuity is less than $25, the member may only select the lump sum payment option. If the member is married, spousal consent is required before payment can occur.

GROUP HEALTH INSURANCE AND MEDICARE

Commencing Jan. 1, 1974, the Board of Trustees may contract for group health insurance on the basis of part or all of the cost of the premium for the coverage to be paid by OP&F. Medical and prescription drug coverage sponsored by OP&F are not vested rights and are subject to change at any time upon action of the Board of Trustees.

Effective Jan. 1, 1977, OP&F is mandated to pay the premium for supplemental Medicare (Part B) up to the statutory maximum provided the benefit recipient is not eligible for reimbursement from any other sources. By law, OP&F is required to pay monthly to each recipient of service benefits, disability benefits and survivor benefits not less than $96.40, with the exception that OP&F cannot pay an amount that exceeds the amount paid by the recipient for the coverage. Once OP&F obtains the proper documentation from the service retiree, disability retiree or surviving beneficiary of their enrollment in the Medicare program, Medicare (Part B) premium payments begin.

Note: This benefit is not included in the principal valuation results, but is included in the retiree health care valuation results.

Effective July 1992, retirees and survivors make monthly medical benefit contributions, which are credited to the Health Care Stabilization Fund. These contributions are reviewed on an annual basis to determine adequacy with the rising cost of health care. In 2004, a new contribution strategy was implemented. Retirees and survivors now pay a percentage of the full cost of the benefit. The percentage ranges from 25 percent to 100 percent for themselves and dependents based on the year of retirement.

ANALYSIS OF FINANCIAL EXPERIENCE - PENSION TRUST FUND

GAINS AND LOSSES DUE TO PLAN EXPERIENCE

Type of Activity	Experience Gain (Loss) Jan. 1, 2017
Turnover	$(15,352,380)
If more liabilities are released by withdrawal separations from active membership than assumed, there is a gain. If smaller releases, there is a loss.	
Retirement	(2,247,634)
If members retire at older ages than assumed, there is a gain. If younger, there is a loss.	
Death among retired members and beneficiaries	(66,348,845)
If more deaths occur than assumed, there is a gain. If fewer deaths than assumed, there is a loss.	
Disability Retirements	27,852,993
If disability claims are less than assumed, there is a gain. If more claims, there is a loss.	
Salary increase/decrease	(78,167,764)
If there are smaller pay increases than assumed, there is a gain. If greater increases, there is a loss.	
Return to work	(2,786,430)
If participants return to work with previous service restored, there is a loss.	
New Entrants	(6,622,672)
If new entrants join OP&F, there is a loss.	
Deaths among actives	1,591,296
If claim costs are less than assumed, there is a gain. If more claim costs, there is a loss.	
Investment	(114,867,133)
If there is a greater investment return than assumed, there is a gain. If less return, there is a loss.	
Other Experience and Payroll Growth	11,616,684
If other experience, including less than expected payroll growth, increases the unfunded liability, there is a loss. Otherwise, there is a gain.	
NET GAIN (OR LOSS) DURING THE YEAR DUE TO PLAN EXPERIENCE	**$(245,331,885)**

SHORT-TERM SOLVENCY TEST

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

SHORT-TERM SOLVENCY TEST - PENSION TRUST FUND (DOLLARS IN THOUSANDS)

	Valuation as of Jan. 1	(1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets (1)	(2)	(3)
Police	2017	$1,451,473	$6,576,192	$3,184,383	$7,825,895	100%	97%	-%
Fire	2017	1,276,582	4,922,990	2,878,774	6,336,593	100%	100%	5%
Police	2016	1,386,649	6,085,896	3,002,889	7,473,979	100%	100%	-%
Fire	2016	1,213,330	4,614,250	2,832,862	6,179,025	100%	100%	12%
Police	2015	1,210,400	5,857,146	3,015,390	7,141,575	100%	100%	2%
Fire	2015	1,062,097	4,337,819	2,912,741	5,887,716	100%	100%	17%
Police	2014	1,171,496	5,368,637	2,583,711	6,088,816	100%	92%	-%
Fire	2014	1,028,465	3,924,388	2,501,058	4,974,383	100%	100%	1%
Police	2013	1,131,664	5,166,808	2,532,580	5,670,069	100%	88%	-%
Fire	2013	974,362	3,751,279	2,451,195	4,607,962	100%	97%	-%
Police	2012	1,100,146	4,960,051	2,969,900	5,694,783	100%	93%	-%
Fire	2012	965,598	3,581,800	2,769,204	4,614,176	100%	100%	2%
Police	2011	1,100,251	4,368,659	3,008,219	5,885,449	100%	100%	14%
Fire	2011	956,559	3,132,521	2,818,228	4,795,563	100%	100%	25%
Police	2010	1,067,209	4,216,219	2,926,199	5,975,121	100%	100%	24%
Fire	2010	916,033	3,004,267	2,700,815	4,818,972	100%	100%	33%
Police	2009	1,026,597	4,077,113	2,832,235	5,163,648	100%	100%	2%
Fire	2009	874,756	2,895,243	2,601,180	4,145,508	100%	100%	14%
Police	2008	985,169	3,992,482	2,671,816	6,248,107	100%	100%	48%
Fire	2008	830,439	2,827,320	2,420,526	4,964,761	100%	100%	54%

ACTIVE MEMBER VALUATION DATA - PENSION TRUST FUND

Valuation as of Jan. 1	Number of Employers		Number of Active Members*		Average Annual Salary		Percentage of Average Annual Salary Increases		Annual Payroll (Millions)
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	
2017	530	396	15,205	12,970	$75,772	$77,583	3.8%	4.5%	$2,180.9
2016	527	388	14,846	12,778	72,976	74,229	4.2%	4.2%	2,060.9
2015	529	388	14,919	12,850	70,033	71,228	1.9%	1.6%	1,986.6
2014	532	386	14,841	12,764	68,724	70,087	0.8%	1.0%	1,942.3
2013	531	380	14,745	12,699	68,163	69,360	1.6%	1.0%	1,913.4
2012	537	380	14,854	12,769	67,094	68,663	2.2%	1.6%	1,897.4
2011	533	384	15,293	12,929	65,649	67,559	2.0%	2.0%	1,868.5
2010	536	385	15,581	13,038	64,373	66,223	1.4%	1.7%	1,895.2
2009	539	382	15,889	13,173	63,480	65,097	3.1%	3.3%	1,900.9
2008	538	385	15,829	13,035	61,545	62,989	1.5%	2.4%	1,831.4

* Includes rehired retirees.

CALCULATION OF ACTUARIAL VALUE OF ASSETS

Item	Amount
1. Market Value of Assets as of Dec. 31, 2016	$13,682,389,240
2. Determination of Deferred Gain (Loss)	

Year	Return on Market Value of Assets: Actual	Expected	Gain/(Loss)	Percentage Deferred	Deferred Amount	
2016	$1,232,569,108	$1,046,667,736	$185,901,372	75%	$139,426,029	
2015	(11,259,198)	1,088,245,528	(1,099,504,726)	50%	(549,752,363)	
2014	786,522,451	1,065,611,384	(279,088,933)	25%	(69,772,233)	
2013	1,893,854,624	953,408,015	940,446,609	-%	-	
	Total Deferred Gain (Loss)				(480,098,567)	
	Total Deferred Loss					(480,098,567)

Item	Amount
3. Adjustment for 20 percent corridor	-
4. Actuarial Value of Assets available for benefits (1) - (2) + (3)	$14,162,487,807

RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS - PENSION TRUST FUND (DOLLARS IN THOUSANDS)

	Added to rolls		Removed from rolls		Rolls end of year				
Year Ended Dec. 31	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Percentage Change in Allowance	Average Annual Allowances	Percentage Change in Membership
2016	1,401	$47,436	890	$21,186	28,913	$1,021,509	4.67%	$35.33	1.80%
2015	1,450	48,864	1,011	22,141	28,402	975,929	4.81%	34.36	1.57%
2014	1,261	41,378	859	17,204	27,963	931,176	4.59%	33.30	1.46%
2013	1,362	44,842	1,044	23,851	27,561	890,288	4.42%	32.30	1.17%
2012	1,390	48,249	1,225	19,469	27,243	852,602	5.58%	31.30	0.61%
2011	1,783	65,572	779	16,397	27,078	807,550	8.52%	29.82	3.85%
2010	1,165	34,553	803	15,721	26,074	744,144	4.74%	28.54	1.41%
2009	1,128	30,920	733	14,566	25,712	710,463	4.52%	27.63	1.56%
2008	1,046	25,590	607	12,825	25,317	679,769	4.18%	26.85	1.76%
2007	1,128	27,877	933	14,586	24,878	652,474	3.55%	26.23	0.79%

RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS - HEALTH CARE TRUST FUND (DOLLARS IN THOUSANDS)

