

# 2015

## COMPREHENSIVE ANNUAL FINANCIAL REPORT

For Years Ended Dec. 31, 2015  
and 2014

OHIO POLICE & FIRE  
PENSION FUND

*Securing the Future for Ohio's  
Police & Firefighters*

**Ohio  
& Police  
Fire Pension  
Fund**





**2015 Comprehensive Annual Financial Report**

For years ended Dec. 31, 2015 and 2014

*Prepared through the combined efforts of OP&F staff*

**Prudence • Integrity • Empathy**

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Columbus, Ohio 43215

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# 2015

## COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR YEARS ENDED DEC. 31, 2015 AND 2014

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

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2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT

# Introductory

OHIO POLICE & FIRE PENSION FUND

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Board of Trustees  
Administrative Staff  
Professional Consultants  
Awards  
Letter of Transmittal

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& Fire  
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## BOARD OF TRUSTEES



**Daniel J. Desmond**



**John L. Wainscott**



**Edward L. Montgomery**



**William E. Deighton**



**J. David Heller**



**Jeffrey H. Moore**



**Timothy P. Patton, Jr.**



**Scott D. Roulston**



**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 2015, the Board of Trustees did not meet in the month of July and in 2016 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 *(left to right, top to bottom)*

#### **Daniel J. Desmond, Chair**

Toledo Fire, term began on June 1, 2015, expires on June 2, 2019.

#### **John L. Wainscott, Vice Chair**

Retired, Cincinnati Police, term began on June 4, 2012, expires on June 5, 2016.

#### **Edward L. Montgomery, Chair Elect**

Columbus Police, term began on June 4, 2012, expires on June 5, 2016.

#### **William E. Deighton**

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

#### **J. David Heller**

Investment Expert Member, appointed by the Ohio Senate and the Ohio House of Representatives, term began on Nov. 5, 2012, expires on Nov. 6, 2016.

#### **Jeffrey H. Moore**

West Chester Fire, term began on June 1, 2015, expires on June 2, 2019.

#### **Timothy P. Patton, Jr.**

Cleveland Police, term began on June 1, 2015, expires June 2, 2019.

#### **Scott D. Roulston**

Investment Expert Member, appointed by the Governor of Ohio, term began on March 6, 2013, expires on Sept. 27, 2016.

#### **Karin Maloney Stifler**

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

## ADMINISTRATIVE STAFF



### Executive Staff *(left to right)*

**Jennifer L. Harville**  
Member Services Director

**Theodore G. Hall**  
Chief Investment Officer

**John J. Gallagher, Jr.**  
Executive Director

**Scott K. Miller**  
Deputy Executive Director

**Maureen L. Gatewood**  
Business and Technology Solutions Director

**Mary Beth Foley**  
General Counsel

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

### Professional Consultants *(not pictured)*

**Actuary**  
Buck Consultants, 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  
JP Morgan Chase Bank - 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 63)*

**Schedule of Brokers' Fees Paid**  
*(See page 64)*

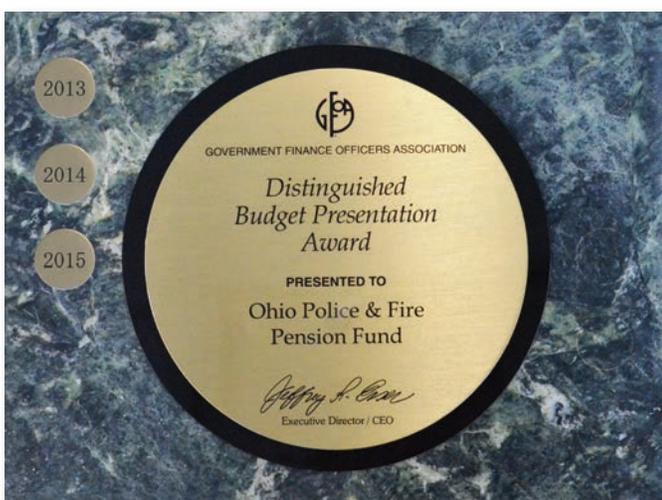
## AWARDS

*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:*



### 2014 Certificate of Achievement for Excellence in Financial Reporting

For 26 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.



### 2015 Distinguished Budget Presentation Award

OP&F was again recognized by GFOA's Distinguished Budget Presentation Award in 2015, representing the 14<sup>th</sup> 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



## 2014 Award for Outstanding Achievement in Popular Annual Financial Reporting

For 14 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.



## 2015 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



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

July 29, 2016

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 years ending Dec. 31, 2015 and 2014. This CAFR was prepared to aid interested parties in assessing OP&F's financial status on Dec. 31, 2015, 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, 2015, the balance totaled nearly \$23.8 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, 2015:

### Participating Employers

	Police	Fire	Total
Municipalities	249	220	469
Townships	–	131	131
Villages	280	37	317
<b>TOTAL</b>	<b>529</b>	<b>388</b>	<b>917</b>

### 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 \$774.9 million in 2015 due largely to contributions received from employers and members.

Contributions increased by 4.7 percent in 2015. This is from the increased member contribution rate that became effective mid-year. From Jan. 1, 2015 through July 1, 2015, the statutory member contribution rate was 11.5 percent, and on July 2, 2015, the statutory member contribution rate increased to 12.25 percent.

The statutory employer contribution rate remained unchanged from the prior year at 19.5 percent for police employers and 24 percent for fire employers. In 2015, both member contributions and employer contributions were due monthly. Statutory penalties are assessed if payments and/or the member contribution reports are received late. Penalties assessed against employers increased in 2015 after decreasing in 2014. In an effort to help employers avoid a penalty situation, before each due date, OP&F sends an automated voice message to all employers if OP&F has not received their payment or report before the due date. 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.

Additions to Fiduciary Net Position (dollars in millions)	2015		2014	
	Amount	Percent	Amount	Percent
Net Investment Income	\$(10.0)	(1.3)%	\$860.7	53.5%
Contributions	755.7	97.5%	721.8	44.9%
Other Additions	29.2	3.8%	25.2	1.6%
<b>TOTAL ADDITIONS</b>	<b>\$774.9</b>	<b>100%</b>	<b>\$1,607.7</b>	<b>100%</b>

Deductions to Fiduciary Net Position (dollars in millions)	2015		2014	
	Amount	Percent	Amount	Percent
Benefits	\$1,369.9	97.8%	\$1,310.5	97.7%
Refund of Member Contributions	13.8	1.0%	15.2	1.1%
Administrative Expenses	16.3	1.2%	16.2	1.2%
<b>TOTAL DEDUCTIONS</b>	<b>\$1,400.0</b>	<b>100%</b>	<b>\$1,341.9</b>	<b>100%</b>

Benefit payments represent the largest deduction and usage of the additions to fiduciary net position. In 2015, OP&F experienced a 4.5 percent increase in retirement benefits. This increase is due to a three percent cost-of-living allowance (COLA) for eligible benefit recipients and a 1.5 percent increase in the number of beneficiaries receiving pension benefits.

There was a 6.8 percent increase in the amount of health care benefit payments. This is due to normal cost trend increases and increased utilization of both the medical and prescription drug benefits. DROP benefits increased 3.6 percent mainly due to an increase in the amount of DROP benefits withdrawn. Survivor and disability benefits increased at normal levels of 3.2 percent. This increase is mainly due to the annual three percent COLA for eligible recipients.

Administrative expenses increased this year by 0.5 percent. This is due to an increase in investment fees, normal operational increases to maintain an effective level of staffing, a good working environment and the appropriate level of outside professional services. Keeping this increase low is a continual goal of the Executive Director. Years of cost saving efforts have helped achieve the results of 2015. Refunds of member contributions were lower than the prior year due to a decrease in the amount of member contributions withdrawn. Other deductions to the fiduciary net position returned to normal levels in 2015 and represent only minor deductions to 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 \$625.1 million decrease in the 2015 fiduciary net position due to the decrease in fair values of bonds, stocks, commercial mortgage funds, international securities and master limited partnerships from 2014 to 2015. OP&F 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 return of 0.65 percent in 2015. 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, 2015, total investments at fair value stood at \$13.8 billion.

OP&F continues to work progressively towards complying with the state's 30-year funding requirement. In 2015, OP&F achieved a 30-year amortization period on the annual actuarial valuation completed by Buck Consultants. 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, 2015 was 70.8 percent based on the actuarial value of assets. The report confirms that OP&F continues to be able to meet its current and future pension obligations. As of the same date, OP&F's health care funding ratio was 19.1 percent with a solvency period until the year 2024, or nine more years.

A report by Wilshire, an independent investment consultant, showed that OP&F's investment portfolio continues its exceptional performance. OP&F's portfolio returns ranked in the top 13 percent in the 10-year period and ranked in the top 15 percent in the five-year period ending December 2015. In the 10-year period, OP&F realized a 6.74 percent return on investments while the five-year period realized 8.27 percent and the three-year period realized 7.91 percent. OP&F ranked in the top 31 percent for performance in 2015, with a 0.65 percent return. The three-year investment period lagged the assumed rate of return of 8.25 percent by 34 basis points (bps), but the five-year return outpaced OP&F's assumed rate of return by two bps.

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 gain of 0.65 percent in 2015 and a gain of 6.79 percent in 2014.

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**

On July 2, 2015, the statutory member contribution rate increased to 12.25 percent. This was the final scheduled increase to occur.

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 years ended Dec. 31, 2015 and 2014, 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, 2014. 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

2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT

# Financial Section

OHIO POLICE & FIRE PENSION FUND

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**Independent Auditor's Report**  
**Management's Discussion and Analysis (Unaudited)**  
**Basic Financial Statements**

- Statements of Fiduciary Net Position
- Statements of Changes in Fiduciary Net Position
- Notes to Basic Financial Statements

**Required Supplementary Information (Unaudited)**

- Schedule of Changes in the Employers' Net Pension Liability
- Schedule of Employers' Net Pension Liability (Asset)
- Schedule of Employer Contributions - Pension Trust Fund
- Schedule of Investment Returns
- Notes to Required Supplementary Information
- Schedule of Funding Progress - Retiree Health Care Trust Fund
- Schedule of Employer Contributions - Retiree Health Care Trust Fund

**Additional Information**

- Schedule of Administrative Expenses
  - Schedule of Investment Expenses
  - Combining Statement of Changes in Assets and Liabilities - Public Safety Officers Death Benefit Fund
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# INDEPENDENT AUDITOR'S REPORT

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## 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 statements of fiduciary net position as of December 31, 2015 and 2014, and the related statements of changes in fiduciary net position for the years ended December 31, 2015 and 2014, 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 audits. We conducted our audits 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 opinions.

### 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, 2015 and 2014, and the changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

### Emphasis of Matter

As discussed in Note 14 to the basic financial statements, the 2014 financial statements, specifically certain disclosures and required supplementary information, have been restated to correct a misstatement. Our opinion is not modified with respect to this matter.

---

**Other Matters***Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis and the schedules of funding progress and employer contributions and related notes, 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 opinions 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 July 29, 2016 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 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 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  
July 29, 2016

## 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 years ended Dec. 31, 2015, 2014 and 2013. 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.

### FINANCIAL HIGHLIGHTS

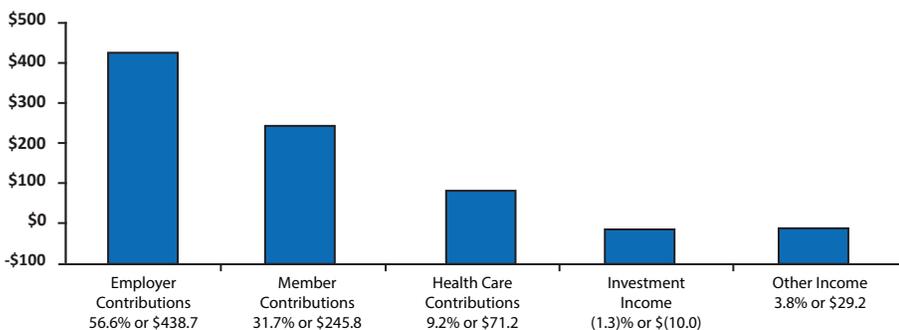
Additions are received primarily from investment income and employer and member pension contributions. For fiscal year 2015, these additions totaled \$774.9 million and were \$1,607.7 million in 2014, which is a 51.8 percent decrease. Investment income can fluctuate dramatically because it includes realized and unrealized investment gains and losses based on performance of global capital markets.

The employer contribution rates of 19.5 percent for police and 24 percent for fire remained unchanged in both 2015 and 2014. On July 2, 2015, the member contribution rate was increased to 12.25 percent from the 11.5 percent rate. Over the past three years, member contributions gradually increased annually by .75 percent from 10.0 percent to 12.25. In 2013, the increase in the member contribution rate was the first one since 1988.

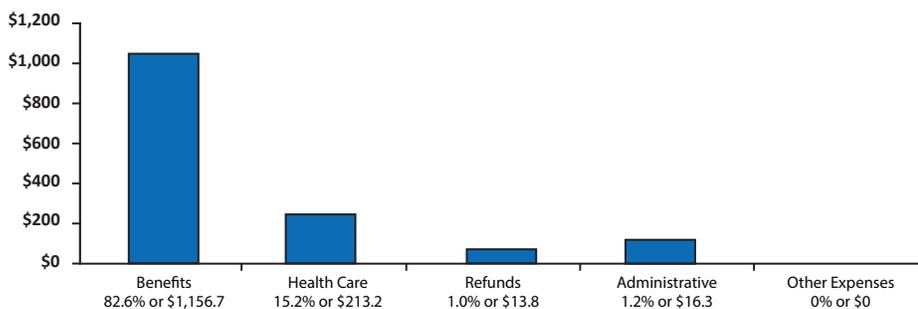
Deductions are incurred primarily for the purpose for which OP&F was created; the payment of pension, disability and survivor benefits to qualified members and survivors. Included in the deductions from OP&F's fiduciary net position for 2015 were benefits for retirement, DROP, disability, health care 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 \$1,400.0 million in 2015 and were \$1,341.9 million in 2014, which is a 4.3 percent increase over 2014. 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 \$0.7 million for both years Dec. 31, 2015 and 2014, and the related liability for unpaid benefits as of the same dates are included in the accompanying financial statements.

#### 2015 ADDITIONS (DOLLARS IN MILLIONS) \$774.9



#### 2015 DEDUCTIONS (DOLLARS IN MILLIONS) \$1,400.0



## 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, data on the funding progress for the retiree health care trust fund, along with other information useful in evaluating the financial condition of OP&F. For the first time this year, the financial statements, notes and RSI include information as required by GASB Statement No. 68, Accounting and Financial Reporting for Pensions. Following the RSI are Schedules of Administrative Expenses and the Schedule of Investment Expenses.

During 2015, OP&F adopted GASB Statement No. 68, Accounting and Financial Reporting for Pensions, which significantly revised accounting for pension costs and liabilities. Under the new standards required by GASB No. 68, 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. Both employer and employee contribution rates are capped by state statute. A change in these caps requires action by both Houses of the General Assembly and approval of the Governor. Benefit provisions are also determined by state statute. In Ohio, at this time it does not appear that there are no 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 net pension liability. 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 local government. 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.