	Added to rolls		Removed from rolls		Rolls end of year			
Year Ended Jan. 1	Number	Annual Subsidy	Number	Annual Subsidy	Number	Annual Subsidy	Average Annual Subsidy	Increase in Average Subsidy
2016	1,928	$10,962	1,660	$9,002	26,587	$151,172	$5.686	$0.263
2015	1,837	9,962	2,340	11,373	26,319	142,730	5.423	0.563
2014	1,845	8,967	1,817	8,509	26,822	130,360	4.860	0.177
2013	1,710	8,008	1,639	7,540	26,794	125,482	4.683	0.083
2012	2,361	10,862	1,682	7,397	26,723	122,943	4.601	0.203
2011	2,241	9,855	1,593	6,378	26,044	114,528	4.397	0.394
2010	1,579	6,322	1,491	6,497	25,396	101,679	4.004	(0.354)
2009	1,568	6,833	1,626	6,244	25,308	110,286	4.358	0.517
2008	1,218	4,678	2,638	9,345	25,366	97,414	3.840	0.298
2007	1,496	5,300	1,497	6,861	26,786	94,889	3.542	(1.041)

EMPLOYER CONTRIBUTION RATES (1967 - PRESENT)*

	Employer Rates	
Time Frame of Rates	Police	Fire
Jan. 1, 1986 thru Present	19.50%	24.00%
Jan. 1, 1985 thru Dec. 31, 1985	20.03%	24.59%
Jan. 1, 1984 thru Dec. 31, 1984	21.35%	24.59%
Jan. 1, 1983 thru Dec. 31, 1983	18.45%	23.57%
Jan. 1, 1982 thru Dec. 31, 1982	16.62%	22.39%
Jan. 1, 1981 thru Dec. 31, 1981	15.60%	20.72%
Jan. 1, 1980 thru Dec. 31, 1980	15.70%	19.87%
Jan. 1, 1979 thru Dec. 31, 1979	18.40%	20.11%
Jan. 1, 1978 thru Dec. 31, 1978	17.53%	18.90%
Jan. 1, 1977 thru Dec. 31, 1977	15.34%	16.77%
Jan. 1, 1976 thru Dec. 31, 1976	14.02%	15.57%
Jan. 1, 1975 thru Dec. 31, 1975	12.49%	13.78%
Jan. 1, 1974 thru Dec. 31, 1974	12.88%	13.60%
Jan. 1, 1973 thru Dec. 31, 1973	12.85%	13.41%
Jan. 1, 1972 thru Dec. 31, 1972	12.96%	13.26%
Jan. 1, 1971 thru Dec. 31, 1971	12.81%	12.96%
Jan. 1, 1970 thru Dec. 31, 1970	15.52%	15.52%
Jan. 1, 1969 thru Dec. 31, 1969	14.68%	14.49%
Jan. 1, 1968 thru Dec. 31, 1968	13.66%	13.50%
Jan. 1, 1967 thru Dec. 31, 1967	13.55%	13.13%

* For employer billing purposes, the September 1988 billing was carried through Sept. 30, 1988 and was not cut off at Sept. 8, 1988. The same goes for the employee rates for the most part.

MEMBER CONTRIBUTION RATES

	Member Rates	
Time Frame of Rates	Police	Fire
July 2, 2015 thru Present	12.25%	12.25%
July 2, 2014 thru July 1, 2015	11.50%	11.50%
July 2, 2013 thru July 1, 2014	10.75%	10.75%
Sept. 9, 1988 thru July 1, 2013	10.00%	10.00%
Aug. 1, 1986 thru Sept. 8, 1988	9.50%	9.50%
March 1, 1980 thru July 31, 1986	8.50%	8.50%
Jan. 1, 1968 thru Feb. 28, 1980	7.00%	7.00%
Jan. 1, 1967 thru Dec. 31, 1967	6.00%	6.00%

SCHEDULE OF FUNDING PROGRESS

FOR THE VALUATION YEAR ENDING JAN. 1, 2017

PENSION TRUST FUND (DOLLARS IN MILLIONS)*

Valuation Year Jan. 1	Valuation Assets *	Actuarial Accrued Liabilities (AAL)	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2017	$14,162.5	$20,290.4	$6,127.9	69.8%	$2,180.9	281.0%
2016	13,653.0	19,135.9	5,482.9	71.3%	2,060.9	266.1%
2015	13,029.3	18,395.6	5,366.3	70.8%	1,986.6	270.1%
2014	11,063.2	16,577.8	5,514.6	66.7%	1,942.3	283.9%
2013	10,278.0	16,007.9	5,729.9	64.2%	1,913.4	299.5%
2012	10,309.0	16,346.7	6,037.7	63.1%	1,897.4	318.2%
2011	10,681.0	15,384.4	4,703.4	69.4%	1,868.5	251.7%
2010	10,794.1	14,830.7	4,036.6	72.8%	1,895.2	213.0%
2009	9,309.2	14,307.1	4,997.9	65.1%	1,900.9	262.9%
2008	11,212.9	13,727.8	2,514.9	81.7%	1,831.4	137.3%

* The amounts reported in this schedule do not include assets or liabilities for post-employment health care benefits.

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STATISTICAL

2017 COMPREHENSIVE ANNUAL FINANCIAL REPORT | OHIO POLICE & FIRE PENSION FUND

STATISTICAL OBJECTIVES

STATISTICAL OBJECTIVES

The objectives of the statistical section are to provide additional historical perspective, context and relevant details to assist readers in using information in the financial statements, notes to the financial statements and RSI in order to understand and assess OP&F's overall financial condition. In support of these objectives, OP&F reports information in this section in compliance with GASB Statement 44, Economic Condition Reporting: The Statistical Section. This statement establishes standardized reporting requirements relative to the supplementary information provided in this section.

The schedules that follow show financial trend information about the growth of OP&F's assets for the past 10 years. These schedules provide detailed information about the trends of key sources of additions and deductions to OP&F's assets, which assist in providing a context framing how OP&F's financial position has changed over time. The financial trend schedules presented are:

- Changes in Fiduciary Net Position.
- Revenues by Source.
- Expenses by Type.
- Benefit Expenses by Type.
- DROP Program Balances.

The schedules beginning on page 114 show revenue capacity information, demographic and economic information and operating information. The demographic and economic information is designed to assist in understanding the environment in which OP&F operates. The operating information is intended to provide contextual information about OP&F's operations to assist in assessing OP&F's economic condition. The revenue capacity information, the demographic and economic information and the operating information presented include:

- Active Member and Total Payroll Base Statistics.
- Active Membership Data.
- Retired Membership by Type of Benefits.
- Retirees and Beneficiaries Statistics.
- Average Monthly Benefit Payments.
- Member Health Care Contributions.
- State of Ohio Subsidy Payments.
- OP&F's Cost of Living Allowance (COLA) History.
- Employer Contribution Rates.
- Member Contribution Rates.
- Health Care Allocation Rates from Employer Contributions.
- Actuarial Interest Rates.
- DROP and Re-employed Interest Rates.
- DROP Member Count Roll Forward.
- Actuarial Valuation Information – Pension Trust Fund.
- Historical Annual Investment Results.
- Number of Employer Units.
- Retired Membership by Type of Benefits and Average Annual Allowance.
- Schedule of Average Benefits.
- Principal Participating Employers.
- OP&F Employee Budgeted Position Counts.
- Personnel Salaries by Year.
- OP&F Budget.
- Other Operating Statistics.
- Death Benefit Fund.

To help readers of this CAFR, OP&F has added a List of Professional Acronyms and Symbols at the end of the statistical section.

FINANCIAL TRENDS

CHANGES IN FIDUCIARY NET POSITION

COMBINED TRUST FUND (DOLLARS IN MILLIONS)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions										
Employer Contributions	$472.9	$465.4	$438.7	$427.8	$418.2	$417.0	$407.5	$414.0	$404.3	$405.9
Member Contributions and Purchases	282.0	268.6	245.8	224.0	211.4	177.5	176.8	175.5	168.4	172.5
Investment Income	1,923.5	1,317.4	(10.0)	860.7	2,053.0	1,657.9	229.6	1,651.8	1,894.9	(3,832.9)
Health Care Contributions	74.5	73.2	71.2	70.0	66.6	65.1	62.5	58.9	59.1	57.0
Other Revenues	28.9	36.3	29.2	25.2	28.5	30.7	40.5	25.8	24.3	26.0
TOTAL ADDITIONS	**2,781.8**	**2,160.9**	**774.9**	**1,607.7**	**2,777.7**	**2,348.2**	**916.9**	**2,326.0**	**2,551.0**	**(3,171.5)**
Deductions										
Benefit Payments	1,429.2	1,396.4	1,369.9	1,310.5	1,302.5	1,236.4	1,204.2	1,132.1	1,085.1	1,021.0
Refund of Member Contributions	20.6	14.2	13.8	15.2	16.0	26.5	22.0	15.8	15.7	17.7
Administrative Expenses	20.3	19.6	16.3	16.2	15.9	15.4	15.4	15.1	16.3	16.0
TOTAL DEDUCTIONS	**1,470.1**	**1,430.2**	**1,400.0**	**1,341.9**	**1,334.4**	**1,278.3**	**1,241.6**	**1,163.0**	**1,117.1**	**1,054.7**
CHANGES IN FIDUCIARY NET POSITION	**1,311.7**	**730.7**	**(625.1)**	**265.8**	**1,443.3**	**1,069.9**	**(324.7)**	**1,163.0**	**1,433.9**	**(4,226.2)**
FIDUCIARY NET POSITION - BEGINNING OF YEAR	**$14,584.0**	**$13,853.3**	**$14,478.4***	**$14,219.6**	**$12,776.3****	**$10,468.5**	**$10,793.2**	**$9,630.2**	**$8,196.3**	**$12,422.5**
FIDUCIARY NET POSITION - END OF YEAR	**$15,895.7**	**$14,584.0**	**$13,853.3**	**$14,485.4**	**$14,219.6**	**$11,538.4**	**$10,468.5**	**$10,793.2**	**$9,630.2**	**$8,196.3**
Reserve Fund Balances:										
Employers' Contribution Reserves	$1,535.3	$1,155.8	$1,058.3	$2,701.1	$2,907.9	$873.8	$901.6	$1,515.9	$674.6	$(524.8)
Members' Contribution Reserves	2,861.2	2,728.1	2,600.0	2,491.3	2,393.7	2,122.8	2,065.8	2,056.8	1,983.2	1,901.3
Health Care Contribution Reserves	932.1	901.6	929.4	1,031.9	1,053.5	935.6	780.1	717.7	573.4	438.7
Pension Reserves	10,567.1	9,798.5	9,265.6	8,261.1	7,864.5	7,606.2	6,721.0	6,502.8	6,399.0	6,381.1
TOTAL FIDUCIARY NET POSITION	**$15,895.7**	**$14,584.0**	**$13,853.3**	**$14,485.4**	**$14,219.6**	**$11,538.4**	**$10,468.5**	**$10,793.2**	**$9,630.2**	**$8,196.3**