As a result of implementing GASB Statement No. 68, OP&F is reporting a net pension liability and deferred inflows/outflows of resources related to pension on the accrual basis of accounting. This implementation also had the effect of restating the net position at Dec. 31, 2014, from \$14,485,389,038 to \$14,478,448,612.

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)**

	2015	2014	2013	2015 Change		2014 Change	
				Amount	Percent	Amount	Percent
Cash and Short-term Investments	\$1,365.9	\$1,017.8	\$649.7	\$348.1	34.2%	\$368.1	56.7%
Receivables	133.9	144.4	172.9	(10.5)	(7.3)%	(28.5)	(16.5)%
Investments, at Fair Value	13,466.7	14,609.2	14,393.2	(1,142.5)	(7.8)%	216.0	1.5%
Capital Assets, Net of Depreciation	17.8	19.0	19.9	(1.2)	(6.3)%	(0.9)	(4.5)%
Other Assets	0.3	0.3	0.2	-	- %	0.1	50.0%
<b>TOTAL ASSETS</b>	<b>14,984.6</b>	<b>15,790.7</b>	<b>15,235.9</b>	<b>(806.1)</b>	<b>(5.1)%</b>	<b>554.8</b>	<b>3.6 %</b>
DEFERRED OUTFLOWS	1.5	-	-	1.5	- %	-	- %
Benefits and Accounts Payable	66.3	56.1	52.9	10.2	18.2 %	3.2	6.0%
Investments Payable	1,066.0	1,249.2	963.4	(183.2)	(14.7)%	285.8	29.7%
<b>TOTAL LIABILITIES</b>	<b>1,132.3</b>	<b>1,305.3</b>	<b>1,016.3</b>	<b>(173.0)</b>	<b>(13.3)%</b>	<b>289.0</b>	<b>28.4%</b>
DEFERRED INFLOWS	0.5	-	-	0.5	- %	-	- %
<b>FIDUCIARY NET POSITION, END OF YEAR</b>	<b>\$13,853.3</b>	<b>\$14,485.4</b>	<b>\$14,219.6</b>	<b>\$(632.1)</b>	<b>(4.4)%</b>	<b>\$265.8</b>	<b>1.9%</b>

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

	2015	2014	2013	2015 Change		2014 Change	
				Amount	Percent	Amount	Percent
Contributions	\$755.7	\$721.8	\$696.2	\$33.9	4.7%	\$25.6	3.7%
Net Investment Gain/(Loss)	(10.0)	860.7	2,053.0	(870.7)	(101.2)%	(1,192.3)	(58.1)%
Other Additions	29.2	25.2	28.5	4.0	15.9%	(3.3)	(11.6)%
<b>TOTAL ADDITIONS</b>	<b>774.9</b>	<b>1,607.7</b>	<b>2,777.7</b>	<b>(832.8)</b>	<b>(51.8)%</b>	<b>(1,170.0)</b>	<b>(42.1)%</b>
Benefits	1,369.9	1,310.5	1,302.5	59.4	4.5%	8.0	0.6%
Refunds	13.8	15.2	16.0	(1.4)	(9.2)%	(0.8)	(5.0)%
Administrative Expenses and Other	16.3	16.2	15.9	0.1	0.6 %	0.3	1.9%
<b>TOTAL DEDUCTIONS</b>	<b>1,400.0</b>	<b>1,341.9</b>	<b>1,334.4</b>	<b>58.1</b>	<b>4.3%</b>	<b>7.5</b>	<b>0.6%</b>
<b>Net Increase/(Decrease)</b>	<b>(625.1)</b>	<b>265.8</b>	<b>1,443.3</b>	<b>(890.9)</b>	<b>(335.2)%</b>	<b>(1,177.5)</b>	<b>(81.6)%</b>
<b>Fiduciary Net Position, Beginning of Year</b>	<b>14,478.4**</b>	<b>14,219.6</b>	<b>12,776.3*</b>	<b>258.8</b>	<b>1.8%</b>	<b>1,443.3</b>	<b>11.3%</b>
<b>FIDUCIARY NET POSITION, END OF YEAR</b>	<b>\$13,853.3</b>	<b>\$14,485.4</b>	<b>\$14,219.6</b>	<b>\$(632.1)</b>	<b>(4.4)%</b>	<b>\$265.8</b>	<b>1.9%</b>

\* Effective Jan. 1, 2013, OP&F had a change in accounting principle with retrospective application. For more information, see the Notes to the Basic Financial Statements, note number two.

\*\* In 2015, OP&F implemented GASB 68, which required OP&F to restate the Beginning of Year Fiduciary Net Position. For more information, see the Notes to the Basic Financial Statements, note number three.

**FINANCIAL ANALYSIS****FIDUCIARY NET POSITION**

The fiduciary net position available for benefits and expenses in 2015 was \$13,853.3 million versus \$14,485.4 million in 2014, which represents a 4.4 percent net decrease. The overall net decrease in 2015 can be primarily attributed to net

depreciation on the fair value of investments. Please refer to the Investment Section for additional information on OP&F's investment activities in 2015.

## REVENUE ADDITIONS TO FIDUCIARY NET POSITION

Based on the rounded numbers found on page six, overall contributions received by OP&F in 2015 increased 4.7 percent or \$33.9 million. Overall contributions increased 3.7 percent or \$25.6 million in 2014 and increased by 5.5 percent or \$36.6 million in 2013. These increases are due to annual increases in the member contribution rate, the average annual salary and the total annual payroll.

Pension contributions from employers increased \$10.8 million, or 2.5 percent, in 2015, increased \$9.7 million, or 2.3 percent, in 2014, and increased \$1.1 million, or 0.3 percent in 2013. Employer pension contributions increases are due to an increase in the average annual salary and an increase in the 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 2015, pension contributions from members increased \$21.8 million, or 9.8 percent, over 2014 due to an increase in the member contribution rate mid-year. The active member population, or contributing members, increased slightly by 164 to 27,769, or by 0.6 percent, and the average annual salary increased by 1.7 percent, from \$68,969 to \$70,163. Member pension contributions were up in 2014, as compared to 2013, by 5.9 percent, or \$12.5 million. The increase is due to an increase in the member contribution rate mid-year. While the active member population, or contributing members, increased slightly by 161 to 27,605, or by 0.6 percent, and the average annual salary increased by 0.4 percent, from \$68,718 to \$68,969.

In 2015 member purchased service credit went down \$0.8 million or by 15.6 percent and in 2014 it went down \$7.6 million or by 59.2 percent. This decrease is due to fewer members purchasing service credit. In 2013, member purchased service credit was up because eligible members wanted to ensure they had 15 years of service credit prior to July 1, 2013 due to benefit changes taking effect for those with less than 15 years of service credit on that date.

Contributions paid by members and beneficiaries for their share of health care costs increased by 1.7 percent from \$70.0 million to \$71.2 million in 2015. Health care contributions increased in 2014 by 5.1 percent from \$66.6 million to \$70.0 million, they also increased in 2013 by 2.3 percent from \$65.1 million to \$66.6 million. Part of this increase is due to an expansion in the number of members and beneficiaries selecting to participate in the OP&F health care program. The other part of this increase is due to active members being required to retire from service because they reached their eight-year maximum participation in DROP.

In 2015, contributions received through the state-subsidy decreased 10.7 percent, or \$53.4 thousand, from \$500.1 thousand to \$446.7 thousand. In 2014, contributions received through the state-subsidy decreased 5.7 percent, or \$30.4 thousand, from \$530.5 thousand to \$500.1 thousand. The state-subsidized contributions also declined in 2013 by 8.6 percent, or \$50 thousand, from \$580.6 thousand to \$530.6 thousand. This trend is due to a normal decline in the population of survivors receiving this subsidized benefit.

Investment net depreciation totaled \$361.4 million in 2015. The net depreciation of 2015 can be attributed to a decrease in the fair values of high yield bonds and Master Limited Partnerships (MLPs) and the overall positive return on OP&F investments of 0.65 percent. Investment net appreciation totaled \$581.0 million in 2014. The net appreciation of 2014 can be directly attributed to the overall positive return on OP&F investments of 6.79 percent. Investment net appreciation totaled \$1,790.1 million in 2013. The net appreciation of 2013 can be attributed to the increase in fair values of domestic and international stocks. OP&F's investment return was 16.94 percent in 2013.

## EXPENSE DEDUCTIONS FROM NET POSITION

Benefit deductions for retirement, DROP, health care, disability and survivors increased \$59.4 million, or 4.5 percent in 2015, increased \$8 million, or 0.6 percent in 2014, and increased \$66.1 million, or 5.3 percent in 2013. Part of the increases in pension benefits is due to the increases in the retirees and beneficiaries rolls. These rolls increased by 402 individuals, or 1.5 percent in 2015, increased by 318 individuals, or 1.2 percent in 2014 and increased by 165 individuals, or 0.6 percent in 2013. Each year, there was also a three percent COLA for eligible recipients.

In 2015, health care benefits increased by 6.8 percent, gross health care payments totaled \$213.2 million and represented 15.2 percent of all plan deductions. In 2014, health care benefits increased by 4.3 percent, totaled \$199.6 million and represented 14.9 percent of all plan deductions. In 2013, health care benefits increased by 2.1 percent, totaled \$191.3 million and represented 14.5 percent of all plan deductions. These increases in health care benefits can be attributed to increased trends in health care costs and to active members participating in DROP being required to retire because they reached their eight-year maximum participation.

Refunds to members decreased by 9.2 percent in 2015, decreased by five percent in 2014 and decreased by 39.6 percent in 2013. Refunds to members 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, 2015)

	Pensions	Post-employment Health Care	2015 Total	Death Benefit Agency Fund
<b>Assets:</b>				
Cash and Short-term Investments	\$1,272,158,974	\$93,789,297	\$1,365,948,271	\$721,580
<b>Receivables:</b>				
Employers' Contributions	35,013,303	827,505	35,840,808	-
Members' Contributions	20,429,892	-	20,429,892	-
Accrued Investment Income	35,315,970	2,603,653	37,919,623	-
Investment Sales Proceeds	14,747,556	1,087,256	15,834,812	-
Local Funds Receivable	23,829,543	-	23,829,543	-
<b>TOTAL RECEIVABLES</b>	<b>129,336,264</b>	<b>4,518,414</b>	<b>133,854,678</b>	-
<b>Investments, at fair value:</b>				
Bonds	2,411,253,075	177,768,452	2,589,021,527	-
Mortgage and Asset-Backed Securities	410,574,512	30,269,405	440,843,917	-
Stocks	2,639,521,974	194,597,465	2,834,119,439	-
Real Estate	1,413,827,036	104,233,706	1,518,060,742	-
Commercial Mortgage Funds	34,698,224	2,558,110	37,256,334	-
Private Markets	947,799,821	69,876,078	1,017,675,899	-
International Securities	2,901,877,831	213,939,522	3,115,817,353	-
Timber	219,198,155	16,160,277	235,358,432	-
Master Limited Partnerships	651,575,713	48,037,100	699,612,813	-
<b>TOTAL INVESTMENTS</b>	<b>11,630,326,341</b>	<b>857,440,115</b>	<b>12,487,766,456</b>	-
<b>Collateral on Loaned Securities</b>	<b>911,733,550</b>	<b>67,217,109</b>	<b>978,950,659</b>	-
<b>Capital Assets, net of accumulated depreciation, where applicable:</b>				
Land	3,200,000	-	3,200,000	-
Building and Improvements	12,651,910	-	12,651,910	-
Furniture and Equipment	153,964	-	153,964	-
Computer Software and Hardware	1,833,223	-	1,833,223	-
<b>TOTAL CAPITAL ASSETS, NET</b>	<b>17,839,097</b>	-	<b>17,839,097</b>	-
Prepaid Expenses and Other	327,776	-	327,776	-
<b>TOTAL ASSETS</b>	<b>13,961,722,002</b>	<b>1,022,964,935</b>	<b>14,984,686,937</b>	<b>721,580</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>				
Deferred Outflows - Pension	1,460,205	-	1,460,205	-
<b>Liabilities:</b>				
Health Care Payable	-	20,411,425	20,411,425	-
Investment Commitments Payable	81,031,653	5,974,019	87,005,672	-
Accrued Administrative Expenses	20,341,711	-	20,341,711	-
Due to State of Ohio	-	-	-	721,580
Obligations Under Securities Lending	911,733,550	67,217,109	978,950,659	-
Other Liabilities	25,593,428	-	25,593,428	-
<b>TOTAL LIABILITIES</b>	<b>1,038,700,342</b>	<b>93,602,553</b>	<b>1,132,302,895</b>	<b>721,580</b>
<b>DEFERRED INFLOWS OF RESOURCES</b>				
Deferred Inflows - Pension	538,709	-	538,709	-
<b>FIDUCIARY NET POSITION HELD IN TRUST FOR PENSION AND POST-EMPLOYMENT HEALTH CARE BENEFITS</b>	<b>\$12,923,943,156</b>	<b>\$929,362,382</b>	<b>\$13,853,305,538</b>	<b>\$-</b>

See notes to Basic Financial Statements.

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

# BASIC FINANCIAL STATEMENTS

## STATEMENT OF FIDUCIARY NET POSITION (AS OF DEC. 31, 2014)

	Pensions	Post-employment Health Care	2014 Total	Death Benefit Agency Fund
<b>Assets:</b>				
Cash and Short-term Investments	\$943,752,582	\$74,060,631	\$1,017,813,213	\$732,073
<b>Receivables:</b>				
Employers' Contributions	42,703,807	1,008,812	43,712,619	-
Members' Contributions	19,267,899	-	19,267,899	-
Accrued Investment Income	31,155,953	2,444,952	33,600,905	-
Investment Sales Proceeds	20,938,343	1,643,129	22,581,472	-
Local Funds Receivable	25,255,437	-	25,255,437	-
<b>TOTAL RECEIVABLES</b>	<b>139,321,439</b>	<b>5,096,893</b>	<b>144,418,332</b>	<b>-</b>
<b>Investments, at fair value:</b>				
Bonds	2,580,871,094	202,532,895	2,783,403,989	-
Mortgage and Asset-Backed Securities	345,609,565	27,121,581	372,731,146	-
Stocks	3,471,606,042	272,432,988	3,744,039,030	-
Real Estate	1,343,534,804	105,433,392	1,448,968,196	-
Commercial Mortgage Funds	35,209,939	2,763,087	37,973,026	-
Private Markets	824,362,939	64,691,574	889,054,513	-
International Securities	2,934,603,689	230,291,928	3,164,895,617	-
Timber	176,762,706	13,871,387	190,634,093	-
Master Limited Partnerships	726,190,414	56,987,522	783,177,936	-
<b>TOTAL INVESTMENTS</b>	<b>12,438,751,192</b>	<b>976,126,354</b>	<b>13,414,877,546</b>	<b>-</b>
Collateral on Loaned Securities	1,107,372,195	86,900,619	1,194,272,814	-
<b>Capital Assets, net of accumulated depreciation, where applicable:</b>				
Land	3,200,000	-	3,200,000	-
Building and Improvements	13,158,295	-	13,158,295	-
Furniture and Equipment	187,094	-	187,094	-
Computer Software and Hardware	2,456,054	-	2,456,054	-
<b>TOTAL CAPITAL ASSETS, NET</b>	<b>19,001,443</b>	<b>-</b>	<b>19,001,443</b>	<b>-</b>
Prepaid Expenses and Other	282,332	-	282,332	-
<b>TOTAL ASSETS</b>	<b>14,648,481,183</b>	<b>1,142,184,497</b>	<b>15,790,665,680</b>	<b>732,073</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>				
Deferred Outflows - Pension	-	-	-	-
<b>Liabilities:</b>				
Health Care Payable	-	19,346,343	19,346,343	-
Investment Commitments Payable	50,925,157	3,996,333	54,921,490	-
Accrued Administrative Expenses	12,082,387	-	12,082,387	-
Due to State of Ohio	-	-	-	732,073
Obligations Under Securities Lending	1,107,372,195	86,900,619	1,194,272,814	-
Other Liabilities	24,653,608	-	24,653,608	-
<b>TOTAL LIABILITIES</b>	<b>1,195,033,347</b>	<b>110,243,295</b>	<b>1,305,276,642</b>	<b>732,073</b>
<b>DEFERRED INFLOWS OF RESOURCES</b>				
Deferred Inflows - Pension	-	-	-	-
<b>FIDUCIARY NET POSITION HELD IN TRUST FOR PENSION AND POST-EMPLOYMENT HEALTH CARE BENEFITS</b>	<b>\$13,453,447,836</b>	<b>\$1,031,941,202</b>	<b>\$14,485,389,038</b>	<b>\$-</b>

See notes to Basic Financial Statements.