* Net Position was restated due to the implementation of GASB 68 during 2015.

** Net Position was restated due to the implementation of GASB 67 during 2014.

CHANGES IN FIDUCIARY NET POSITION

PENSION TRUST FUND (DOLLARS IN MILLIONS)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions										
Employer Contributions	$462.0	$454.7	$428.5	$418.0	$349.5	$286.7	$278.2	$285.2	$277.7	$276.4
Member Contributions and Purchases	282.0	268.6	245.8	224.0	211.4	177.5	176.8	175.5	168.4	172.5
Investment Income	1,808.1	1,232.6	(16.7)	779.8	1,893.9	1,531.0	210.6	1,551.3	1,791.3	(3,697.1)
Health Care Contributions	-	-	-	-	-	-	-	-	-	-
Other Revenues	4.8	8.4	5.9	7.2	12.9	9.5	11.9	9.1	9.5	10.7
TOTAL ADDITIONS	**2,556.9**	**1,964.3**	**663.5**	**1,429.0**	**2,467.7**	**2,004.7**	**677.5**	**2,021.1**	**2,246.9**	**(3,237.5)**
Deductions										
Benefit Payments	1,235.6	1,172.8	1,156.7	1,110.9	1,111.2	1,049.0	1,027.9	972.2	916.4	867.6
Refund of Member Contributions	20.6	14.2	13.8	15.2	16.0	26.5	22.0	15.8	15.7	17.7
Administrative Expenses	19.5	18.8	15.6	15.5	15.1	14.8	14.7	14.4	15.6	15.1
TOTAL DEDUCTIONS	**1,275.7**	**1,205.8**	**1,186.1**	**1,141.6**	**1,142.3**	**1,090.3**	**1,064.6**	**1,002.4**	**947.7**	**900.4**
CHANGES IN FIDUCIARY NET POSITION	**1,281.2**	**758.5**	**(522.6)**	**287.4**	**1,325.4**	**914.4**	**(387.1)**	**1,018.7**	**1,299.2**	**(4,137.9)**
FIDUCIARY NET POSITION - BEGINNING OF YEAR	**$13,682.4**	**$12,923.9**	**$13,446.5***	**$13,166.1**	**$11,840.7****	**$9,688.4**	**$10,075.5**	**$9,056.8**	**$7,757.6**	**$11,895.5**
FIDUCIARY NET POSITION - END OF YEAR	**$14,963.6**	**$13,682.4**	**$12,923.9**	**$13,453.5**	**$13,166.1**	**$10,602.8**	**$9,688.4**	**$10,075.5**	**$9,056.8**	**$7,757.6**
Reserve Fund Balances:										
Employers' Contribution Reserves	$1,535.3	$1,155.8	$1,058.3	$2,701.1	$2,907.9	$873.8	$901.6	$1,515.9	$674.6	$(524.8)
Members' Contribution Reserves	2,861.2	2,728.1	2,600.0	2,491.3	2,393.7	2,122.8	2,065.8	2,056.8	1,983.2	1,901.3
Pension Reserves	10,567.1	9,798.5	9,265.6	8,261.1	7,864.5	7,606.2	6,721.0	6,502.8	6,399.0	6,381.1
TOTAL FIDUCIARY NET POSITION	**$14,963.6**	**$13,682.4**	**$12,923.9**	**$13,453.5**	**$13,166.1**	**$10,602.8**	**$9,688.4**	**$10,075.5**	**$9,056.8**	**$7,757.6**

* Net Position was restated due to the implementation of GASB 68 during 2015.

** Net Position was restated due to the implementation of GASB 67 during 2014.

CHANGES IN FIDUCIARY NET POSITION

RETIREE HEALTH CARE TRUST FUND (DOLLARS IN MILLIONS)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions										
Employer Contributions	$10.9	$10.7	$10.2	$9.8	$68.7	$130.3	$129.3	$128.8	$126.6	$129.5
Member Contributions and Purchases	-	-	-	-	-	-	-	-	-	-
Investment Income	115.4	84.8	6.7	80.9	159.1	126.9	19.0	100.5	103.6	(135.8)
Health Care Contributions	74.5	73.2	71.2	70.0	66.6	65.1	62.5	58.9	59.1	57.0
Other Revenues	24.1	27.9	23.3	18.0	15.6	21.2	28.6	16.7	14.8	15.3
TOTAL ADDITIONS	**224.9**	**196.6**	**111.4**	**178.7**	**310.0**	**343.5**	**239.4**	**304.9**	**304.1**	**66.0**
Deductions										
Benefit Payments	193.6	223.6	213.2	199.6	191.3	187.4	176.3	159.9	168.7	153.4
Refund of Member Contributions	-	-	-	-	-	-	-	-	-	-
Administrative Expenses	0.8	0.8	0.7	0.7	0.8	0.6	0.7	0.7	0.7	0.9
TOTAL DEDUCTIONS	**194.4**	**224.4**	**213.9**	**200.3**	**192.1**	**188.0**	**177.0**	**160.6**	**169.4**	**154.3**
CHANGES IN FIDUCIARY NET POSITION	**30.5**	**(27.8)**	**(102.5)**	**(21.6)**	**117.9**	**155.5**	**62.4**	**144.3**	**134.7**	**(88.3)**
FIDUCIARY NET POSITION - BEGINNING OF YEAR	**$901.6**	**$929.4**	**$1,031.9**	**$1,053.5**	**$935.6**	**$780.1**	**$717.7**	**$573.4**	**$438.7**	**$527.0**
FIDUCIARY NET POSITION - END OF YEAR	**$932.1**	**$901.6**	**$929.4**	**$1,031.9**	**$1,053.5**	**$935.6**	**$780.1**	**$717.7**	**$573.4**	**$438.7**
Reserve Fund Balances:										
Health Care Contribution Reserves	$932.1	$901.6	$929.4	$1,031.9	$1,053.5	$935.6	$780.1	$717.7	$573.4	$438.7
TOTAL FIDUCIARY NET POSITION	**$932.1**	**$901.6**	**$929.4**	**$1,031.9**	**$1,053.5**	**$935.6**	**$780.1**	**$717.7**	**$573.4**	**$438.7**

REVENUES BY SOURCE (DOLLARS IN MILLIONS)

Year	Employer Contributions	Member Contributions and Purchases	Employer Contributions as a Percentage of Covered Payroll	Investment and Securities Lending Income	Health Care Contributions	Other Revenues	Total Revenues
2017	$472.9	$282.0	22.9%	$1,923.5	$74.5	$28.9	$2,781.8
2016	465.4	268.6	22.6%	1,317.4	73.2	36.3	2,160.9
2015	438.7	245.8	22.1%	(10.0)	71.2	29.2	774.9
2014	427.8	224.0	22.0%	860.7	70.0	25.2	1,607.7
2013	418.2	211.4	21.9%	2,053.0	66.6	28.5	2,777.7
2012	417.0	177.5	22.0%	1,657.9	65.1	30.7	2,348.2
2011	407.5	176.8	21.8%	229.6	62.5	40.5	916.9
2010	414.0	175.5	21.8%	1,651.8	58.9	25.8	2,326.0
2009	404.3	168.4	21.3%	1,894.9	59.1	24.3	2,551.0
2008	405.9	172.5	22.2%	(3,832.9)	57.0	26.0	(3,171.5)

EXPENSES BY TYPE (DOLLARS IN MILLIONS)

Year	Benefit Payments	Refund of Member Contributions	Administrative Expenses	Total Expenses
2017	$1,429.2	$20.6	$20.3	$1,470.1
2016	1,396.4	14.2	19.6	1,430.2
2015	1,369.9	13.8	16.3	1,400.0
2014	1,310.5	15.2	16.2	1,341.9
2013	1,302.5	16.0	15.9	1,334.4
2012	1,236.4	26.5	15.4	1,278.3
2011	1,204.2	22.0	15.4	1,241.6
2010	1,132.1	15.8	15.1	1,163.0
2009	1,085.1	15.7	16.3	1,117.1
2008	1,021.0	17.7	16.0	1,054.7

BENEFIT EXPENSES BY TYPE (DOLLARS IN MILLIONS)

Year	Service	Disability	Health Care	Survivor	DROP	Total Benefits
2017	$710.3	$252.0	$193.6	$86.9	$186.4	$1,429.2
2016	672.6	248.9	223.6	84.6	166.7	1,396.4
2015	631.6	245.7	213.2	82.1	197.3	1,369.9
2014	598.8	242.1	199.6	79.6	190.4	1,310.5
2013	563.2	239.0	191.3	76.8	232.2	1,302.5
2012	529.9	232.8	187.4	74.2	212.1	1,236.4
2011	490.2	225.0	176.3	71.6	241.1	1,204.2
2010	444.4	217.8	159.9	69.0	241.0	1,132.1
2009	423.7	211.1	168.8	66.1	215.4	1,085.1
2008	407.4	202.2	153.4	63.1	194.9	1,021.0

DROP PROGRAM BALANCES (DOLLARS IN MILLIONS)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Police										
DROP Program Beginning Balance	$770.6	$721.9	$687.8	$661.0	$666.5	$694.7	$650.8	$544.9	$436.9	$337.8
Accrued Pension and COLA	111.3	108.2	103.0	97.6	95.4	90.7	92.3	98.3	92.4	86.4
Accrued Member Share Contributions	16.8	18.7	15.2	12.3	11.9	11.3	11.7	12.5	13.0	11.8
Accrued Interest	18.2	13.8	14.6	15.1	14.2	17.8	32.2	29.2	23.9	18.7
Withdrawals	(97.6)	(92.0)	(98.7)	(98.2)	(127.0)	(148.0)	(92.3)	(34.1)	(21.3)	(17.8)
DROP PROGRAM ENDING BALANCE - POLICE	819.3	**770.6**	**721.9**	**687.8**	**661.0**	**666.5**	**694.7**	**650.8**	**544.9**	**436.9**
Fire										
DROP Program Beginning Balance	692.2	641.0	616.4	584.6	571.4	593.1	536.2	441.4	344.5	257.3
Accrued Pension and COLA	104.1	101.3	101.3	97.8	94.0	88.4	89.3	89.6	80.0	75.0
Accrued Member Share Contributions	15.9	17.2	14.9	12.9	12.0	11.0	11.2	11.2	11.3	10.0
Accrued Interest	16.5	12.2	13.1	13.3	12.4	15.2	27.3	23.8	19.2	14.7
Withdrawals	(88.8)	(79.5)	(104.7)	(92.2)	(105.2)	(136.3)	(70.9)	(29.8)	(13.6)	(12.5)
DROP PROGRAM ENDING BALANCE - FIRE	739.9	**692.2**	**641.0**	**616.4**	**584.6**	**571.4**	**593.1**	**536.2**	**441.4**	**344.5**
Combined Police and Fire										
DROP Program Beginning Balance	1,462.8	1,362.9	1,304.2	1,245.6	1,237.9	1,287.8	1,187.0	986.3	781.4	595.1
Accrued Pension and COLA	215.4	209.5	204.3	195.4	189.4	179.1	181.6	187.9	172.4	161.4
Accrued Member Share Contributions	32.7	35.9	30.1	25.2	23.9	22.3	22.9	23.7	24.3	21.8
Accrued Interest	34.7	26.0	27.7	28.4	26.6	33.0	59.5	53.0	43.1	33.4
Withdrawals	(186.4)	(171.5)	(203.4)	(190.4)	(232.2)	(284.3)	(163.2)	(63.9)	(34.9)	(30.3)
DROP PROGRAM ENDING BALANCE - COMBINED	$1,559.2	**$1,462.8**	**$1,362.9**	**$1,304.2**	**$1,245.6**	**$1,237.9**	**$1,287.8**	**$1,187.0**	**$986.3**	**$781.4**

REVENUE CAPACITY INFORMATION

ACTIVE MEMBER AND TOTAL PAYROLL BASE STATISTICS (DOLLARS IN MILLIONS)

10-YEAR HISTORY OF MEMBERSHIP DATA *

Year	Total Annual Payroll	Member Contributions	Number of Active Members*	Percentage Change in Payroll	Percentage Change in Member Contributions	Percentage Change in Members
2017	$2,180.9	$282.0	28,175	5.8%	5.0%	2.0%
2016	2,060.9	268.6	27,624	3.7%	9.3%	(0.5)%
2015	1,986.6	245.8	27,769	2.3%	9.7%	0.6%
2014	1,942.3	224.0	27,605	1.5%	6.0%	0.6%
2013	1,913.4	211.4	27,444	0.8%	19.1%	(0.6)%
2012	1,897.4	177.5	27,623	1.5%	0.4%	(2.1)%
2011	1,868.5	176.8	28,222	(1.4)%	0.7%	(1.4)%
2010	1,895.2	175.5	28,619	(0.3)%	4.2%	(1.5)%
2009	1,900.9	168.4	29,062	3.8%	(2.4)%	0.7%
2008	1,831.4	172.5	28,864	2.7%	4.5%	0.9%

* Includes rehired retirees.

ACTIVE MEMBERSHIP DATA

NUMBER AND ALLOWABLE AVERAGE ANNUAL SALARY AS OF JAN. 1, 2017 *

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
Under 25	730	1								**731**
	$49,783	$72,474								**$49,814**
25-29	2,544	347								**2,891**
	$57,002	$74,777								**$59,135**
30-34	1,727	1,582	425							**3,734**
	$59,643	$74,432	$81,477							**$68,394**
35-39	728	1,035	1,452	641	6					**3,862**
	$60,358	$74,031	$79,708	$84,083	$94,246					**$75,288**
40-44	236	405	961	2,152	667	12				**4,433**
	$53,634	$72,033	$77,964	$82,303	$87,024	$98,218				**$79,652**
45-49	99	192	549	1,544	2,342	813	9			**5,548**
	$52,489	$71,272	$75,795	$79,859	$86,721	$90,803	$82,021			**$83,175**
50-54	39	58	170	484	1,138	1,728	541	15	1	**4,174**
	$56,282	$66,561	$73,443	$79,305	$83,717	$89,008	$91,173	$91,027	$91,221	**$85,477**
55-59	18	30	45	141	395	691	583	80	2	**1,985**
	$55,540	$64,726	$71,787	$77,259	$80,700	$85,061	$90,645	$94,309	$80,039	**$84,771**
60-64	10	14	17	40	111	148	153	43	7	**543**
	$54,181	$57,455	$77,175	$72,216	$78,230	$79,074	$88,566	$89,485	$104,284	**$81,145**
Over 64	2	2	4	5	15	21	18	10	12	**89**
	$29,250	$80,021	$80,272	$78,446	$80,767	$76,625	$83,277	$75,871	$89,497	**$79,597**
TOTAL	**6,133**	**3,666**	**3,623**	**5,007**	**4,674**	**3,413**	**1,304**	**148**	**22**	**27,990**
	$57,060	**$73,655**	**$78,456**	**$81,261**	**$85,313**	**$88,161**	**$90,459**	**$91,329**	**$93,420**	**$76,608**

* Excludes rehired retirees.

RETIRED MEMBERSHIP BY TYPE OF BENEFITS (SOURCE: ACTUARIAL VALUATION)

AS OF JAN. 1

	Service		Survivors		Disability		
Year	Police	Fire	Police	Fire	Police	Fire	Total Beneficiaries
2017	8,307	6,406	4,484	3,433	3,732	2,551	28,913
2016	8,048	6,207	4,424	3,406	3,754	2,563	28,402
2015	7,842	5,972	4,403	3,386	3,784	2,576	27,963
2014	7,623	5,784	4,395	3,351	3,820	2,588	27,561
2013	7,459	5,683	4,352	3,321	3,834	2,594	27,243
2012	7,204	5,540	4,543	3,389	3,825	2,577	27,078
2011	6,762	5,185	4,479	3,310	3,772	2,566	26,074
2010	6,619	5,108	4,416	3,268	3,762	2,539	25,712
2009	6,546	5,060	4,300	3,194	3,721	2,496	25,317
2008	6,523	5,036	4,090	3,077	3,682	2,470	24,878

RETIREES AND BENEFICIARIES STATISTICS (DOLLARS IN MILLIONS)

Year	Benefit Payments*	Refunds	Total Payments*	Number of Benefit Recipients**	Percentage Change in Benefit Recipients	Percentage Change in Total Benefit Payments
2017	$1,235.6	$20.6	$1,256.2	29,113	1.7%	5.8%
2016	1,172.8	14.3	1,187.1	28,638	1.8%	1.4%
2015	1,156.7	13.8	1,170.5	28,143	1.6%	3.9%
2014	1,110.9	15.2	1,126.1	27,703	1.2%	(0.1)%
2013	1,111.2	16.0	1,127.2	27,380	0.7%	4.8%
2012	1,049.0	26.5	1,075.5	27,184	3.7%	2.4%
2011	1,027.9	22.0	1,049.9	26,225	1.4%	6.3%
2010	972.2	15.8	988.0	25,853	1.6%	6.0%
2009	916.4	15.7	932.1	25,439	1.7%	5.3%
2008	867.6	17.7	885.3	25,013	0.7%	6.5%

* Excludes health care benefits.