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

## BASIC FINANCIAL STATEMENTS

### STATEMENT OF CHANGES IN FIDUCIARY NET POSITION (FOR THE YEAR ENDED DEC. 31, 2015)

	Pensions	Post-employment Health Care	2015 Total
<b>Additions:</b>			
<b>From Contributions:</b>			
Members'	\$245,834,623	\$-	\$245,834,623
Employers'	428,526,214	10,211,723	438,737,937
State of Ohio–Subsidies	446,735	-	446,735
Health Care Premiums	-	71,187,555	71,187,555
<b>TOTAL CONTRIBUTIONS</b>	<b>674,807,572</b>	<b>81,399,278</b>	<b>756,206,850</b>
<b>From Investment Income:</b>			
Net Appreciation (Depreciation)			
Value of Investments	(300,669,262)	(60,687,391)	(361,356,653)
Bond Interest	103,057,953	24,447,041	127,504,994
Dividends	70,038,760	16,614,346	86,653,106
Alternative Investment Income	112,178,279	26,610,533	138,788,812
Repurchase Agreement Interest	199,742	47,382	247,124
Master Limited Partnerships Income	29,514,265	7,001,269	36,515,534
Other Investment Income (Loss)	2,593,604	615,246	3,208,850
Less Investment Expenses	(36,241,003)	(8,596,962)	(44,837,965)
<b>NET INVESTMENT INCOME</b>	<b>(19,327,662)</b>	<b>6,051,464</b>	<b>(13,276,198)</b>
<b>From Securities Lending Activities:</b>			
Securities Lending Income	3,428,386	813,269	4,241,655
Securities Lending Expense	(805,589)	(191,099)	(996,688)
<b>NET INCOME FROM SECURITIES LENDING</b>	<b>2,622,797</b>	<b>622,170</b>	<b>3,244,967</b>
Interest on Local Funds Receivable	1,036,851	-	1,036,851
Other Income	4,408,816	23,266,521	27,675,337
<b>TOTAL ADDITIONS</b>	<b>663,548,374</b>	<b>111,339,433</b>	<b>774,887,807</b>
<b>Deductions:</b>			
Retirement Benefits	631,567,689	-	631,567,689
Disability Benefits	245,719,531	-	245,719,531
Health Care Benefits	-	213,235,336	213,235,336
Survivor Benefits	82,075,733	-	82,075,733
DROP Withdrawals	197,288,979	-	197,288,979
Contribution Refunds	13,824,934	-	13,824,934
Administrative Expenses	15,604,316	682,917	16,287,233
Other Expenses	31,446	-	31,446
<b>TOTAL DEDUCTIONS</b>	<b>1,186,112,628</b>	<b>213,918,253</b>	<b>1,400,030,881</b>
Change in Fiduciary Net Position	(522,564,254)	(102,578,820)	(625,143,074)
<b>FIDUCIARY NET POSITION - BEGINNING OF YEAR (as restated)*</b>	<b>13,446,507,410</b>	<b>1,031,941,202</b>	<b>14,478,448,612</b>
<b>FIDUCIARY NET POSITION - END OF YEAR</b>	<b>\$12,923,943,156</b>	<b>\$929,362,382</b>	<b>\$13,853,305,538</b>

\* In 2015, OP&F implemented GASB 68, which required OP&F to restate the Beginning Of Year Fiduciary Net Position. For more information, see the Notes to the Basic Financial Statements, note number three.

See notes to Basic Financial Statements.

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

# BASIC FINANCIAL STATEMENTS

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION (FOR THE YEAR ENDED DEC. 31, 2014)

	Pensions	Post-employment Health Care	2014 Total
<b>Additions:</b>			
<b>From Contributions:</b>			
Members'	\$223,989,055	\$-	\$223,989,055
Employers'	417,993,316	9,895,274	427,888,590
State of Ohio–Subsidies	500,152	-	500,152
Health Care Premiums	-	69,965,747	69,965,747
<b>TOTAL CONTRIBUTIONS</b>	<b>642,482,523</b>	<b>79,861,021</b>	<b>722,343,544</b>
<b>From Investment Income:</b>			
Net Appreciation (Depreciation)			
Value of Investments	526,421,605	54,586,460	581,008,065
Bond Interest	122,662,592	12,719,304	135,381,896
Dividends	91,048,764	9,441,158	100,489,922
Alternative Investment Income	48,988,659	5,079,802	54,068,461
Repurchase Agreement Interest	811,949	84,194	896,143
Master Limited Partnerships Income	28,071,390	2,910,819	30,982,209
Other Investment Income (Loss)	797,316	82,676	879,992
Less Investment Expenses	(42,760,066)	(4,433,938)	(47,194,004)
<b>NET INVESTMENT INCOME</b>	<b>776,042,209</b>	<b>80,470,475</b>	<b>856,512,684</b>
<b>From Securities Lending Activities:</b>			
Securities Lending Income	3,957,758	410,394	4,368,152
Securities Lending Expense	(176,557)	(18,308)	(194,865)
<b>NET INCOME FROM SECURITIES LENDING</b>	<b>3,781,201</b>	<b>392,086</b>	<b>4,173,287</b>
Interest on Local Funds Receivable	1,084,188	-	1,084,188
Other Income	5,614,853	18,009,774	23,624,627
<b>TOTAL ADDITIONS</b>	<b>1,429,004,974</b>	<b>178,733,356</b>	<b>1,607,738,330</b>
<b>Deductions:</b>			
Retirement Benefits	598,829,553	-	598,829,553
Disability Benefits	242,125,287	-	242,125,287
Health Care Benefits	-	199,594,201	199,594,201
Survivor Benefits	79,545,466	-	79,545,466
DROP Withdrawals	190,419,645	-	190,419,645
Contribution Refunds	15,234,370	-	15,234,370
Administrative Expenses	15,468,503	732,022	16,200,525
Other Expenses	12,184	-	12,184
<b>TOTAL DEDUCTIONS</b>	<b>1,141,635,008</b>	<b>200,326,223</b>	<b>1,341,961,231</b>
Change in Fiduciary Net Position	287,369,966	(21,592,867)	265,777,099
<b>FIDUCIARY NET POSITION - BEGINNING OF YEAR*</b>	<b>13,166,077,870</b>	<b>1,053,534,069</b>	<b>14,219,611,939</b>
<b>FIDUCIARY NET POSITION - END OF YEAR</b>	<b>\$13,453,447,836</b>	<b>\$1,031,941,202</b>	<b>\$14,485,389,038</b>

\* Effective Jan. 1, 2013, OP&F had a change in accounting principle with retrospective application. For more information, see the Notes to the Basic Financial Statements, note number two.

See notes to Basic Financial Statements.

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

## NOTES TO BASIC FINANCIAL STATEMENTS (DEC. 31, 2015 AND 2014)

### 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, 2015, OP&F adopted the provisions of GASB Statement No. 68, Accounting and Financial Reporting for Pensions, which is effective for fiscal years beginning after June 15, 2014. OP&F also adopted the provisions of GASB Statement No. 71, Pension Transition for Contributions made Subsequent to the Measurement Date, the provisions of this Statement were applied simultaneously with the provisions of Statement 68. Statement No. 68 reflects the view that pension costs and obligations should be recorded as employees earn them, rather than when the government contributes to a pension plan or when retirees receive benefits. Under Statement No. 68 the pension liability is determined considering various factors including cost-of-living increases, future salary increases, and future service credits. The impact on the net pension liability of differences between expected and actual investment returns will be recognized in pension expense over a closed, five-year period. Statement No. 68 resulted in OP&F recording a liability for its proportionate share of the Net Pension Liability as determined by the Ohio Public Employees Retirement System (OPERS) and also required more extensive note disclosures and required supplementary information. Several elements required by GASB 68 are defined in GASB 67 and were calculated by OP&F and OP&F's external actuaries. Information needed by OP&F's participating employers to implement these statements beginning in 2015 is compiled in separate audited schedules of employer allocations and collective pension totals, including related footnotes to those schedules. The schedule of collective pension totals includes net pension liability, pension expense and deferred inflows/outflows related to pension as defined in GASB 68.

During the year ended Dec. 31, 2014, OP&F adopted the provisions of GASB Statement No. 67, Financial Reporting for Pension Plans, which is effective for fiscal years beginning after June 15, 2013, and establishes standards for measuring and recognizing liabilities, deferred outflows and inflows of resources, and expenses/expenditures. For defined

benefit pensions, Statement No. 67 identifies the methods and assumptions that should be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information (RSI) requirements about pensions are also addressed in Statement No. 67.

During the year ended Dec. 31, 2014, OP&F also adopted the provisions of GASB Statement No. 70, Accounting and Financial Reporting for Nonexchange Financial Guarantees and GASB Statement No. 69, Government Combinations and Disposals of Government Operations. The adoption of these had no material impact on the financial statements.

In 2015, the GASB issued the following pronouncements. GASB Statement No. 72, Fair Value Measurement and Application, which is effective for fiscal years beginning after June 15, 2015. GASB Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68, is effective for fiscal years beginning after June 15, 2015. GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, is effective for fiscal years beginning after June 15, 2017. GASB Statement No. 76, The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments, is effective for fiscal years beginning after June 15, 2015. GASB Statement No. 77, Tax Abatement Disclosures, is effective for fiscal years beginning after Dec. 15, 2015. GASB Statement No. 78, Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans, is effective for fiscal years beginning after Dec. 15, 2015. GASB Statement No. 79, Certain External Investment Pools and Pool Participants, is effective for fiscal years beginning after June 15, 2015. OP&F is analyzing the impact that these GASB pronouncements will have on the financial statements.

In 2016, the GASB has issued the following pronouncements. GASB Statement No. 80, Blending Requirements for Certain Component Units—an amendment of GASB Statement No. 14, is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 81, Irrevocable Split-Interest Agreements, is effective for fiscal years beginning after Dec. 15, 2016. GASB Statement No. 82, Pension Issues—an amendment of GASB Statements No. 67, No. 68, and No. 73, is effective for fiscal years beginning after June 15, 2016. 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.

## RECLASSIFICATIONS

Any reclassifications are made on a comparative basis for each year displayed.

## INVESTMENTS

Investment purchases and sales are recorded on a trade-date basis. Dividend income is recognized on the ex-dividend date. Interest income is recognized when earned, while income on private equity, private debt and real estate funds is recorded after the recovery of contributed capital.

Investments are reported at fair value. 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.

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 trust accrual account is maintained for health care benefits under Internal Revenue Service (IRS) Code Section 115 trust. An 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 YEAR ENDED DEC. 31, 2015**

<b>Non-Depreciable Capital Assets</b>	<b>Jan. 1, 2015</b>	<b>Increases</b>	<b>Decreases</b>	<b>Dec. 31, 2015</b>
Land	\$3,200,000	\$-	\$-	\$3,200,000
<b>Depreciable Capital Assets</b>				
Building and Improvements	21,396,130	-	-	21,396,130
Furniture and Equipment	3,450,545	7,242	(20,423)	3,437,364
Computer Software and Hardware	16,019,015	1,183,163	(715,982)	16,486,196
<b>TOTAL DEPRECIABLE CAPITAL ASSETS</b>	<b>40,865,690</b>	<b>1,190,405</b>	<b>(736,405)</b>	<b>41,319,690</b>
<b>Accumulated Depreciation</b>				
Building and Improvements	8,237,835	506,385	-	8,744,220
Furniture and Equipment	3,263,451	26,672	(6,723)	3,283,400
Computer Software and Hardware	13,562,961	1,193,400	(103,388)	14,652,973
<b>TOTAL ACCUMULATED DEPRECIATION</b>	<b>25,064,247</b>	<b>1,726,457</b>	<b>(110,111)</b>	<b>26,680,593</b>
<b>TOTAL DEPRECIABLE CAPITAL ASSETS, NET</b>	<b>\$15,801,443</b>	<b>\$(536,052)</b>	<b>\$(626,294)</b>	<b>\$14,639,097</b>

**CHANGES IN CAPITAL ASSETS YEAR ENDED DEC. 31, 2014**

<b>Non-Depreciable Capital Assets</b>	<b>Jan. 1, 2014</b>	<b>Increases</b>	<b>Decreases</b>	<b>Dec. 31, 2014</b>
Land	\$3,200,000	\$-	\$-	\$3,200,000
<b>Depreciable Capital Assets</b>				
Building and Improvements	21,396,130	-	-	21,396,130
Furniture and Equipment	3,442,133	18,951	(10,539)	3,450,545
Computer Software and Hardware	15,173,198	1,944,951	(1,099,134)	16,019,015
<b>TOTAL DEPRECIABLE CAPITAL ASSETS</b>	<b>40,011,461</b>	<b>1,963,902</b>	<b>(1,109,673)</b>	<b>40,865,690</b>
<b>Accumulated Depreciation</b>				
Building and Improvements	7,731,450	548,584	(42,199)	8,237,835
Furniture and Equipment	3,236,449	29,256	(2,254)	3,263,451
Computer Software and Hardware	12,339,995	1,331,582	(108,616)	13,562,961
<b>TOTAL ACCUMULATED DEPRECIATION</b>	<b>23,307,894</b>	<b>1,909,422</b>	<b>(153,069)</b>	<b>25,064,247</b>
<b>TOTAL DEPRECIABLE CAPITAL ASSETS, NET</b>	<b>\$16,703,567</b>	<b>\$54,480</b>	<b>\$(956,604)</b>	<b>\$15,801,443</b>

## 2 – CHANGE IN ACCOUNTING PRINCIPLE WITH RETROSPECTIVE APPLICATION

On Jan. 1, 2014, OP&F changed its method of accounting for the DROP program to comply with the provisions of GASB Statement No. 67, Financial Reporting for Pension Plans, which was implemented during the year ended Dec. 31, 2014. Previously, OP&F recognized the DROP balances as a liability in the Statement of Fiduciary Net Position and the related expenses in the Statement of Changes in Fiduciary Net Position.