** Includes Terminated employees entitled to benefits but not yet receiving them.

AVERAGE MONTHLY BENEFIT PAYMENTS ** for Members Placed on Retirement Rolls*

SERVICE RETIREMENT

Year	Normal	Service Commuted	Age Commuted	Age / Service
2017	$3,797	$1,268	$-	$2,569
2016	3,681	1,444	-	2,724
2015	3,651	1,522	-	2,707
2014	3,606	1,698	-	2,455
2013	3,530	1,292	-	2,590
2012	3,466	1,241	-	2,341
2011	3,442	1,282	-	2,699
2010	3,339	1,374	-	3,016
2009	3,301	1,460	-	2,359
2008	3,266	1,222	-	2,315

DISABILITY RETIREMENT *

Year	Permanent and Total	Permanent and Total Presumptive	Partial	Partial Presumptive	Off Duty
2017	$4,466	$3,998	$2,970	$2,696	$2,809
2016	4,681	4,074	2,882	3,047	2,563
2015	3,864	3,602	2,757	3,239	2,647
2014	3,642	4,252	3,040	3,147	2,258
2013	3,997	5,038	2,865	2,599	2,731
2012	4,276	3,717	2,928	3,338	2,770
2011	3,838	3,870	2,963	2,983	2,510
2010	3,495	3,886	2,827	3,659	2,785
2009	3,626	3,810	2,807	2,966	2,697
2008	3,509	3,424	2,874	2,696	2,511

* Source: Numbers calculated by taking an average of final placements for retirees as listed in OP&F Board of Trustees monthly reports.

MEMBER HEALTH CARE CONTRIBUTIONS (DOLLARS IN MILLIONS)

Year	Contributions	Percentage Change in Contributions Received	Number of Covered Lives *	Health Care Benefit Payments	Percentage of Benefit Payments Covered by Member Contributions	Net Benefit Payment Per Covered Life
2017	$74.5	2%	26,587	$193.6	38%	$0.004
2016	73.2	3%	26,319	223.6	33%	0.006
2015	71.2	2%	26,822	213.2	33%	0.005
2014	70.0	5%	26,794	199.6	35%	0.005
2013	66.6	2%	26,723	191.3	35%	0.005
2012	65.1	4%	26,044	187.4	35%	0.005
2011	62.5	6%	25,396	176.3	35%	0.004
2010	58.9	0%	25,308	159.9	37%	0.004
2009	59.1	4%	25,366	168.7	35%	0.004
2008	57.0	2%	26,786	153.4	37%	0.004

* In 2012 OP&F restated the number of covered lives column using Buck Consultants, LLC actuarially certified number of covered lives.

STATE OF OHIO SUBSIDY PAYMENTS

Year	Subsidy Amount	Percentage Change
2017	$346,475	(13)%
2016	398,161	(11)%
2015	446,735	(11)%
2014	500,152	(6)%
2013	530,573	(9)%
2012	580,657	(9)%
2011	639,099	(8)%
2010	692,634	(11)%
2009	782,060	(9)%
2008	856,413	(12)%

OP&F'S COST OF LIVING ALLOWANCE (COLA) HISTORY

COLA Payment Dates	Members who are 55 years old with less than 15 years of service credit as of July 1, 2013 and have been receiving Benefits for at least one year COLA Paid	Members who are 55 years old with 15 or more years of service credit as of July 1, 2013 and have been receiving Benefits for at least one year COLA Paid	EDOR* July 1, 2000 to June 30, 2012 COLA Paid	EDOR* July 1, 1999 to June 30, 2000 COLA Paid	EDOR* July 1, 1998 to June 30, 1999 COLA Paid	EDOR* July 1, 1997 to June 30, 1998 COLA Paid
Nov. 1, 2017 thru Oct. 31, 2018	2.30%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2016 thru Oct. 31, 2017	1.20%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2015 thru Oct. 31, 2016	-%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2014 thru Oct. 31, 2015	1.70%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2013 thru Oct. 31, 2014	1.20%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2013 thru Oct. 31, 2013	2.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2012 thru June 30, 2013			3.00%	3.00%	3.00%	3.00%
July 1, 2011 thru June 30, 2012			3.00%	3.00%	3.00%	3.00%
July 1, 2010 thru June 30, 2011			3.00%	3.00%	3.00%	3.00%
July 1, 2009 thru June 30, 2010			3.00%	3.00%	3.00%	3.00%
July 1, 2008 thru June 30, 2009			3.00%	3.00%	3.00%	3.00%
July 1, 2007 thru June 30, 2008			3.00%	3.00%	3.00%	3.00%
July 1, 2006 thru June 30, 2007			3.00%	3.00%	3.00%	3.00%
July 1, 2005 thru June 30, 2006			3.00%	3.00%	3.00%	3.00%
July 1, 2004 thru June 30, 2005			3.00%	3.00%	3.00%	3.00%
July 1, 2003 thru June 30, 2004			3.00%	3.00%	3.00%	3.00%
July 1, 2002 thru June 30, 2003			3.00%	3.00%	3.00%	3.00%
July 1, 2001 thru June 30, 2002			3.00%	3.00%	3.00%	3.00%
July 1, 2000 thru June 30, 2001				2.20%	2.20%	2.20%
July 1, 1999 thru June 30, 2000					1.30%	1.30%
July 1, 1998 thru June 30, 1999						2.30%
July 1, 1997 thru June 30, 1998						
July 1, 1996 thru June 30, 1997						
July 1, 1995 thru June 30, 1996						
July 1, 1994 thru June 30, 1995						
July 1, 1993 thru June 30, 1994						
July 1, 1992 thru June 30, 1993						
July 1, 1991 thru June 30, 1992						
July 1, 1990 thru June 30, 1991						
July 1, 1989 thru June 30, 1990						
July 1, 1988 thru June 30, 1989						

* EDOR = Effective Date of Retirement
Additional Notes:
1) First COLAs were paid July 1, 1988 through June 30, 1989
2) July 1, 2002 COLAs were a flat 3 percent (regardless of the CPI)
3) Beginning July 1, 2013

A) Retired members who are at least 55 years old and have been receiving benefits for at least one year may be eligible for a cost-of-living allowance adjustment.
B) The age 55 provision for receiving a COLA does not apply to those who are receiving a permanent and total disability benefit, statutory survivors and annuity beneficiaries.

C) Members with less than 15 years of service credit on July 1, 2013, will receive a COLA equal to either three percent or the percent increase, if any, in the Consumer Price Index (CPI) over the 12-month period ending on Sept. 30 of the immediately preceding year, whichever is less.

D) The COLA amount for members with at least 15 years of service credit as of July 1, 2013 is equal to three percent of their base pension or disability benefit.

OP&F'S COST OF LIVING ALLOWANCE (COLA) HISTORY - CONTINUED

EDOR* July 1, 1996 to June 30, 1997 COLA Paid	EDOR* July 1, 1995 to June 30, 1996 COLA Paid	EDOR* July 1, 1994 to June 30, 1995 COLA Paid	EDOR* July 1, 1993 to June 30, 1994 COLA Paid	EDOR* July 1, 1992 to June 30, 1993 COLA Paid	EDOR* July 1, 1991 to June 30, 1992 COLA Paid	EDOR* July 1, 1990 to June 30, 1991 COLA Paid	EDOR* July 1, 1986 to June 30, 1990 COLA Paid
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	3.00%
1.30%	1.30%	2.90%	2.70%	2.70%	1.30%	2.90%	3.00%
2.30%	2.30%	3.00%	3.00%	3.00%	2.40%	3.00%	3.00%
2.90%	2.90%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
	2.90%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
		-%	3.00%	3.00%	3.00%	3.00%	3.00%
			-%	-%	3.00%	3.00%	3.00%
				3.00%	3.00%	3.00%	3.00%
					3.00%	3.00%	3.00%
						3.00%	3.00%
							3.00%
							3.00%
							3.00%

EMPLOYER CONTRIBUTION RATES (1967 - PRESENT)*

	Employer Rates	
Time Frame of Rates	Police	Fire
Jan. 1, 1986 thru Present	19.50%	24.00%
Jan. 1, 1985 thru Dec. 31, 1985	20.03%	24.59%
Jan. 1, 1984 thru Dec. 31, 1984	21.35%	24.59%
Jan. 1, 1983 thru Dec. 31, 1983	18.45%	23.57%
Jan. 1, 1982 thru Dec. 31, 1982	16.62%	22.39%
Jan. 1, 1981 thru Dec. 31, 1981	15.60%	20.72%
Jan. 1, 1980 thru Dec. 31, 1980	15.70%	19.87%
Jan. 1, 1979 thru Dec. 31, 1979	18.40%	20.11%
Jan. 1, 1978 thru Dec. 31, 1978	17.53%	18.90%
Jan. 1, 1977 thru Dec. 31, 1977	15.34%	16.77%
Jan. 1, 1976 thru Dec. 31, 1976	14.02%	15.57%
Jan. 1, 1975 thru Dec. 31, 1975	12.49%	13.78%
Jan. 1, 1974 thru Dec. 31, 1974	12.88%	13.60%
Jan. 1, 1973 thru Dec. 31, 1973	12.85%	13.41%
Jan. 1, 1972 thru Dec. 31, 1972	12.96%	13.26%
Jan. 1, 1971 thru Dec. 31, 1971	12.81%	12.96%
Jan. 1, 1970 thru Dec. 31, 1970	15.52%	15.52%
Jan. 1, 1969 thru Dec. 31, 1969	14.68%	14.49%
Jan. 1, 1968 thru Dec. 31, 1968	13.66%	13.50%
Jan. 1, 1967 thru Dec. 31, 1967	13.55%	13.13%

* For employer billing purposes, the September 1988 billing was carried through Sept. 30, 1988 and was not cut off at Sept. 8, 1988. The same goes for the employee rates for the most part.

MEMBER CONTRIBUTION RATES

	Member Rates	
Time Frame of Rates	Police	Fire
July 2, 2015 thru Present	12.25%	12.25%
July 2, 2014 thru July 1, 2015	11.50%	11.50%
July 2, 2013 thru July 1, 2014	10.75%	10.75%
Sept. 9, 1988 thru July 1, 2013	10.00%	10.00%
Aug. 1, 1986 thru Sept. 8, 1988	9.50%	9.50%
March 1, 1980 thru July 31, 1986	8.50%	8.50%
Jan. 1, 1968 thru Feb. 28, 1980	7.00%	7.00%
Jan. 1, 1967 thru Dec. 31, 1967	6.00%	6.00%

HEALTH CARE ALLOCATION RATES FROM EMPLOYER CONTRIBUTIONS

Time Frame of Rates	Percentage
Jan. 1, 2014 thru Present	0.50%
June 1, 2013 thru Dec. 31, 2013	2.85%
Jan. 1, 2013 thru May 31, 2013	4.69%
Jan. 1, 2007 thru Dec. 31, 2012	6.75%
Jan. 1, 2002 thru Dec. 31, 2006	7.75%
Jan. 1, 2001 thru Dec. 31, 2001	7.50%
Jan. 1, 2000 thru Dec. 31, 2000	7.25%
Jan. 1, 1999 thru Dec. 31, 1999	7.00%
Jan. 1, 1992 thru Dec. 31, 1998	6.50%
Jan. 1, 1974 thru Dec. 31, 1991	Rate equal to dollar of Benefits Paid

ACTUARIAL INTEREST RATES

	Actuarial Interest Rates	
Time Frame of Rates	Police	Fire
Jan. 1, 2017 thru Present	8.000%	8.000%
Jan. 1, 1989 thru Dec. 31, 2016	8.250%	8.250%
Jan. 1, 1986 thru Dec. 31, 1988	7.750%	7.750%
Jan. 1, 1983 thru Dec. 31, 1985	7.500%	7.500%
Jan. 1, 1980 thru Dec. 31, 1982	6.375%	6.375%
Jan. 1, 1979 thru Dec. 31, 1979	6.000%	6.000%
Jan. 1, 1974 thru Dec. 31, 1978	5.000%	5.000%
Jan. 1, 1972 thru Dec. 31, 1973	4.750%	4.750%
Jan. 1, 1970 thru Dec. 31, 1971	4.625%	4.625%
Jan. 1, 1967 thru Dec. 31, 1969	4.250%	4.250%

DROP AND RE-EMPLOYED INTEREST RATES

	Member Rates	
Time Frame of Rates *	Police	Fire
April 1, 2018 thru June 30, 2018	2.74%	2.74%
Jan. 1, 2018 thru March 31, 2018	2.40%	2.40%
Oct. 1, 2017 thru Dec. 31, 2017	2.33%	2.33%
July 1, 2017 thru Sept. 30, 2017	2.31%	2.31%
April 1, 2017 thru June 30, 2017	2.40%	2.40%
Jan. 1, 2017 thru March 31, 2017	2.45%	2.45%
Oct. 1, 2016 thru Dec. 31, 2016	1.60%	1.60%
July 1, 2016 thru Sept. 30, 2016	1.49%	1.49%
April 1, 2016 thru June 30, 2016	1.78%	1.78%
Jan. 1, 2016 thru March 31, 2016	2.27%	2.27%
Oct. 1, 2015 thru Dec. 31, 2015	2.06%	2.06%
July 1, 2015 thru Sept. 30, 2015	2.35%	2.35%
April 1, 2015 thru June 30, 2015	1.94%	1.94%
Jan. 1, 2015 thru March 31, 2015	2.17%	2.17%
Oct. 1, 2014 thru Dec. 31, 2014	2.52%	2.52%
July 1, 2014 thru Sept. 30, 2014	2.53%	2.53%
April 1, 2014 thru June 30, 2014	2.73%	2.73%
Jan. 1, 2014 thru March 31, 2014	3.04%	3.04%
Oct. 1, 2013 thru Dec. 31, 2013	2.64%	2.64%
July 1, 2013 thru Sept. 30, 2013	2.52%	2.52%
April 1, 2013 thru June 30, 2013	1.87%	1.87%
Jan. 1, 2013 thru March 31, 2013	1.78%	1.78%
Oct. 1, 2012 thru Dec. 31, 2012	1.65%	1.65%
July 1, 2012 thru Sept. 30, 2012	1.67%	1.67%
April 2, 2012 thru June 30, 2012	2.23%	2.23%
Jan. 19, 2003 thru April 1, 2012	5.00%	5.00%

* Effective April 2, 2012 the interest rate is equal to the 10-year U.S. Treasury Note Business Day Series, as published by the United States Department of the Treasury, with a cap of five percent.

DROP MEMBER COUNT ROLL FORWARD *(as of Dec. 31)*

Police		2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Balance Beginning of Year		2,050	2,001	1,918	1,883	1,795	1,801	1,985	1,990	1,893	1,797
Number of members that entered into DROP	Increases	415	369	364	322	384	329	356	289	289	258
Number of members that terminated DROP	Decreases	(307)	(320)	(281)	(287)	(296)	(335)	(540)	(294)	(192)	(162)
SUB-TOTAL AT YEAR END - POLICE		2,158	2,050	2,001	1,918	1,883	1,795	1,801	1,985	1,990	1,893
Fire											
Balance Beginning of Year		1,902	1,887	1,907	1,862	1,741	1,740	1,888	1,744	1,648	1,541
Number of members that entered into DROP	Increases	369	301	290	346	369	283	315	349	258	249
Number of members that terminated DROP	Decreases	(275)	(286)	(310)	(301)	(248)	(282)	(463)	(205)	(162)	(142)
SUB-TOTAL AT YEAR END - FIRE		1,996	1,902	1,887	1,907	1,862	1,741	1,740	1,888	1,744	1,648
COMBINED POLICE AND FIRE											
Balance Beginning of Year		3,952	3,888	3,825	3,745	3,536	3,541	3,873	3,734	3,541	3,338
Number of members that entered into DROP	Increases	784	670	654	668	753	612	671	638	547	507
Number of members that terminated DROP	Decreases	(582)	(606)	(591)	(588)	(544)	(617)	(1,003)	(499)	(354)	(304)
TOTAL AT YEAR END - COMBINED		4,154	3,952	3,888	3,825	3,745	3,536	3,541	3,873	3,734	3,541

ACTUARIAL VALUATION INFORMATION - PENSION TRUST FUND (DOLLARS IN MILLIONS) *

As of Jan. 1	Valuation Assets *	Actuarial Accrued Liabilities (AAL) *	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2017	$14,162.5	$20,290.4	$6,127.9	69.8%	$2,180.9	281.0%
2016	13,653.0	19,135.9	5,482.9	71.3%	2,060.9	266.1%
2015	13,029.3	18,395.6	5,366.3	70.8%	1,986.6	270.1%
2014	11,063.2	16,577.8	5,514.6	66.7%	1,942.3	283.9%
2013	10,278.0	16,007.9	5,729.9	64.2%	1,913.4	299.5%
2012	10,309.0	16,346.7	6,037.7	63.1%	1,897.4	318.2%
2011	10,681.0	15,384.4	4,703.4	69.4%	1,868.5	251.7%
2010	10,794.1	14,830.7	4,036.6	72.8%	1,895.2	213.0%
2009	9,309.2	14,307.1	4,997.9	65.1%	1,900.9	262.9%
2008	11,212.9	13,727.8	2,514.9	81.7%	1,831.4	137.3%

* The amounts reported in this schedule do not include assets or liabilities for post-employment health care benefits.