Based on the guidance provided in GASB Statement No. 67, OP&F removed the DROP liability of \$1,237.9 million from the

Statement of Fiduciary Net Position. This change in accounting principle was made on Jan. 1, 2014 with an effective date of Jan. 1, 2013 based on retrospective application. Throughout the CAFR there are tables and charts that go back between six and ten years. It is impractical to determine the period-specific effects of this change on all prior periods presented. An asterisk footnote explaining the accounting change has been included on all tables and charts affected by the retrospective application of this change in accounting principle.

The following financial statement line items as of and for the year ended Dec. 31, 2013 were affected by the change in accounting principle.

### CONDENSED CHANGES IN FIDUCIARY NET POSITION FOR THE YEAR ENDED DEC. 31, 2013 (DOLLARS IN MILLIONS)

	As Originally Reported	As Adjusted	Effect of Change
Contributions	\$672.4	\$696.2	\$23.8
Net Investment Gain/(Loss)	2,053.0	2,053.0	-
Other Additions	28.5	28.5	-
<b>TOTAL ADDITIONS</b>	<b>2,753.9</b>	<b>2,777.7</b>	<b>23.8</b>
Benefits	1,286.4	1,302.5	16.1
Refunds	16.0	16.0	-
Administrative Expenses and Other	15.9	15.9	-
<b>TOTAL DEDUCTIONS</b>	<b>1,318.3</b>	<b>1,334.4</b>	<b>16.1</b>
<b>NET INCREASE/(DECREASE)</b>	<b>\$1,435.6</b>	<b>\$1,443.3</b>	<b>\$7.7</b>

### CONDENSED FIDUCIARY NET POSITION AS OF DEC. 31, 2013 (DOLLARS IN MILLIONS)

	As Originally Reported	As Adjusted	Effect of Change
Cash and Short-term Investments	\$649.7	\$649.7	\$-
Receivables	172.9	172.9	-
Investments, at Fair Value	14,393.2	14,393.2	-
Capital Assets, Net of Depreciation	19.9	19.9	-
Other Assets	0.2	0.2	-
<b>TOTAL ASSETS</b>	<b>15,235.9</b>	<b>15,235.9</b>	-
Benefits and Accounts Payable	1,298.5	52.9	(1,245.6)
Investments Payable	963.4	963.4	-
<b>TOTAL LIABILITIES</b>	<b>2,261.9</b>	<b>1,016.3</b>	<b>(1,245.6)</b>
<b>FIDUCIARY NET POSITION, END OF YEAR</b>	<b>\$12,974.0</b>	<b>\$14,219.6</b>	<b>\$1,245.6</b>

As a result of the accounting change, fiduciary net position as of Jan. 1, 2013, increased from \$11,538.4 million, as originally reported to \$12,776.3 million.

OP&F does not anticipate any material indirect effects as a result from this change in accounting principle.

For more information about the DROP program, please refer to the Plan Summary in the Actuarial Section and to the DROP Program Balances table located in the Financial Trends Section of the Statistical Section.

### 3 – CHANGE IN ACCOUNTING PRINCIPLE AND RESTATEMENT OF FIDUCIARY NET POSITION

For fiscal year 2015, OP&F implemented GASB Statement No. 68, Accounting and Financial Reporting for Pensions and GASB Statement No. 71, Pension Transition for Contributions Made Subsequent to the Measurement Date – an amendment of GASB Statement No. 68. GASB 68 established standards for measuring and recognizing pension liabilities, deferred outflows of resources, deferred inflows of resources and expenses/expenditures. The implementation of this pronouncement had the following effect on the fiduciary net pension as reported Dec. 31, 2014:

<b>Fiduciary Net Position Dec. 31, 2014, as previously reported</b>	\$14,485,389,038
<b>Adjustments:</b>	
Net Pension Asset – Combined Plan	(74,298)
Net Pension Liability – Traditional Plan	7,014,724
<b>TOTAL ADJUSTMENTS</b>	<b>6,940,426</b>
<b>Fiduciary Net Position, Dec. 31, 2014, as restated</b>	<b>\$14,478,448,612</b>

### 4 – 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 63.

## PLAN MEMBERSHIP

Employer and member data as of Jan. 1, 2015 and 2014, based on the most recent actuarial valuation, is as follows:

Employee Members	2015			2014		
	Police	Fire	Total	Police	Fire	Total
<b>Retirees and Beneficiaries</b>						
Currently receiving benefits	16,029	11,934	27,963	15,838	11,723	27,561
Terminated employees entitled to benefits but not yet receiving them	112	68	180	86	56	142
<b>TOTAL BENEFIT MEMBERS</b>	<b>16,141</b>	<b>12,002</b>	<b>28,143</b>	<b>15,924</b>	<b>11,779</b>	<b>27,703</b>
<b>Current Members</b>						
Vested*	7,763	6,823	14,586	7,657	6,672	14,329
Non-vested	7,156	6,027	13,183	7,184	6,092	13,276
<b>TOTAL CURRENT MEMBERS</b>	<b>14,919</b>	<b>12,850</b>	<b>27,769</b>	<b>14,841</b>	<b>12,764</b>	<b>27,605</b>
<b>TOTAL EMPLOYEE MEMBERS</b>	<b>31,060</b>	<b>24,852</b>	<b>55,912</b>	<b>30,765</b>	<b>24,543</b>	<b>55,308</b>
<b>Employer Members</b>						
Municipalities	249	220	469	249	221	470
Townships	-	131	131	-	129	129
Villages	280	37	317	283	36	319
<b>TOTAL EMPLOYER MEMBERS</b>	<b>529</b>	<b>388</b>	<b>917</b>	<b>532</b>	<b>386</b>	<b>918</b>

\* Includes Rehired Retirees.

## 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.

#### **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, 2015 and 2014, 3,888 and 3,825 members, respectively, were enrolled in the DROP program, with total values of the DROP accounts equaling \$1,362.9 million and \$1,304.2 million, respectively.

##### **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 contributions
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 contributions
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 employment, members may withdraw their accumulated employee contributions on deposit with OP&F. Acceptance of a refund cancels the member's rights and benefits in OP&F. Employer contributions to OP&F are not refundable.

### HEALTH CARE

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 2015, 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 trust accrual account is maintained for health care benefits under IRS Code Section 115 trust. An IRS Code Section 401(h) account is maintained for Medicare Part B reimbursements.

### HEALTH CARE PLAN

The funded status of the Health Care plan as of Jan. 1, 2015, the most recent actuarial valuation date, is as follows:

## SCHEDULE OF FUNDING STATUS FOR THE VALUATION YEAR ENDING JAN. 1, 2015

### RETIREE HEALTH CARE 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 Percentage of Active Member Payroll
2015	\$1,031.9	\$5,399.5	\$4,367.6	19.1%	\$1,986.6	219.9%

\* See page 49 for multi-year trend information.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and cost trends. Actuarially determined amounts are subject to continual review as actual results are compared with past expectations and new estimates are made about the future. The Schedule of Funding Progress, presented as RSI following the notes to the financial statements, present multi-year trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. Additional information as of the latest actuarial valuation follows:

#### RETIREE HEALTH CARE BENEFITS – HEALTH CARE TRUST FUND

Valuation date: Jan. 1, 2015

Actuarial cost method: Entry age

Amortization method: Level percent of payroll, open

Remaining amortization period: 30 years

Funding ratio: 19.1%

Asset valuation method: Fair value

#### ACTUARIAL ASSUMPTIONS:

Investment return (discount rate)	4.25%
Projected salary increases	0.50% - 7.25%
Payroll increases	3.75%
Inflation assumption	3.25%

Health Care Cost Trends	Initial Rate 3 years			Ultimate Rate	Ultimate Year
	2015 to 2016	2016 to 2017	2017 to 2018		
Non-Medicare	2.00%	6.50%	6.00%	4.50%	2020
Non-AARP	2.00%	6.50%	6.00%	4.50%	2020
AARP	6.00%	5.75%	5.50%	4.50%	2020
Rx Drug	3.11%	6.50%	6.00%	4.50%	2020
Medicare Part B	5.40%	5.30%	5.20%	5.00%	2019

OP&F's retiree health care plan is partially funded. The discount rate is a blended rate based on the plan and employer rates of return, using the plan rate times the percentage of the Annual Required Contributions (ARC) contributed and the employer rate times the percentage not contributed.

## 5 – 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. Rates are at the statutory maximums and the maximum rates have been taken into consideration in the projection of pension benefits for financial accounting measurement purposes.

Rates established by the ORC July 2, 2015 through Dec. 31, 2015:

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

\* Combined member and employer contributions as a percentage of the total active member payroll required and made July 2, 2015 through Dec. 31, 2015.

Rates established by the ORC July 2, 2014 through July 1, 2015:

Percent of active member payroll	Police		Percent Contributed
	Police	Fire	
Member	11.50%	11.50%	100%
Employer	19.50%	24.00%	100%
<b>TOTAL STATUTORY RATE *</b>	<b>31.00%</b>	<b>35.50%</b>	<b>100%</b>

\* Combined member and employer contributions as a percentage of the total active member payroll required and made July 2, 2014 through Dec. 31, 2014 and Jan. 1, 2015 through July 1, 2015.

Rates established by the ORC July 2, 2013 through July 1, 2014:

Percent of active member payroll	Police		Percent Contributed
	Police	Fire	
Member	10.75%	10.75%	100%
Employer	19.50%	24.00%	100%
<b>TOTAL STATUTORY RATE *</b>	<b>30.25%</b>	<b>34.75%</b>	<b>100%</b>

\* Combined member and employer contributions as a percentage of the total active member payroll required and made July 2, 2013 through Dec. 31, 2013 and Jan. 1, 2014 through July 1, 2014.

Rates established by the ORC Jan. 1, 2013 through July 1, 2013:

Percent of active member payroll	Police	Fire	Percent Contributed
Member	10.00%	10.00%	100%
Employer	19.50%	24.00%	100%
<b>TOTAL STATUTORY RATE *</b>	<b>29.50%</b>	<b>34.00%</b>	<b>100%</b>

\* Combined member and employer contributions as a percentage of the total active member payroll required and made Jan. 1, 2013 through July 1, 2013.

The ORC establishes the length of the amortization period for unfunded pension liability as the primary measure of OP&F's financial status, with a period of 30 years or less being considered satisfactory. This 30-year target was to be attained by Dec. 31, 2006 and maintained thereafter. As of Jan. 1, 2015, the amortization period was 30 years. On Sept. 26, 2012, Ohio signed into law the 30-year funding plan OP&F submitted to ORSC. This pension legislation increased the active member contribution rate from 10 percent to 12.25 percent in annual increments of 0.75 percent each year beginning on July 2, 2013, and the final scheduled increase occurred on July 2, 2015.

The chart below summarizes the member and employer contributions for 2015 and 2014:

#### 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
2015	\$131,164,653	\$210,542,364	100%	\$114,669,970	\$228,195,573	100%
2014	119,721,439	205,615,523	100%	104,267,616	222,273,067	100%

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 \$447 thousand and \$500 thousand for the years ended Dec. 31, 2015 and 2014, respectively.

#### 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, 2015 and 2014, respectively, includes \$84,342 and \$86,852 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 2016	\$1,819,334
Year ending December 2017	1,819,334
Year ending December 2018	1,819,334
Year ending December 2019	1,819,334
Year ending December 2020	1,794,310
Thereafter	25,859,560
<b>TOTAL PROJECTED PAYMENTS</b>	<b>34,931,206</b>
Less future interest portion	(11,101,663)
<b>BALANCE AT DEC. 31, 2015</b>	<b>\$23,829,543</b>

## 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' and 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 the various funds were as follows:

	2015	2014
Members' Contribution	\$2,599,979,289	\$2,491,312,368
Employers' Contribution	1,058,361,249	2,701,051,670
Pension Reserve	10,194,965,000	9,293,025,000
<b>TOTAL</b>	<b>\$13,853,305,538</b>	<b>\$14,485,389,038</b>

## 6 – CASH AND INVESTMENTS

### CASH AND INVESTMENTS

A summary of cash and short-term securities and investments held at Dec. 31, 2015 and 2014 is as follows:

Category	2015 Fair Value	2014 Fair Value
Cash and Cash Equivalents*	\$1,365,494,791	\$1,017,367,791
U.S. Government Obligations	133,981,501	91,757,899
U.S. Government Agencies	19,061,943	19,868,606
U.S. Government Treasury STRIPS**	113,368,288	107,018,327
Municipal Bond Obligations	2,590,386	1,515,741
Corporate Bonds and Obligations	1,887,394,233	1,804,769,995
Domestic Commingled Bonds	432,625,176	758,473,421
Mortgage and Asset-Backed Obligations	440,843,917	372,731,146
Non U.S. Bonds	381,441,568	386,713,055
Domestic Stocks	1,003,699,024	1,626,191,933
Domestic Pooled Stocks	1,830,420,415	2,117,847,097
International Equities	2,734,375,785	2,778,182,562
Real Estate	1,518,060,742	1,448,968,196
Commercial Mortgage Funds	37,256,334	37,973,026
Private Equity	806,583,559	746,378,386
Private Debt	211,092,340	142,676,127
Timber	235,358,432	190,634,093
Master Limited Partnerships	699,612,813	783,177,936
<b>GRAND TOTAL</b>	<b>\$13,853,261,247</b>	<b>\$14,432,245,337</b>

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, 2015, the annual money weighted rate of return on investments, net of investment expense was 0.098 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 custody agreement between the custodial bank and the Ohio Treasurer of State has historically restricted the right of the custodial bank or its agents from putting any right, charge, security interest, lien or claim of any kind on the securities they hold. Despite OP&F objections, the Ohio Treasurer of State allowed language in the custody agreement that grants a security interest in favor of the custodial bank in OP&F 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, 2015 and 2014

	2015	2014
Uninsured deposits collateralized with securities held by the pledging financial institution	\$392,443	\$508,866
Uninsured and uncollateralized deposits	\$2,970,648	\$2,388,021

## 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 organization. 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 four core fixed income portfolios, all managed externally, contain government, mortgage and asset-backed securities, U.S. Agency and corporate bonds. 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, 2015 and 2014:

## RATINGS BY ASSET CLASS – 2015

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 STRIPS	U.S. Government Treasury Obligations	GRAND TOTAL
AAA	\$4,676,097	\$-	\$47,297,801	\$96,576	\$381,441,568	\$-	\$-	\$2,102,116	\$435,614,158
AA+	8,586,095	316,953,206	274,926,947	-	-	19,061,943	113,368,288	128,966,634	861,863,113
AA	4,524,788	-	1,382,727	280,427	-	-	-	-	6,187,942
AA-	26,351,984	-	1,877,969	627,870	-	-	-	-	28,857,823
A+	15,581,985	-	4,561,475	-	-	-	-	-	20,143,460
A	40,903,222	2,134,222	2,134,222	397,230	-	-	-	-	103,459,299
A-	34,643,724	-	225,643	351,053	-	-	-	1,369,500	36,589,920
BBB+	70,129,591	55,647,345	1,755,961	837,230	-	-	-	1,543,251	129,913,378
BBB	66,963,165	-	806,654	-	-	-	-	-	67,769,819
BBB-	145,278,593	-	2,938,263	-	-	-	-	-	148,216,856
BB+	258,436,169	-	776,819	-	-	-	-	-	259,212,988
BB	313,946,860	-	3,298,169	-	-	-	-	-	317,245,029
BB-	275,772,476	-	1,452,876	-	-	-	-	-	277,225,352
B+	186,166,410	-	652,968	-	-	-	-	-	186,819,378
B	189,567,147	-	1,366,013	-	-	-	-	-	190,933,160
B-	129,192,576	-	3,485,516	-	-	-	-	-	132,678,092
CCC+	76,148,281	-	112,788	-	-	-	-	-	76,261,069
CCC	9,625,853	-	22,518,917	-	-	-	-	-	32,144,770
CCC-	1,918,113	-	409,001	-	-	-	-	-	2,327,114
CC	343,505	-	4,113,267	-	-	-	-	-	4,456,772
C	103,600	-	384,708	-	-	-	-	-	488,308
D	767,181	-	17,876,685	-	-	-	-	-	18,643,866
FFC*	-	-	4,738,497	-	-	-	-	-	4,738,497
NR**	27,766,818	-	41,750,031	-	-	-	-	-	69,516,849
<b>GRAND TOTAL</b>	<b>\$1,887,394,233</b>	<b>\$432,625,176</b>	<b>\$440,843,917</b>	<b>\$2,590,386</b>	<b>\$381,441,568</b>	<b>\$19,061,943</b>	<b>\$113,368,288</b>	<b>\$133,981,501</b>	<b>\$3,411,307,012</b>

\* FFC = Full Faith and Credit.