HISTORICAL ANNUAL INVESTMENT RESULTS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
U.S. Equity										
OP&F	22.41%	15.60%	0.53%	11.27%	35.53%	15.88%	0.94%	22.43%	32.82%	(38.02)%
International Equity *										
OP&F	29.12%	2.75%	(0.77)%	(5.56)%	21.01%	19.96%	(12.37)%	15.11%	39.58%	(45.71)%
Fixed Income										
OP&F - Core	4.26%	4.14%	1.45%	4.07%	(1.05)%	6.31%	6.41%	9.72%	11.76%	0.37%
OP&F - High Yield*	7.05%	12.80%	(0.95)%	2.81%	6.15%	15.64%	6.00%	15.02%	47.02%	(20.17)%
OP&F - GIPS	2.89%	18.76%	0.26%	19.43%	(10.62)%	14.93%	35.50%	15.28%	9.84%	2.04%
OP&F - Commercial Mortgage**	2.87%	5.63%	3.21%	8.56%	6.72%	5.28%	4.99%	16.63%	(0.63)%	0.68%
Master Limited Partnerships										
OP&F	(4.08)%	20.42%	(29.31)%	16.91%	32.25%	N/A	N/A	N/A	N/A	N/A
Real Estate **										
OP&F	10.30%	13.14%	16.83%	18.57%	15.11%	13.06%	18.01%	4.86%	(37.27)%	2.07%
Private Markets **										
OP&F	21.80%	14.37%	12.06%	18.34%	11.50%	9.58%	17.66%	12.57%	(11.61)%	(2.32)%
Real Assets **										
OP&F	4.65%	2.99%	1.03%	8.99%	3.37%	N/A	N/A	N/A	N/A	N/A
Total Portfolio										
OP&F	14.30%	11.51%	0.65%	6.79%	16.94%	15.41%	2.57%	15.85%	20.73%	(28.06)%
Policy Index ***	12.41%	11.45%	(2.18)%	6.87%	14.61%	14.94%	2.43%	12.61%	22.81%	(28.89)%

* a) International Equity benchmark is a blend of the MSCI ACWI ex U.S. (Net) through June 30, 2011, the MSCI ACWI ex U.S. Iran/Sudan Free (I/S Free) from July 1, 2011 through Sept. 30, 2012 and the MSCI ACWI ex U.S. Iran/Sudan Free IMI Index from Oct. 1, 2012 forward.
b) High Yield benchmark is a blend of the CS First Boston Dev. Countries HY through Aug. 31, 2016 and the CS First Boston High Yield from Sept. 1, 2016 forward.

** One quarter in arrears.

*** Interim Policy Index: 20 percent Wilshire 5000, 20 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 10 percent Bloomerberg Barclays Aggregate, 14 percent Merrill Lynch U.S. High Yield Constrained Index, 8.5 percent Bloomberg Barclays U.S. Government Inflation Linked Bond Index, 12 percent NCREIF ODCE Index (Net) Lagged, 6 percent Wilshire 5000 + 3 percent Lagged, 2 percent CPI + 5 percent (Net), 7.5 percent Alerian MLP Index.

Long-Term Policy: 16 percent Wilshire 5000, 16 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 23 percent Bloomberg Barclays Aggregate, 7 percent Merrill Lynch U.S. High Yield Constrained Index, 5 percent S&P LSTA Levered Loan Index, 17 percent Bloomberg Barclays U.S. Gov't Inflation Linked Bond Index, 12 percent NCREIF ODCE Index (Net) Lagged, 8 percent Wilshire 5000 + 3 percent Lagged, 8 percent CPI + 5 percent (Net) Lagged, 8 percent Alerian MLP Index. (adds to 120 percent as "Risk Parity" approach uses 2x levered U.S. Government Inflation-Protected Securities and 2x levered Core Fixed Income).

Time Weighted methodology, based upon fair market values, is used when calculating performance.

DEBT CAPACITY INFORMATION

OP&F does not have any outstanding debt, nor are there any plans to ever pursue issuing debt anytime in the future.

DEMOGRAPHIC AND ECONOMIC INFORMATION

NUMBER OF EMPLOYER UNITS *

	Municipalities		Townships		Villages		Total		Total
Year	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Combined
2017	248	199	-	162	282	35	530	396	926
2016	248	221	-	130	279	37	527	388	915
2015	249	220	-	131	280	37	529	388	917
2014	249	221	-	129	283	36	532	386	918
2013	249	223	-	124	282	33	531	380	911
2012	249	225	-	122	288	33	537	380	917
2011	250	227	-	123	283	34	533	384	917
2010	252	229	-	123	284	33	536	385	921
2009	252	229	-	121	287	32	539	382	921
2008	251	228	-	123	287	34	538	385	923

* Beginning in 2017 OP&F reclassified Fire Districts under Townships.

OPERATING INFORMATION

RETIRED MEMBERSHIP BY TYPE OF BENEFITS AND AVERAGE ANNUAL ALLOWANCE (SOURCE: ACTUARIAL VALUATION) AS OF JAN. 1, 2017

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	2,715	$132,080,369	$48,648
60 - 64	3,073	158,969,100	51,731
65 - 69	3,176	160,498,658	50,535
70 - 74	2,404	113,063,747	47,032
75 - 79	1,588	67,327,198	42,397
Over 79	1,757	56,860,286	32,362
TOTAL	**14,713**	**$688,799,358**	**$46,816**
Survivors and Beneficiaries			
Under 60	1,265	$12,706,187	$10,044
60 - 64	585	7,327,950	12,526
65 - 69	920	11,374,221	12,363
70 - 74	1,009	11,316,452	11,216
75 - 79	1,176	12,567,449	10,687
Over 79	2,962	29,416,931	9,931
TOTAL	**7,917**	**$84,709,190**	**$10,700**
Disability Retirees			
Under 60	2,302	$91,689,701	$39,830
60 - 64	1,033	44,483,905	43,063
65 - 69	1,154	48,040,686	41,630
70 - 74	859	33,019,428	38,439
75 - 79	537	19,345,700	36,026
Over 79	398	11,421,109	28,696
TOTAL	**6,283**	**$248,000,529**	**$39,472**

SCHEDULE OF AVERAGE BENEFITS*

This schedule displays the number of new retirees each year, grouped by years of credited service. Prior year numbers are not adjusted as members roll off the rolls. Retirement benefits are calculated based on the Final Average Salary (FAS) of the member. For members with 15 years or more of service credit as of July 1, 2013, FAS represents the member's three highest years of allowable earnings. For members with less than 15 years of service credit as of July 1, 2013, FAS represents the member's five highest years of allowable earnings.

The Total New Retirees column represents the average monthly benefit and average FAS for the retiree counts listed in each year.

RETIREMENT EFFECTIVE DATES		YEARS CREDITED SERVICE							TOTAL NEW RETIREES
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	
2017	Average Monthly Benefit	$-	$1,892	$2,792	$2,781	$3,119	$4,139	$4,707	$4,019
	Average Final Average Salary	$-	$46,107	$68,897	$69,634	$70,690	$77,000	$74,777	$76,051
	Number of Active Recipients	-	2	11	39	49	731	33	865
2016	Average Monthly Benefit	$1,395	$2,314	$2,638	$2,477	$3,234	$4,075	$4,277	$3,925
	Average Final Average Salary	$34,158	$59,041	$59,716	$63,590	$73,762	$75,132	$69,681	$73,889
	Number of Active Recipients	1	6	14	44	40	737	31	873
2015	Average Monthly Benefit	$-	$1,332	$2,387	$2,445	$3,175	$4,127	$4,944	$3,976
	Average Final Average Salary	$-	$49,515	$59,939	$64,106	$71,568	$75,267	$77,280	$74,128
	Number of Active Recipients	-	5	17	48	43	728	40	881
2014	Average Monthly Benefit	$-	$2,243	$2,577	$2,349	$3,096	$4,011	$4,738	$3,910
	Average Final Average Salary	$-	$62,465	$58,188	$62,903	$72,772	$72,161	$76,831	$71,822
	Number of Active Recipients	-	8	9	29	38	708	36	828
2013	Average Monthly Benefit	$2,612	$2,487	$2,736	$2,216	$3,251	$3,994	$4,832	$3,830
	Average Final Average Salary	$52,748	$69,490	$61,462	$61,232	$71,553	$71,014	$74,792	$70,293
	Number of Active Recipients	2	5	25	43	47	638	29	789
2012	Average Monthly Benefit	$879	$2,247	$2,876	$2,783	$2,968	$3,932	$4,398	$3,761
	Average Final Average Salary	$42,089	$55,994	$65,733	$63,252	$68,219	$68,661	$68,067	$67,858
	Number of Active Recipients	1	14	27	69	56	662	73	902
2011	Average Monthly Benefit	$2,042	$2,698	$2,758	$2,582	$3,124	$3,906	$4,722	$3,895
	Average Final Average Salary	$52,736	$56,748	$64,823	$61,478	$68,588	$66,645	$69,404	$66,659
	Number of Active Recipients	2	23	42	61	37	907	215	1287
2010	Average Monthly Benefit	$1,989	$2,307	$2,923	$2,858	$2,907	$3,653	$4,415	$3,602
	Average Final Average Salary	$52,986	$63,760	$63,148	$64,760	$64,611	$64,545	$67,106	$64,829
	Number of Active Recipients	4	18	41	39	51	452	122	727
2009	Average Monthly Benefit	$2,592	$2,476	$2,878	$3,122	$3,208	$3,533	$4,205	$3,466
	Average Final Average Salary	$50,696	$53,112	$60,367	$61,952	$64,972	$64,170	$67,365	$63,683
	Number of Active Recipients	5	20	39	54	44	380	70	612
2008	Average Monthly Benefit	$2,067	$2,539	$2,958	$2,834	$2,962	$3,402	$4,167	$3,318
	Average Final Average Salary	$51,626	$53,487	$59,789	$60,428	$61,270	$63,520	$65,970	$62,359
	Number of Active Recipients	3	37	40	62	50	291	83	566

* All years begin Jan. 1 and end Dec. 31.