\*\* NR = Not Rated.

## RATINGS BY ASSET CLASS – 2014

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 STRIPS	U.S. Government Treasury Obligations	GRAND TOTAL
AAA	\$7,817,088	\$-	\$59,641,043	\$101,622	\$386,713,055	\$-	\$-	\$-	\$454,272,808
AA+	12,612,518	315,001,091	259,521,951	-	-	19,868,606	107,018,327	91,757,899	805,780,392
AA	4,426,209	-	2,261,829	315,083	-	-	-	-	7,003,121
AA-	19,823,373	185,010,142	758,133	653,239	-	-	-	-	206,244,887
A+	14,360,041	-	6,241,873	-	-	-	-	-	20,601,914
A	26,678,803	58,449,541	604,666	445,797	-	-	-	-	86,178,807
A-	39,261,662	142,998,797	-	-	-	-	-	-	182,260,459
BBB+	21,598,744	57,013,850	3,385,469	-	-	-	-	-	81,998,063
BBB	49,111,920	-	-	-	-	-	-	-	49,111,920
BBB-	99,613,554	-	3,421,283	-	-	-	-	-	103,034,837
BB+	220,563,276	-	707,403	-	-	-	-	-	221,270,679
BB	304,836,924	-	4,498,411	-	-	-	-	-	309,335,335
BB-	267,437,467	-	761,457	-	-	-	-	-	268,198,924
B+	209,351,262	-	1,410,501	-	-	-	-	-	210,761,763
B	255,279,404	-	350,279	-	-	-	-	-	255,629,683
B-	139,902,927	-	4,870,450	-	-	-	-	-	144,773,377
CCC+	89,130,587	-	152,569	-	-	-	-	-	89,283,156
CCC	8,320,250	-	5,600,063	-	-	-	-	-	13,920,313
CCC-	2,641,150	-	944,449	-	-	-	-	-	3,585,599
CC	-	-	3,804,738	-	-	-	-	-	3,804,738
C	-	-	710,470	-	-	-	-	-	710,470
D	102,637	-	7,322,432	-	-	-	-	-	7,425,069
FFC*	-	-	5,710,026	-	-	-	-	-	5,710,026
NR**	11,900,199	-	51,651	-	-	-	-	-	11,951,850
<b>GRAND TOTAL</b>	<b>\$1,804,769,995</b>	<b>\$758,473,421</b>	<b>\$372,731,146</b>	<b>\$1,515,741</b>	<b>\$386,713,055</b>	<b>\$19,868,606</b>	<b>\$107,018,327</b>	<b>\$91,757,899</b>	<b>\$3,542,848,190</b>

\* FFC = Full Faith and Credit.

\*\* NR = Not Rated.

## HIGH YIELD FIXED INCOME

As of Dec. 31 2015, OP&F had nine high yield fixed-income portfolios, of which five invested in publicly traded securities and four 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, 2015 and 2014.

S&P/Moody's Rating	Fair Value 2015	Percent 2015	Fair Value 2014	Percent 2014
A-1/P-1	\$115,363,298	18.43%	\$32,744,582	8.71%
A-1/P-2	98,135,342	15.68%	-	- %
A-2/P-1	-	- %	80,232,767	21.35%
A-2/P-2	412,532,178	65.89%	262,834,708	69.94%
<b>GRAND TOTAL</b>	<b>\$626,030,818</b>	<b>100.00%</b>	<b>\$375,812,057</b>	<b>100.00%</b>

## 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 four core fixed income managers are allowed a range of permissible durations around that of their benchmark index. 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 2015, the permissible ranges for the three core fixed income portfolio managers were:

Portfolio Benchmark	2015 and 2014 Benchmark Duration (years)	Portfolio Manager	Portfolio Permissible Range
Barclays Capital U.S. Aggregate Bond Index	5.68 and 5.55	JP Morgan Investment Advisors	+/- 10% of Benchmark
		Pacific Investment Management Company	-3 years to + 8years
Custom weighted-average mix of Barclays country indexes	15.48 and 15.16	Bridgewater Associates	+/- 7 years of Benchmark

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. OP&F does not measure the duration of their high yield portfolios because interest rate risk is a very small part of the total risk of high yield securities. 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, 2015 and 2014.

Investment Type	Fair Value 2015	Effective Duration 2015 (years)	Fair Value 2014	Effective Duration 2014 (years)
U.S. Government Treasury Obligations	\$133,981,501	9.05	\$91,757,899	5.19
U.S. Government STRIPS	113,368,288	6.73	107,018,327	7.26
U.S. Government Agencies	19,061,943	5.59	19,868,606	5.54
Mortgage and Asset-Backed Securities	440,843,917	2.56	372,731,146	2.98
Municipal Bond Obligations	2,590,386	11.59	1,515,741	16.56
Corporate Bond Obligations**	282,557,240	4.24	167,666,710	3.76
Domestic Commingled Bonds*	115,671,970	1.69	443,472,330	2.32
<b>U.S. FIXED INCOME EFFECTIVE DURATION</b>	<b>\$1,108,075,245</b>	<b>4.18</b>	<b>\$1,204,030,759</b>	<b>3.45</b>
Non-U.S. Government Bonds***	381,441,568	-	386,713,055	-
<b>TOTAL FIXED INCOME EFFECTIVE DURATION</b>	<b>\$1,489,516,813</b>	<b>4.18</b>	<b>\$1,590,743,814</b>	<b>3.45</b>

\* Investments of \$316,953,206 for 2015 and \$315,001,091 for 2014 both in an inflation linked bond fund are excluded from duration.

\*\* High yield bonds are excluded from duration.

\*\*\* The Non-U.S. Government Bonds consists of international inflation linked securities. This investment type is excluded from duration.

## 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, 2015 and 2014, 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. At Dec. 31, 2015 and 2014, 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, 2015 and 2014:

### SECURITIES LENT AS OF DEC. 31, 2015

Securities Lent	Underlying Security	Collateral Received	Collateral Fair Value	Type of Collateral
U.S. Government and Treasuries	\$156,364,689	\$159,429,157	\$159,429,157	Cash
Domestic Corporate Fixed Income	348,616,283	356,968,776	356,968,776	Cash
Domestic Equities	307,487,840	307,119,210	307,119,210	Cash
International Equities	150,821,193	155,433,516	155,433,516	Cash
<b>TOTAL SECURITIES LENT</b>	<b>\$963,290,005</b>	<b>\$978,950,659</b>	<b>\$978,950,659</b>	

### SECURITIES LENT AS OF DEC. 31, 2014

Securities Lent	Underlying Security	Collateral Received	Collateral Fair Value	Type of Collateral
U.S. Government and Treasuries	\$183,406,335	\$186,701,584	\$186,701,584	Cash
Domestic Corporate Fixed Income	302,359,083	310,388,474	310,388,474	Cash
Domestic Equities	555,128,255	580,639,284	580,639,284	Cash
International Equities	113,384,803	116,543,472	116,543,472	Cash
<b>TOTAL SECURITIES LENT</b>	<b>\$1,154,278,476</b>	<b>\$1,194,272,814</b>	<b>\$1,194,272,814</b>	

**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 21.1 percent as of Dec. 31, 2015. 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, 2015 and 2014, OP&F's exposure to foreign currency risk is as follows:

**2015 EXPOSURE TO FOREIGN CURRENCY RISK**

Currency	Fair Value (Cash Deposits)	Fair Value (Currency Contracts)	Fair Value (Equities)	Fair Value (Private Equities)	Total Fair Value (Cash Deposits and Securities)
Australian Dollar	\$437,301	\$147,078	\$58,561,160	\$ -	\$59,145,539
Brazilian Real	25,195	80,439	11,315,923	-	11,421,557
British Pound	559,638	(458,284)	408,033,539	-	408,134,893
Canadian Dollar	209,693	(281,892)	79,306,200	-	79,234,001
Chilean Peso	20,020	-	6,772,706	-	6,792,726
Chinese Yuan	-	240,645	-	-	240,645
Danish Krone	109	-	22,033,376	-	22,033,485
Euro	256,132	(430,909)	548,239,249	51,998,794	600,063,266
Hong Kong Dollar	-	(2,863)	89,450,350	-	89,447,487
Indonesian Rupiah	-	-	4,353,699	-	4,353,699
Japanese Yen	584,751	604,842	320,183,372	-	321,372,965
Malaysian Ringgit	16,508	(1,173)	3,353,374	-	3,368,709
Mexican Peso	-	6,482	5,724,520	-	5,731,002
New Turkish Lira	-	(11,758)	6,343,411	-	6,331,653
New Zealand Dollar	-	-	4,200,010	-	4,200,010
Norwegian Krone	217	-	-	-	217
Philippian Peso	-	-	1,487,846	-	1,487,846
Polish Zloty	-	-	2,980,453	-	2,980,453
Russian Ruble	-	(106,244)	1,842,128	-	1,735,884
Singapore Dollar	-	8,692	20,133,757	-	20,142,449
South African Rand	-	-	5,712,001	-	5,712,001
South Korean Won	104	(85,155)	43,015,705	-	42,930,654
Swedish Krona	50,414	25,232	26,375,538	-	26,451,184
Swiss Franc	271,755	-	190,579,627	-	190,851,382
Taiwanese New Dollar	-	18,555	20,165,222	-	20,183,777
Thailand Baht	-	-	8,651,803	-	8,651,803
United Arab Emirates	-	-	1,308,397	-	1,308,397
<b>GRAND TOTAL</b>	<b>\$2,431,837</b>	<b>\$(246,313)</b>	<b>\$1,890,123,366</b>	<b>\$51,998,794</b>	<b>\$1,944,307,684</b>

## 2014 EXPOSURE TO FOREIGN CURRENCY RISK

Currency	Fair Value (Cash Deposits)	Fair Value (Currency Contracts)	Fair Value (Equities)	Fair Value (Private Equities)	Total Fair Value (Cash Deposits and Securities)
Australian Dollar	\$459,182	\$(392,458)	\$52,020,016	\$ -	\$52,086,740
Brazilian Real	81,387	-	13,502,294	-	13,583,681
British Pound	434,509	(227,868)	410,376,497	-	410,583,138
Canadian Dollar	215,196	(516,871)	89,404,301	-	89,102,626
Chilean Peso	27,661	-	8,696,281	-	8,723,942
Danish Kroner	-	-	16,213,167	-	16,213,167
Euro	153,481	(3,148,208)	597,506,602	54,237,683	648,749,558
Hong Kong Dollar	25,476	(3,818)	83,547,820	-	83,569,478
Indonesian Rupiah	27,393	-	7,605,555	-	7,632,948
Japanese Yen	448,885	46,543	300,283,487	-	300,778,915
Malaysian Ringgit	2,483	-	1,657,226	-	1,659,709
Mexican Peso	7,359	-	3,143,883	-	3,151,242
New Turkish Lira	-	-	4,735,281	-	4,735,281
New Zealand Dollar	38,515	-	3,743,885	-	3,782,400
Norwegian Krone	256	-	2,737,991	-	2,738,247
Philippian Peso	-	-	1,075,095	-	1,075,095
Polish Zloty	-	-	4,502,049	-	4,502,049
Singapore Dollar	24,511	-	25,136,808	-	25,161,319
South African Rand	-	-	9,681,811	-	9,681,811
South Korean Won	6	-	41,244,855	-	41,244,861
Swedish Krona	52	(414,805)	22,420,005	-	22,005,252
Swiss Franc	441,518	-	220,216,406	-	220,657,924
Taiwanese New Dollar	-	-	26,792,759	-	26,792,759
Thailand Baht	-	-	9,558,942	-	9,558,942
<b>GRAND TOTAL</b>	<b>\$2,387,870</b>	<b>\$(4,657,485)</b>	<b>\$1,955,803,016</b>	<b>\$54,237,683</b>	<b>\$2,007,771,084</b>

### 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 four external managers constituting \$1.9 billion and \$1.2 billion of notional value as of Dec. 31, 2015 and 2014, respectively. These amounts represented 14.0 percent and 8.6 percent of the total portfolio, respectively, in each year. The 2015 increase was due to the conversion of two of OP&F's fixed income mandates from commingled funds to separate accounts which hold futures, the termination of OP&F's active U.S. small

cap equity manager and the conversion of a portion of the exposure from physical securities to synthetic futures exposure on an ongoing basis, and an increase in the structural target of OP&F's portable alpha program from 40 percent to 50 percent of U.S. equity assets, of which such alpha transfer strategies are supported by an overlay program using futures. Converting this exposure to synthetics was done 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. Up to June 2013, OP&F employed two external currency managers, in its portable alpha program, to manage assets in an active currency strategy that attempted to add alpha and

did not function merely as a hedging vehicle. However, upon the investment committee's recommendations, in June of 2013, the Board of Trustees adopted a new U.S. Equity Investment Structure. Active currency management was eliminated as a component of the portable alpha program.