PRINCIPAL PARTICIPATING EMPLOYERS AS OF DEC. 31, 2017

Employer Name	Covered Employees	Rank	Percentage of Total Covered Members
City of Columbus	3,623	1	12.1%
City of Cleveland	2,326	2	7.8%
City of Cincinnati	1,946	3	6.5%
City of Toledo	1,244	4	4.2%
City of Akron	827	5	2.8%
City of Dayton	672	6	2.2%
City of Canton	314	7	1.1%
City of Youngstown	294	8	1.0%
City of Springfield	277	9	0.9%
City of Hamilton	231	10	0.8%
All Others	18,113		60.6%
TOTAL	**29,867**		**100.0%**

PRINCIPAL PARTICIPATING EMPLOYERS AS OF DEC. 31, 2008

Employer Name	Covered Employees	Rank	Percentage of Total Covered Members
City of Columbus	3,516	1	12.2%
City of Cleveland	2,634	2	9.2%
City of Cincinnati	2,020	3	7.0%
City of Toledo	1,163	4	4.0%
City of Akron	883	5	3.1%
City of Dayton	793	6	2.7%
City of Canton	370	7	1.3%
City of Youngstown	345	8	1.2%
City of Springfield	265	9	0.9%
City of Hamilton	239	10	0.8%
All Others	16,636		57.6%
TOTAL	**28,864**		**100.0%**

OP&F EMPLOYEE BUDGETED POSITION COUNTS

Department	2017	2016	2015*	2014	2013	2012**	2011	2010	2009	2008
Administration*	20	19	36	48	47	45	46	46	47	44
Finance *	21	21	21	21	22	22	13	13	13	13
Business and Technology Solutions*	45	44	26	25	24	24	24	24	24	25
Investments	16	15	14	14	14	15	15	15	14	14
Member Services *	46	46	46	34	34	38	46	46	51	54
TOTAL FULL-TIME POSITIONS	**148**	**145**	**143**	**142**	**141**	**144**	**144**	**144**	**149**	**150**

* In 2015, Customer Service was transitioned to Member Services and Purchasing was transitioned to Business and Technology Solutions from Administration.
** In 2012, Employer Services was transitioned to Finance from Member Services.

PERSONNEL SALARIES BY YEAR (DOLLARS IN THOUSANDS)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Salaries and Wages	$10,317.3	$9,971.3	$9,635.1	$9,054.2	$9,248.5	$8,756.9	$8,807.9	$8,313.9	$8,660.2	$8,866.4
Average Salary per Budgeted Staff	$69.7	$68.8	$67.4	$63.8	$65.6	$60.8	$61.2	$57.7	$58.1	$59.1

OP&F BUDGET (DOLLARS IN MILLIONS)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Administrative Expenses (Actual) *	$70.3	$63.6	$59.4	$61.6	$59.4	$52.8	$50.3	$46.5	$41.0	$43.6
Administrative Expenses (Budget) *	$70.2	$66.0	$65.4	$62.6	$62.6	$58.7	$54.5	$45.6	$46.5	$54.6
Percentage of Budget vs Actual	100%	96%	91%	98%	95%	90%	92%	102%	88%	80%
Capital (Actual)	$0.4	$0.5	$1.3	$2.1	$3.1	$2.9	$1.7	$2.0	$0.6	$2.1
Capital (Budget)	$4.3	$4.6	$3.0	$2.8	$3.4	$3.4	$3.7	$4.4	$3.2	$4.6
Percentage of Budget vs Actual	9%	11%	43%	75%	91%	85%	46%	45%	19%	46%
Operating Expenses (Actual) *	$18.9	$17.9	$14.6	$14.4	$14.3	$13.6	$13.6	$13.1	$14.0	$13.9
Investment Expenses (Actual) *	$51.4	$45.7	$44.8	$47.2	$45.1	$39.2	$36.7	$33.4	$27.0	$29.7

* Excludes depreciation expense.

OTHER OPERATING STATISTICS

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total Staff	148	145	143	142	141	144	144	144	149	150
Investment Staff	16	15	14	14	14	15	15	15	14	14
Investment Actual Expenses	$51.4	$45.7	$44.8	$47.2	$45.1	$39.2	$36.7	$33.4	$27.0	$29.7
Investment Income	$1,923.5	$1,317.4	$(10.0)	$860.7	$2,053.0	$1,657.9	$229.6	$1,651.8	$1,894.9	$(3,832.9)
Investment Staff to Investment Expense Ratio	$3.2	$3.0	$3.2	$3.4	$3.2	$2.6	$2.4	$2.2	$1.9	$2.1
Total Staff to Investment Income Ratio	$13.0	$9.1	$(0.1)	$6.1	$14.6	$11.5	$1.6	$11.5	$12.7	$(25.6)
Investment Staff to Investment Income Ratio	$120.2	$87.8	$(0.7)	$61.5	$146.6	$110.5	$15.3	$110.1	$135.4	$(273.8)

DEATH BENEFIT FUND

Pursuant to Section 742.63 of the Ohio Revised Code, the Board of Trustees of OP&F administers the State of Ohio DBF. This program was established by the State of Ohio to provide monthly benefit payments to surviving family members of Ohio fire fighters and law enforcement officers who have been killed in the line of duty or die of a duty-related accident or illness. Funds are disbursed to OP&F, on a quarterly basis, each State fiscal year (July 1-June 30) and benefits are paid monthly by OP&F to eligible recipients. The unused balance at June 30 is returned to the State. The assets and liabilities of the DBF are included in the Fund's combining statement of plan net assets as of Dec. 31, 2017 as an agency fund. The following is a schedule of DBF financial activity:

Balance Jan. 1, 2017	**$ 517,051**
Less: Survivor Benefits Paid Jan. 1 thru June 30, 2017	(9,920,431)
Balance Returned to State of Ohio	(596,620)
State Funding Received	20,000,000
Less: Survivor Benefits Paid July 1 thru Dec. 31, 2017	(9,544,679)
BALANCE DEC. 31, 2017	**$ 455,321**

LIST OF PROFESSIONAL ACRONYMS AND SYMBOLS

AAL = Actuarial Accrued Liabilities

ACH = Automated Clearing House

ACWI Ex-U.S. = All Country World Index Ex-U.S.

bps = Basis Points

CAFR = Comprehensive Annual Financial Report

COLA = Cost of Living Allowance

CPI = Consumer Price Index

DB = Defined Benefits

DBF = Death Benefit Fund

DROP = Deferred Retirement Option Plan

EAFE = Europe, Australia, Far East

ECB = European Central Bank

EDOR = Effective Date of Retirement

€ = Euro

FAS = Final Average Salary

FED = Federal Reserve

FHLMC = Federal Home Loan Mortgage Corporation

FNMA = Federal National Mortgage Association

GASB = Government Accounting Standards Board

GDP = Gross Domestic Product

GFOA = Government Finance Officers Association of the U.S. and Canada

GNMA = Government National Mortgage Association

HCSF = Health Care Stabilization Fund

HY = High Yield

IPO = Initial Public Offering

IRR = Internal Rate of Return

IRS = Internal Revenue Service

I/S Free = Iran and Sudan Free

JSA = Joint and Survivor Annuity

LACC = Life Annuity Certain and Continuous

M&A = Mergers and Acquisitions

MD&A = Management Discussion and Analysis

MLPs = Master Limited Partnerships

MSCI = Morgan Stanley Capital International

NAV = Net Asset Value

NPL = Net Pension Liability

NR = Not Rated

ODCE = Open End Diversified Core Equity

OP&F = Ohio Police & Fire Pension Fund

OPEB = Other Post-Employment Benefit

OPERS = Ohio Public Employees Retirement System

ORC = Ohio Revised Code

ORSC = Ohio Retirement Study Council

PCE = Personal Consumption Expenditures

PIMCO = Pacific Investment Management Company

PME = Public Market Equivalent

PPCC = Public Pension Coordination Council

REMICs = Real Estate Mortgage Investment Conduits

RFP = Request for Proposal

RSI = Required Supplementary Information

S&P = Standard and Poor's

SB = Senate Bill

STIF = Short Term Investment Fund

TIPS = Treasury Inflation Protected Securities

2x = Two Times

TTY = TeletypeWriter

UAAL = Unfunded Actuarial Accrued Liabilities

U.S. = United States of America

U.S.D. = United States Dollar

Veba Trust = Voluntary Employees' Beneficiary Association Trust

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