All the contracts are valued at the spot foreign exchange rate at Dec. 31, 2015 and 2014. 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 table represents the balances of the outstanding currency transactions as of Dec. 31, 2015 and 2014:

#### OPEN CURRENCY CONTRACTS AS OF DEC. 31, 2015

Purpose	Fair Value (Outstanding Purchases)	Fair Value (Outstanding Sales)	Unrealized Appreciation/ (Depreciation)
Trade Settlement	\$249,136	\$250,652	\$(1,516)
Position Hedging	174,066,331	174,311,128	(244,797)
<b>GRAND TOTAL</b>	<b>\$174,315,467</b>	<b>\$174,561,780</b>	<b>\$(246,313)</b>

#### OPEN CURRENCY CONTRACTS AS OF DEC. 31, 2014

Purpose	Fair Value (Outstanding Purchases)	Fair Value (Outstanding Sales)	Unrealized Appreciation/ (Depreciation)
Trade Settlement	\$ -	\$ -	\$ -
Position Hedging	342,757,448	347,414,933	(4,657,485)
<b>GRAND TOTAL</b>	<b>\$342,757,448</b>	<b>\$347,414,933</b>	<b>\$(4,657,485)</b>

On delivered/closed currency contracts OP&F had realized losses of \$28,218,261 and \$8,097,990 in 2015 and 2014, respectively.

- **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 to which both parties agree. 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.

In 2015, OP&F invested in interest rate and credit default swaps through one external manager. The notional principal and the fair value for both as of Dec. 31, 2015 were:

#### SWAP HOLDINGS AS OF DEC. 31, 2015

Type of Swap	Notional Long	Notional Short	Net Notional	Fair Value
Interest Rate Swap	\$75,441,905	\$(296,117,551)	\$(220,675,646)	\$(1,053,098)
Credit Default Swap	6,177,670	(10,200,000)	(4,022,330)	63,937
<b>TOTAL</b>	<b>\$81,619,575</b>	<b>\$(306,317,551)</b>	<b>\$(224,697,976)</b>	<b>\$(989,161)</b>

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.

## 7 – DEFERRED COMPENSATION PLAN

OP&F does not sponsor a deferred compensation program. 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.

IRS Code Section 457 requires that the amount of compensation assets deferred under a plan, all property and rights, and all income attributable to those amounts, property or rights, be held in trust for the benefit of the participants. This insulates IRS Code Section 457 benefits from the claims of an employer's general creditors. Accordingly, OP&F does not include the deferred compensation assets or liabilities of the Ohio Deferred Compensation Plan in its financial statements.

## 8 – DEFINED BENEFIT PENSION PLAN

OP&F contributes to OPERS, a cost-sharing, multiple-employer plan for all staff. OPERS administers three separate pension plans and provides retirement, disability, and survivor benefits to qualified plan members and beneficiaries. Benefit provisions and contribution requirements are established by the Ohio legislature and are codified in Chapter 145 of the ORC. OPERS issues a publicly available financial report that includes financial information and RSI for the plan. That report may be obtained by visiting [www.opers.org/investments/cafr.shtml](http://www.opers.org/investments/cafr.shtml), by writing to OPERS, 277 East Town Street, Columbus, Ohio 43215-4642 or by calling (614) 222-5601 or 800-222-7377.

For 2014, plan members contributed 10 percent of their annual covered salary, while employers are required to contribute 14 percent. OP&F's contributions to OPERS for the years ending Dec. 31, 2015, 2014, and 2013, were \$1,301,933, \$1,264,620 and \$1,226,897 respectively, equal to the required contributions for each year.

## 9 – COMPENSATED ABSENCES

As of Dec. 31, 2015, and 2014, \$2.2 million, and \$2.3 million, respectively, 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.

## 10 – 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 of \$80,000 per employee per year.

## 11 – OTHER POST-EMPLOYMENT BENEFITS (OPEB)

In addition to the pension benefits described in note eight, 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/investments/cafr.shtml](http://www.opers.org/investments/cafr.shtml), 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, 2015, the employer contribution allocated to the retiree health care plan was 4.5 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 and the amounts allocated to health care.

## ANNUAL REQUIRED PENSION AND HEALTH CARE CONTRIBUTIONS

Year Ended	Pension	Pension Percent Contributed	Health Care	Health Care Percent Contributed
	Annual Required Contributions		Annual Required Contributions	
2015	\$1,301,933	100%	\$418,478	100%
2014	1,264,620	100%	180,664	100%
2013	1,226,897	100%	87,636	100%

## 12 – 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, 2015.

OP&F is committed to making additional capital contributions to the following investment types as of Dec. 31, 2015 and Dec. 31, 2014:

Asset Class	Unfunded	Fair Value	Fair Value
	Commitments	At Dec. 31, 2015	At Dec. 31, 2014
Private Equity*	\$714,503,246	\$806,583,559	\$746,378,386
Private Debt	215,413,149	211,092,340	142,676,127
Real Estate	266,066,864	1,518,060,742	1,448,968,196
Timber	190,166,077	235,358,432	190,634,093
<b>GRAND TOTAL</b>	<b>\$1,386,149,336</b>	<b>\$2,771,095,073</b>	<b>\$2,528,656,802</b>

\* Included in the Private Equity are four Euro based unfunded commitments totaling € 94,267,502 (€ = Euro) (\$102,402,787 U.S.D.) as of Dec. 31, 2015.

## 13 – 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 \$721,580 and \$732,073 and the related liability for unpaid benefits are included in the accompanying financial statements as of Dec. 31, 2015 and 2014, respectively.

## 14 – EMPLOYERS’ NET PENSION LIABILITY (SURPLUS)

### THE COMPONENTS OF THE NET PENSION LIABILITY OF EMPLOYERS AS OF DEC. 31, 2015

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
2015	\$19,357,013,332	\$12,923,943,156	\$6,433,070,176	66.77%	\$2,046,601,668	314.33%
2014 Originally Reported	\$18,633,864,837	\$13,453,447,836	\$5,180,417,001	72.20%	\$1,975,281,819	262.26%
2014 Adjustment	127,696,625	-	127,696,625	(0.49)%	23,349,593	3.33%
2014 Restated	\$18,761,561,462	\$13,453,447,836	\$5,308,113,626	71.71%	\$1,998,631,412	265.59%

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, 2015, is based on the results of an actuarial valuation date of Jan. 1, 2015, and rolled-forward using generally accepted actuarial procedures.

OP&F had to make a revision to the census file provided to Buck Consultants, OP&F's actuary. The revisions are due to the late reported information to the Jan. 1, 2014 census file used to determine the total pension liability. As a result of the additional information, the 2014 and 2013 numbers presented needed to be restated. The table above lists the Dec. 31, 2014 numbers as originally reported, the required adjustment, and the restated Dec. 31, 2014 numbers. Controls have been put in place to account for this information in future census files.

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

#### ACTUARIAL ASSUMPTIONS

Valuation date	Jan. 1, 2015
Actuarial cost method	Entry age
Investment rate of return	8.25%
Projected salary increases	4.25% - 11.00%
Payroll increases	3.75%
Inflation assumptions	3.25%
Cost-of-living adjustments	2.60% 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, 2015 are summarized below:

**TARGET ALLOCATIONS**

Asset Class	Target Allocations	10 Year Expected Real Rate of Return**	30 Year Expected Real Rate of Return**
Cash and Cash Equivalents	-%	-%	-%
Domestic Equity	16.0%	6.50%	7.80%
Non-U.S. Equity	16.0%	6.70%	8.00%
Core Fixed Income*	20.0%	3.50%	5.35%
Global Inflation Protected Securities*	20.0%	3.50%	4.73%
High Yield	15.0%	6.35%	7.21%
Real Estate	12.0%	5.80%	7.43%
Private Markets	8.0%	9.50%	10.73%
Timber	5.0%	6.55%	7.35%
Master Limited Partnerships	8.0%	9.65%	10.75%
<b>TOTAL</b>	<b>120.0%</b>		

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 8.25 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 8.25 percent. Based on those assumptions, OP&F's fiduciary net position was projected to be available to make all future benefit payment 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, and to illustrate the potential impact the following table presents the net pension liability calculated using the discount rate of 8.25 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, 7.25 percent, or one percentage point higher, 9.25 percent, than the current rate.

**CHANGES IN DISCOUNT RATE**

Sensitivity of the Net Pension Liability to Changes in the Discount Rate at Dec. 31, 2015

	1 Percent Decrease	Current Discount Rate	1 Percent Increase
Discount Rate	7.25%	8.25%	9.25%
Total Pension Liability	\$21,408,300,951	\$19,357,013,332	\$17,619,370,740
Plan Fiduciary Net Position	\$12,923,943,156	\$12,923,943,156	\$12,923,943,156
<b>NET PENSION LIABILITY (SURPLUS)</b>	<b>\$8,484,357,795</b>	<b>\$6,433,070,176</b>	<b>\$4,695,427,584</b>

## 15 – 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 adjusting this estimate annually.

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 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 statute 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 would be effective when the changes are legally enforceable.

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 both the accrual and modified 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 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](http://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 contributions plans); and the Member Directed Plan (defined contribution plan). 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 transition 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 was \$2,223,292 for fiscal year 2015. Of this amount \$1,054,656 is reported as an intergovernmental payable.

## 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, 2014, 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	TOTAL
Proportionate Share of the Net Pension Asset	\$-	\$52,353	\$52,353
Proportionate Share of the Net Pension Liability	\$(7,534,305)	\$-	\$(7,534,305)
Proportion of the Net Pension Asset/Liability	0.062468%	0.135973%	0.063644%
Pension Expense	\$(350,136)	\$(29,834)	\$(379,970)

At Dec. 31, 2015, OP&F reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

OPERS	Traditional	Combined	TOTAL
<b>Deferred Outflows of Resources</b>			
Net difference between projected and actual earnings on pension plan investments	\$402,008	\$3,196	\$405,203
Changes in proportion and differences	-	345	345
Contributions subsequent to the measurement date	990,443	64,213	1,054,656
<b>TOTAL DEFERRED OUTFLOWS OF RESOURCES</b>	<b>\$1,392,451</b>	<b>\$67,754</b>	<b>\$1,460,205</b>
<b>Deferred Inflows of Resources</b>			
Differences between expected and actual experience	\$132,363	\$15,975	\$148,338
Changes in proportion and differences	390,371	-	390,371
<b>TOTAL DEFERRED INFLOWS OF RESOURCES</b>	<b>\$522,734</b>	<b>\$15,975</b>	<b>\$538,709</b>

Deferred outflows of resources related to pensions resulting from OP&F's contributions subsequent to the measurement date were \$1,054,656 and will be recognized as a reduction of the net pension liability in the year ending Dec. 31, 2016. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

OPERS	Traditional	Combined	TOTAL
<b>Fiscal Year Ending Dec. 31:</b>			
2016	\$(140,689)	\$(1,060)	\$(141,749)
2017	(140,689)	(1,060)	(141,749)
2018	60,151	(1,060)	59,091
2019	100,501	(1,060)	99,441
2020	-	(1,859)	(1,859)
2021	-	(1,859)	(1,859)
2022	-	(1,859)	(1,859)
2023	-	(1,859)	(1,859)
2024	-	(758)	(758)
<b>TOTAL</b>	<b>\$(120,726)</b>	<b>\$(12,434)</b>	<b>\$(133,160)</b>

**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, 2014, are presented below:

**KEY METHODS AND ASSUMPTIONS USED IN VALUATION OF TOTAL PENSION LIABILITY**

Actuarial Information	Traditional Pension Plan	Combined Plan
Valuation Date	Dec. 31, 2014	Dec. 31, 2014
Experience Study	5-Year Period Ended Dec. 31, 2010	5-Year Period Ended Dec. 31, 2010
Actuarial Cost Method	Individual entry age	Individual entry age
<b>ACTUARIAL ASSUMPTIONS</b>		
Investment Rate of Return	8.00%	8.00%
Wage Inflation	3.75%	3.75%
Projected Salary Increases	4.25%-10.05% (includes wage inflation at 3.75%)	4.25%-8.05% (includes wage inflation at 3.75%)
Cost-of-living Adjustments	3.00% Simple	3.00% Simple

Mortality rates are based on the RP-2000 mortality table projected 20 years using Projection Scale AA. For males, 105 percent of the combined healthy male mortality rates were used. For females, 100 percent of the combined healthy female mortality rates were used. The mortality rates used in evaluating disability allowances were based on the RP-2000 mortality table with no projection. For males, 120 percent of the disabled female mortality rates were used, set forward two years. For females, 100 percent of the disabled female mortality rates were used.

#### DISCOUNT RATE – OPERS

The discount rate used to measure the total pension liability was eight percent for both the Traditional Pension Plan and the Combined 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 rate of return on pension plan investments for both the Traditional Pension Plan and the Combined Plan was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents OPERS net pension liability or asset calculation using the discount rate of eight percent and the expected net pension liability or asset if it were calculated using a discount rate that is one percent lower or higher than the current rate.

#### SENSITIVITY OF NET PENSION LIABILITY (ASSET) TO CHANGES IN THE DISCOUNT RATE (DOLLARS IN MILLIONS)

Employers' Net Pension Liability (Asset)	1 Percent Decrease	Current Discount Rate	1 Percent Increase
Discount Rate	7.0%	8.0%	9.0%
Traditional Pension Plan	\$22,189	\$12,061	\$3,531
Combined Plan	\$5	\$(38)	\$(73)

#### 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 eight 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, seven percent, or one-percentage-point higher, nine percent, than the current rate.

OP&F's proportionate share of the Net Pension Liability (Asset)	1 Percent Decrease	Current Discount Rate	1 Percent Increase
Discount Rate	7.0%	8.0%	9.0%
Traditional Pension Plan	\$13,860,958	\$7,534,229	\$2,205,734
Combined Plan	\$6,799	\$(51,670)	\$(99,260)

The following table displays OPERS' Board-approved asset allocation policy of the Defined Benefit portfolio for 2014 and long-term expected real rates of return.

Asset Class	Target Allocation for 2014	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Fixed Income	23.00%	2.31%
Domestic Equities	19.90%	5.84%
Real Estate	10.00%	4.25%
Private Equity	10.00%	9.25%
International Equities	19.10%	7.40%
Other Investments	18.00%	4.59%
<b>TOTAL</b>	<b>100.00%</b>	<b>5.28%</b>

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.

OPERS manages investments in four investment portfolios: the DB Portfolio, the Health Care portfolio, the 115 Health Care Trust portfolio and the Defined Contribution portfolio. The DB portfolio includes the investment assets of the Traditional Pension Plan, the DB component of the Combined Plan, the annuitized accounts of the Member-Directed Plan, and the VEBA Plan. 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 money-weighted rate of return, net of investment expense, for the DB portfolio is 6.95 percent for 2014.

## REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

### SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY\*

	Year Ending Dec. 31, 2015	Year Ending Dec. 31, 2014 Restated**
<b>Total Pension Liability</b>		
Service Cost	\$267,624,727	\$262,846,976
Interest	1,519,848,287	1,472,778,463
Plan Changes	-	-
Differences Between Expected and Actual Experience	(21,544,278)	-
Changes in Assumptions	-	-
Benefit Payments, Including Refunds of Member Contributions	(1,170,476,866)	(1,126,154,321)
<b>NET CHANGE IN TOTAL PENSION LIABILITY</b>	<b>595,451,870</b>	<b>609,471,118</b>
<b>TOTAL PENSION LIABILITY - BEGINNING</b>	<b>18,761,561,462</b>	<b>18,152,090,344</b>
<b>TOTAL PENSION LIABILITY - ENDING (a)</b>	<b>\$19,357,013,332</b>	<b>\$18,761,561,462</b>
<b>Plan Fiduciary Net Position</b>		
Contributions - Employer	\$428,972,949	\$418,493,468
Contributions - Member	245,834,623	223,989,055
Net Investment Income	(11,259,198)	786,522,451
Benefit Payments, Including Refunds of Member Contributions	(1,170,476,866)	(1,126,154,321)
Administrative Expense	(15,635,762)	(15,480,687)
Other Changes	(6,940,426)	-
<b>NET CHANGES IN PLAN FIDUCIARY NET POSITION</b>	<b>(529,504,680)</b>	<b>287,369,966</b>
<b>PLAN FIDUCIARY NET POSITION - BEGINNING</b>	<b>13,453,447,836</b>	<b>13,166,077,870</b>
<b>PLAN FIDUCIARY NET POSITION - ENDING (b)</b>	<b>\$12,923,943,156</b>	<b>\$13,453,447,836</b>
<b>NET PENSION LIABILITY (SURPLUS) - ENDING (a)-(b)</b>	<b>\$6,433,070,176</b>	<b>\$5,308,113,626</b>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	66.77%	71.71%
Covered Employee Payroll	\$2,046,601,668	\$1,998,631,412
Net Pension Liability as a Percentage of Covered Employee Payroll	314.33%	265.59%

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

\*\* During 2015, OP&F had to make a revision to the census file provided to the actuary. For an explanation on the restated amounts see the Notes to the Basic Financial Statements, note number 14.

## 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
2015	\$19,357,013,332	\$12,923,943,156	\$6,433,070,176	66.77%	\$2,046,601,668	314.33%
2014 Originally Reported	\$18,633,864,837	\$13,453,447,836	\$5,180,417,001	72.20%	\$1,975,281,819	262.26%
2014 Adjustment	127,696,625	-	127,696,625	(0.49)%	23,349,593	3.33%
<b>2014 As Restated **</b>	<b>\$18,761,561,462</b>	<b>\$13,453,447,836</b>	<b>\$5,308,113,626</b>	<b>71.71%</b>	<b>\$1,998,631,412</b>	<b>265.59%</b>
2013 Originally Reported	\$18,036,391,574	\$13,166,077,870	\$4,870,313,704	73.00%		
2013 Adjustment	115,698,770	-	115,698,770	(0.47)%		
<b>2013 As Restated **</b>	<b>\$18,152,090,344</b>	<b>\$13,166,077,870</b>	<b>\$4,986,012,474</b>	<b>72.53%</b>		

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

\*\* During 2015, OP&F had to make a revision to the census file provided to the actuary. For an explanation on the restated amounts see the Notes to the Basic Financial Statements, note number 14.

## SCHEDULE OF EMPLOYER CONTRIBUTIONS – PENSION TRUST FUND

Year Ending 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
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%
2007	278,282,782	278,282,782	-	1,782,851,000	15.61%
2006	234,990,209	234,990,209	-	1,756,230,000	13.38%

\* Actuarial Estimate.

## SCHEDULE OF INVESTMENT RETURNS\*

	2015	2014
Annual Money Weighted Rate of Return, Net of Investment Expenses	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 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, Buck Consultants, LLC. 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 information presented in the required supplementary schedules was used in the actuarial valuation for the following purposes. The retiree health care assumptions are used for determining the annual required contribution under GASB 43. For pensions, the assumptions are used in the actuarial valuation of the plan to determine the sufficiency of the statutorily determined annual contribution. 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.

## DEFINED BENEFIT PLAN – PENSION TRUST FUND

### ACTUARIAL ASSUMPTIONS

Valuation date	Jan. 1, 2015
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	8.25%
Projected salary increases	4.25% - 11.00%
Payroll increases	3.75%
Inflation assumptions	3.25%
Cost-of-living adjustments	2.60% and 3.00% simple

## RETIREE HEALTH CARE BENEFITS – HEALTH CARE TRUST FUND

### ACTUARIAL ASSUMPTIONS

Valuation date	Jan. 1, 2015
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	4.25%
Projected salary increases	0.50% - 7.25%
Payroll increases	3.75%
Inflation assumptions	3.25%

Health Care Cost Trends	Initial Rate 3 years			Ultimate Rate	Ultimate Year
	2015 to 2016	2016 to 2017	2017 to 2018		
Non-Medicare	2.00%	6.50%	6.00%	4.50%	2020
Non-AARP	2.00%	6.50%	6.00%	4.50%	2020
AARP	6.00%	5.75%	5.50%	4.50%	2020
Rx Drug	3.11%	6.50%	6.00%	4.50%	2020
Medicare Part B	5.40%	5.30%	5.20%	5.00%	2019

OP&F's retiree health care plan is partially funded. The discount rate is a blended rate based on the plan and employer rates of return, using the plan rate times the percentage of the ARC contributed and the employer rate times the percentage not contributed.

**SCHEDULE OF FUNDING PROGRESS** FOR THE VALUATION YEAR ENDING JAN. 1, 2015**RETIREE HEALTH CARE 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 Percentage of Active Member Payroll
2015	\$1,031.9	\$5,399.5	\$4,367.6	19.1%	\$1,986.6	219.9%
2014	1,053.5	5,244.5	4,191.0	20.1%	1,942.3	215.8%
2013	935.6	4,234.8	3,299.2	22.1%	1,913.4	172.5%
2012	780.1	3,698.7	2,918.6	21.1%	1,897.4	153.8%
2011	717.7	3,295.3	2,577.6	21.8%	1,868.5	137.9%
2010	573.4	3,232.4	2,659.0	17.7%	1,895.2	140.3%

**DESCRIPTION OF SCHEDULE OF FUNDING PROGRESS**

Actuarial valuations of an on-going plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future mortality and cost trends.

Each time there is a loss due to demographic changes, claims experience or a discount rate change, an unfunded accrued liability is created. Also, if actual investment returns are less favorable than assumed investment returns, the difference is

added to the unfunded accrued liabilities. Actuarially determined amounts are subject to continued review as actual results are compared with past expectations and new estimates are made about the future.

The Schedule of Funding Progress includes two ratios that provide information about whether the financial strength of OP&F is improving or deteriorating over time. An improvement is indicated when the funded ratio (assets expressed as a percentage of the actuarial accrued liability) is increasing and the ratio of the unfunded actuarial liability to payroll is decreasing.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS – RETIREE HEALTH CARE TRUST FUND**

Year Ending 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
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%
2007	121,721,828	121,721,828	-	1,782,851,000	6.83%
2006	138,940,502	138,940,502	-	1,756,230,000	7.91%

\* Actuarial Estimate.

## ADDITIONAL INFORMATION

### SCHEDULE OF ADMINISTRATIVE EXPENSES \*

For the year ended Dec. 31,		2015	2014
<b>Personnel Services</b>	Salaries and Wages	\$9,635,140	\$9,054,187
	OPERS Contributions	921,963	1,264,620
	Insurance	2,230,064	2,319,870
	Fringe Benefits/Employee Recognition	16,876	15,287
	Tuition Reimbursement	16,447	16,182
	<b>TOTAL PERSONNEL SERVICES</b>	<b>12,820,490</b>	<b>12,670,146</b>
<b>Professional Services</b>	Actuarial	332,099	374,141
	Audit	141,975	108,494
	Custodial Banking Fees	645,367	691,279
	Investment Fees and Consulting	41,041,160	43,484,215
	Other Consulting (Disability, Software, Legal, and Health Care)	1,126,287	819,047
	Banking Expense	89,504	79,289
	<b>TOTAL PROFESSIONAL SERVICES</b>	<b>43,376,392</b>	<b>45,556,465</b>
<b>Communications Expense</b>	Printing and Postage	244,164	319,106
	Telephone	84,869	89,953
	Member/Employer Education	11,329	11,759
	Other Communications	86,700	85,200
	<b>TOTAL COMMUNICATIONS EXPENSE</b>	<b>427,062</b>	<b>506,018</b>
<b>Other Operating Expense</b>	Conferences and Education	70,630	72,795
	Travel	126,418	110,007
	Computer Technology	734,835	887,712
	Other Operating	565,907	555,416
	Warrant Clearing	935	1,043
	ORSC Expense	38,631	37,722
	Depreciation Expense - Capital	1,726,457	1,756,352
	<b>TOTAL OTHER OPERATING EXPENSES</b>	<b>3,263,813</b>	<b>3,421,047</b>
<b>Net Building Expense</b> (includes rent)		<b>1,237,441</b>	<b>1,240,853</b>
<b>TOTAL OPERATING EXPENSES</b>		<b>61,125,198</b>	<b>63,394,529</b>
<b>Investment Expenses</b>		<b>(44,837,965)</b>	<b>(47,194,004)</b>
<b>NET ADMINISTRATIVE EXPENSES</b>		<b>\$16,287,233</b>	<b>\$16,200,525</b>

\* Includes investment related administrative expenses.

### SCHEDULE OF INVESTMENT EXPENSES\*\*

Category	2015	2014
Investment Manager Services	\$39,620,919	\$42,123,017
Custodial Banking Fees	645,367	691,279
Other Professional Services	1,420,241	1,361,198
Other Direct Investment Expenses	1,837,235	1,638,069
Allocation of Other Administrative Expenses	1,314,203	1,380,441
<b>INVESTMENT EXPENSES</b>	<b>\$44,837,965</b>	<b>\$47,194,004</b>

\*\* 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 FOR THE YEAR ENDING DEC. 31, 2015

	Balance Dec. 31, 2014	Additions	Subtractions	Balance Dec. 31, 2015
Assets:				
Cash and Short-term Investments	\$732,073	\$20,000,000	\$20,010,493	\$721,580
<b>TOTAL ASSETS</b>	<b>732,073</b>	<b>20,000,000</b>	<b>20,010,493</b>	<b>721,580</b>
Liabilities:				
Due to State of Ohio	732,073	20,000,000	\$20,010,493	721,580
<b>TOTAL LIABILITIES</b>	<b>\$732,073</b>	<b>\$20,000,000</b>	<b>\$20,010,493</b>	<b>\$721,580</b>

### PUBLIC SAFETY OFFICERS DEATH BENEFIT FUND FOR THE YEAR ENDING DEC. 31, 2014

	Balance Dec. 31, 2013	Additions	Subtractions	Balance Dec. 31, 2014
Assets:				
Cash and Short-term Investments	\$1,628,232	\$20,000,000	\$20,896,159	\$732,073
<b>TOTAL ASSETS</b>	<b>1,628,232</b>	<b>20,000,000</b>	<b>20,896,159</b>	<b>732,073</b>
Liabilities:				
Due to State of Ohio	1,628,232	20,000,000	20,896,159	732,073
<b>TOTAL LIABILITIES</b>	<b>\$1,628,232</b>	<b>\$20,000,000</b>	<b>\$20,896,159</b>	<b>\$732,073</b>

2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT

# Investment Section

OHIO POLICE & FIRE PENSION FUND

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Investment Report  
Investment Portfolio Summary  
Ten Largest Common Stocks  
Ten Largest Bonds and Obligations  
Ten Largest Real Estate Holdings  
Schedule of Investment Results  
Investment Consultants and Money Managers  
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Investment Policy and Guidelines

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# 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 2015

Near the middle of 2015, OP&F conducted an investment structure analysis of its U.S. equity portfolio. The analysis was driven in part by a declining allocation to U.S. equity per long-term asset allocation targets, concerns regarding several of the incumbent managers in the U.S. equity portfolio, and consideration of de-emphasizing mandate-specific alpha streams in the portable alpha program. Upon review, OP&F adopted a new U.S. equity structure that called for several changes within the U.S. equity portfolio. First, the active small-cap allocation, which had a target of 10 percent of U.S. equity assets, was changed to a 7.5 percent target. In addition, OP&F terminated its mandate with Columbia Threadneedle Investments and initiated a search for a replacement active small-cap manager. Also, a new synthetic small-cap exposure via derivatives was approved at 2.5 percent of U.S. equity assets to take advantage of a persistent financing discount to the applicable contract. Passive large-cap equity, which had a target of 50 percent of U.S. equity assets, was reduced to a 40 percent weight. Lastly, portable alpha strategies, which had a target of 40 percent of U.S. equity assets, were boosted to a 50 percent weight. Within the portable alpha program, OP&F terminated its mandates with AQR Capital Management and Investcorp Investment Advisers and initiated a process to find a replacement strategy whose alpha stream would be a good complement to the Bridgewater Associates and Grosvenor Capital Management mandates. Along with the actions already mentioned, other significant noteworthy investment endeavors and issues addressed last year include the following.

- Amended investment manager guidelines for Neuberger Berman, PIMCO Core Plus Portfolio, PIMCO Unconstrained Bond Portfolio and Russell Policy Implementation Overlay Services mandates.

- Converted PIMCO Core Plus Portfolio and PIMCO Unconstrained Bond Portfolio mandates from commingled funds to separate accounts.
- Completed annual evaluation of OP&F's real estate strategic portfolio for possible rebalancing.
- Extended authority to staff over dividend reinvestment to all open-end real estate funds, both in the strategic and tactical portfolios.
- Continued to work toward target allocation in private markets.
  - Made commitments to Advent VIII, Blackstone Capital Partners VII, EQT VII, Harvest VII, Rhône Partners V, Riverstone Global Energy & Power Fund VI, RRJ Capital Master Fund III, TA Associates XII and Tenex Capital Partners II.
- Rescinded recommendation to commit to Black Diamond IV.
- Continued to work toward target allocation in real estate.
  - Made commitments to Blackstone Real Estate Partners VIII, Gerrity Retail Fund II and PW Real Estate Fund III.
- Approved the 2016 Real Estate Investment Plan.
- Additional Commitment to Grosvenor Capital Management.
- Approved the 2015 Private Markets Investment Plan.
- Amended OP&F's Derivatives Policy Statement.
- Amended OP&F's Proxy Voting Policy.
- Amended OP&F's Investment Policy and Guidelines statement.
- Worked toward long-term allocation targets by rebalancing between overweight/underweight asset classes.

## ECONOMIC ENVIRONMENT

Dialog on the economic condition is embedded in each asset class section of this report.

## TOTAL FUND

The total portfolio, on a trade date basis, was valued at \$13.82 billion at the end of 2015, down from \$14.43 billion at the end of 2014. Within OP&F's portfolio, strong double-digit returns in real estate and private markets were offset

by modestly positive returns in U.S. equity, global inflation protected securities, core fixed income and timber (real estate, private markets and timber returns are lagged by one quarter). Slightly negative returns for high yield and international equity and deeply negative MLP returns further hurt OP&F's total investment portfolio return. For calendar year 2015, the total portfolio's investment return was 0.65 percent gross of fees compared to a policy index return of negative 2.18 percent. This significant outperformance of the total portfolio's policy index by 283 basis points (bps) was only partially satisfying given the very weak absolute return for the year. This degree of outperformance also helped offset the fact that the portfolio's revised return in 2014 only matched the policy index return.

Late in 2014, OP&F adopted an updated asset allocation policy, which included a series of transitional policy benchmarks and asset class targets that lay out a roadmap to reach the new asset allocation benchmark over the course of several years. The new target weights for each asset class that kicked in on Jan. 1 were very close to the actual weights in each asset class as the year opened. This led to very little contribution, positive or negative, to the overall portfolio's return relative to its benchmark over the first half of 2015. The next set of interim asset class targets took effect on July 1. These generally included lower public equity targets and somewhat higher targets for alternatives, including an increase to the MLP target. The severe selloff in MLPs, along with the portfolio's underweight to this asset type, led to a positive contribution to the total portfolio's performance relative to its benchmark. Otherwise, only the relative performance of several asset classes versus their individual benchmarks made any meaningful contribution to the total portfolio's outperformance of its policy benchmark.

Last year's minimal absolute performance surprisingly placed OP&F's portfolio return in the 31st percentile of Wilshire's Master Trusts – All Plans Universe. With 2015's result, OP&F's three-year annualized gross of fees return now stands at 7.91 percent, while the five-year annualized gross of fees return is 8.27 percent and the 10-year gross of fees return is 6.74 percent. The meager 2015 results versus the policy index still kept OP&F's three-year relative return above the policy index return of 6.21 percent for the same period, while OP&F's five-year return also beat the policy return of 7.12 percent and the 10-year return bested the policy return of 5.66 percent. As mentioned earlier, the total portfolio's 2015 results ranked in the 31st percentile of Wilshire's Master Trusts – All Plans Universe, while the three-year, five-year and 10-year results ranked in the 32nd, 15th and 13th percentiles, respectively, of that same peer universe.

So far in 2016, returns from asset classes in which OP&F invests are generally lagging behind their early 2015 results

with core fixed income doing better than in 2015 and global equities doing worse. MLPs and frankly all "risk on" assets have continued to follow the direction of the price of oil. With the U.S. economy expected to continue its steady, if subpar, growth, OP&F's 2016 full year results are likely to hinge on the strength of the Chinese, Japanese and European economies and continued world central bank actions, especially whether the Federal Reserve raises the federal funds rate again and, if so, how many times.

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 Trustees' 2010 adoption of and continued reaffirmation of risk parity and the ongoing implementation of that strategy demonstrate that OP&F's approach to creating a well-diversified portfolio has changed over the years. 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 targets for fixed income and alternatives exposures and an increased MLP allocation. An ongoing shift out of equities has kept OP&F from any forced rebalancing efforts over the past year, but staff closely monitors the portfolio status relative to asset class allocation ranges and occasional periods of extreme overvaluation. 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 Trustees' 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. dollar-based equity investors struggled to generate positive returns in 2015. This was a consequence of flat to negative returns in the U.S. and most emerging markets combined with a strong U.S. dollar, which further clipped international equity returns.

World stock markets, as measured by the Morgan Stanley Capital International (MSCI) All Country World Index (ACWI) All Cap, declined 2.2 percent in 2015. Similarly to 2014, U.S. large cap stocks outperformed domestic small caps. Domestic large caps also outperformed (in U.S. dollar terms) developed international and emerging markets, which were down about 1.0 percent and 15 percent, respectively.

Some of the factors creating headwinds for stock investors included: 1) falling commodity prices, 2) soft global economic growth, particularly in the Euro zone, China, and other emerging markets, 3) uncertainty about Federal Reserve

monetary policy, 4) U.S. dollar strength, 5) widening high yield and emerging market country credit spreads and 6) declining U.S. corporate sales and earnings.

These factors are, to varying degrees, interrelated. Expectations of an imminent Federal Reserve federal funds rate hike, among other things, contributed to the rising U.S. dollar. A rising U.S. dollar tends to depress sales and earnings growth at U.S. multi-national companies and also makes it more difficult for emerging market countries to repay U.S. dollar denominated debt with their depreciated local currency. Commodity prices were also pressured from a stronger U.S. dollar, weak demand and, in some instances, excessive supply. Crude oil prices, for example, continued their decline, falling over 30 percent for the year, due to a combination of U.S. dollar strength, multi-decade high U.S. and global crude inventory levels, and less than robust demand from relatively soft global economic activity. Lastly, credit spreads widened throughout the year as weakening commodity prices and economic growth contributed to fears of deteriorating fundamentals in more cyclically-oriented companies and commodity-driven emerging countries.

With the Federal Reserve having ended its most recent Quantitative Easing (QE) program in late 2014 and the markets anticipating when the Federal Reserve would finally raise the federal funds rate off its long held zero-bound target, the global equities rally took a breather in 2015. That much feared Federal Reserve action was finally realized in December as the Federal Reserve increased their federal funds target range to 0.25 to 0.50 percent. U.S. real gross domestic product (GDP) expanded 2.4 percent in 2015 for a second straight year. Healthy employment growth continued throughout the year as the unemployment rate fell to 5.0 percent at year-end. However, the Consumer Price Index (CPI), on a year over year basis, registered levels between negative 0.2 and 0.7 percent. The CPI ended calendar year 2015 at that modest high point of 0.7 percent year over year.

## U.S. EQUITY MARKET

Overall U.S. equity returns as measured by the Wilshire 5000 were just slightly above breakeven, rising 0.7 percent, aided by large caps but partially offset by negative returns in small/mid caps. This compares to a 12.7 percent return in 2014. The S&P 500 rose 1.4 percent while the small cap focused Russell 2000 Index declined 4.4 percent.

One of the bigger trends in the U.S., and even global, stock market in 2015 was the outperformance by large cap growth stocks compared to value stocks. For example, the Wilshire U.S. Large Cap Growth Index rose 3.5 percent while the Large Value Index decline by 0.80 percent. However, a small subset of the large cap growth universe had even higher returns. Primary contributors to growth's outperformance were

several mega cap, high growth technology and consumer discretionary companies and secondarily a handful of other high quality, fundamentally sound, mega cap names that investors gravitated toward in the midst of a tumultuous second half of 2015.

The other important dynamic in the domestic equity market last year was the outperformance of defensive sectors relative to cyclical or commodity-oriented sectors. For instance, sector returns (as measured by Wilshire) for health care, consumer staples and telecommunication services, finished with performance solidly in the black, up 5.0 to 8.0 percent. These sectors tend to outperform during periods of stock market and/or economic turmoil due to their more stable business models. Conversely, energy (down 22 percent), materials (down 11 percent) and industrials (down 3.0 percent) were down given their sensitivity to economic growth and commodity prices.

OP&F's 2015 U.S. Equity composite return was 0.53 percent (gross of fees), slightly underperforming the benchmark Wilshire 5000 total return of 0.67 percent.

## NON-U.S. EQUITY MARKET

While global investors contemplated what one or more Federal Reserve federal funds rate increases would mean for the markets in 2016 and beyond, European and Japanese equity investors were looking at the opposite scenario, continuing, and likely increasing, QE by their respective central banks. Additionally, China's authorities were trying to strike the right balance with its monetary/currency and fiscal policies in the face of a slowing economy, rising debt levels, and an extremely volatile stock market. Ultimately, China chose to provide more liquidity and stimulus in various forms in an attempt to help stabilize their economy and markets.

In the first half of the year, QE seemed to improve sentiment and encourage flows into stock markets in Europe, Japan and China. This drove generally solid stock returns (in local currencies) but U.S. dollar-based investors struggled due to the strong U.S. dollar. However, as with the U.S. stock market, foreign equities were more volatile and struggled in the back half of the year as some of the issues mentioned earlier began to weigh on investor sentiment.

Returns in 2015 for the MSCI ACWI ex U.S. IMI Index were negative 4.6 percent (includes emerging markets, which were down nearly 15 percent in U.S. dollar terms). This compares to the developed markets international MSCI Europe, Australia, Far East (EAFE) Index (excludes emerging markets and U.S.), which was down less than 1.0 percent. However, the MSCI ACWI ex U.S. in local currencies was actually up 2.5 percent, an improvement of just over 7.0 percent versus the same index in U.S. dollar terms.

Major developed region/country (Europe, Pacific, France, and Germany) equity returns for U.S. dollar-based investors were modest, if not negative. These regions, though, in local currencies were up a solid 6-12 percent. The only country to perform similarly in the local currency or U.S. dollars was Japan, which rose about 10 percent, as the Japanese yen was flat for the year.

OP&F's Total International Equity Composite (gross of fees) declined 0.77 percent in 2015, outperforming by 3.5 percent its benchmark, the MSCI ACWI ex U.S. Iran/Sudan Free Index (includes developed and emerging international markets), which declined 4.32 percent.

## MASTER LIMITED PARTNERSHIPS (MLPS)

MLPs were far and away OP&F's worst performing asset in 2015. The Alerian MLP Index declined 32.59 percent in 2015, following crude oil and natural gas prices, which were down 30-35 percent. This was on top of the declines in the second half of 2014.

Historically, MLPs have a fairly low correlation to oil prices. This is because MLPs and their midstream operations (pipeline transmission, distribution and related businesses) tend to have a business model that is relatively stable and not particularly dependent on changes in or levels of oil or natural gas prices. This business model stability stems from the fact that MLP/pipeline companies 1) sign very long term (ten years or more) customer contracts, 2) have contracts that obligate their exploration and production (E&P) customers to pay the MLP (pipeline company) regardless of the volumes pushed through the pipelines, and 3) MLPs have a history of positive cash flow and increasing distributions.

However, over the last 12-18 months, the correlation of MLPs and oil prices increased dramatically to the point where MLPs were nearly trading in lockstep with crude oil prices. Increased correlation to oil prices was driven by heightened fears of MLP debt levels and credit availability, slower future pipeline expansion due to oil and gas company production cuts, oil and gas customer bankruptcies, and reduced distributions.

Although the last 18 months' declines since mid-2014 have negated several prior years of strong MLP returns, the outlook for midstream-focused MLPs appears positive as they provide an irreplaceable service, namely the transportation and delivery of energy products that are vital to the U.S. economy.

For the year, the OP&F MLP Composite declined 29.31 percent (gross of fees), outperforming the Alerian MLP Index by 328 bps. The managers in the OP&F MLP Composite take a more conservative approach in their security selection and portfolio construction process, which has led to positive absolute and relative returns since inception. Since the Dec. 31, 2012

inception date of the MLP strategy, the OP&F MLP Composite has outperformed the Alerian MLP Index by 641 bps.

## FIXED INCOME

Similar to equities, fixed income investors generally had a challenging year. Returns were slightly positive to slightly negative, depending on the index. For example, the Barclays Aggregate Bond Index was up 0.6 percent, the Barclays Treasury Index was up 0.8 percent and the Barclays Mortgage Index was up 1.5 percent. One exception though, as mentioned earlier, was high yield bonds, which struggled as the Barclays High Yield Index declined 4.5 percent in 2015.

During 2015, as investors began to anticipate a federal funds rate increase, the short end of the Treasury yield curve shifted higher. The primary move occurred in the six-month to three-year part of the yield curve with rates rising approximately 20-40 bps. One metric to consider when analyzing the yield curve is the 2-10 Treasury yield spread (the ten-year yield less the two-year yield), which peaked most recently in mid-2014 at just over 2.5 percent, but gradually declined to about 1.20 percent by year end 2015 as concerns over slowing global and U.S. economic growth increased. Historically, an inverted yield curve, where shorter term Treasury rates are higher than long rates, has been a reasonably good predictor of recessions. While not yet inverted, the decline in spreads bears watching as it does hint at some concerns about economic growth.

OP&F's Core Fixed Income Composite was up 1.45 percent, ahead of the Barclays Aggregate Bond Index which rose 0.55 percent. The Global Inflation Protected Securities (GIPS) Composite was up slightly last year, rising 0.26 percent. This compares favorably to the GIPS Policy Benchmark which declined 2.36 percent, resulting in outperformance of 262 bps.

## HIGH YIELD

High yield (HY) bond returns, as defined by the Credit Suisse (CS) First Boston Developed Countries High Yield Index, were negative 4.83 percent in 2015. Poor HY bond returns were mostly a function of companies exposed to declining commodity prices, primarily crude oil but also extended to other commodities like natural gas, metals and agricultural commodities. Bonds of industrial sector companies that serve those commodity industries also struggled.

HY bond spreads, which are the difference between HY bond yields and U.S. Treasury bond yields, widened to four year highs to approximately 7.0 percent at the end of 2015. This is more than double where spreads were in the summer of 2014 when oil was over \$100 per barrel. 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 lead to lower corporate earnings and risks that HY corporate debt issuers may have difficulty repaying their debt.

Recall also that OP&F made its initial investments to the direct lending space in 2014. These direct lending commitments are included in the HY allocation and returns. Besides these more conservative direct lending mandates, OP&F's portfolio also contains managers that invest only in bank loans. This added to the generally more conservative posture of OP&F's total HY portfolio relative to the overall HY market.

Although OP&F's High Yield Composite did decline 0.95 percent in 2015, OP&F's managers collectively outperformed the CS First Boston Developed Countries High Yield Index, which was down 4.83 percent, by 388 bps.

## REAL ESTATE

Real estate markets delivered strong returns in 2015. Performance was driven by favorable capital market conditions, continued improvement in demand from tenants, and limited new supply in most markets.

Over the 12 months ended Sept. 30, 2015, OP&F's total real estate portfolio delivered a 14.2 percent return net of fees, exceeding the Open End Diversified Core Equity (ODCE) index net of fees by 37 bps. Figures in this section are presented as of Sept. 30, 2015 due to the fact that private market reporting lags public market reporting.

OP&F's real estate portfolio has also performed well over the long run. Over the 10 years ended Sept. 30, 2015, it delivered a 6.5 percent return net of fees, exceeding the ODCE index by roughly 77 bps per year. The portfolio is structured with a goal of exceeding the index by 50 bps per year over full market cycles. Over the past several years, value was added through allocation decisions, through investment selection, and by participation in exclusive opportunities.

Looking forward, OP&F anticipates that returns will moderate, with the chances of a correction tied loosely to the performance of the broader economy.

In the base case scenario, returns in the lower risk strategic portfolio are expected to be driven by current income and by moderate income growth, rather than by the broad capital market uplift that drove appreciation returns for the past several years. In anticipation of this shift to a lower return environment for core real estate, OP&F began removing its overweight to the strategic portfolio in 2013. An overweight has reemerged due to the portfolio's strong appreciation in recent years, and additional reductions in exposure will be considered.

In the non-core tactical portfolio, where OP&F seeks to generate higher returns over full market cycles by accepting

higher calculated risks, the pace of new investments will continue to be measured. While OP&F continues to see and pursue attractive opportunities in this space, those opportunities have become less abundant, and targeted returns have declined. In the U.S., OP&F is investing with managers that can purchase assets with significant deficiencies, correct those deficiencies efficiently, and sell into a competitive core market. Small amounts of new development are included as well. OP&F is also looking to other parts of the world where dislocation has created opportunity. During the year, OP&F completed a commitment to a top-tier European fund.

Across the real estate portfolio, OP&F will continue to benefit from significant fee reductions that it has secured, along with other benefits that it has obtained in exchange for its efforts to seed new open-end funds.

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 achieve these other goals.

OP&F's market exposure to real estate increased during the 12 months ended Sept. 30, 2015 from 9.8 percent to 11.3 percent. Exposure was increased by nearly \$140 million in new contributions and nearly \$200 million in investment profit, net of fees. The impact of these drivers was moderated by nearly \$230 million in distributions. Current exposure is within the targeted range. OP&F is maintaining its philosophy of investing patiently and prioritizing risk-adjusted returns over capital deployment.

## PRIVATE MARKETS

For the year ended Sept. 30, 2015 (private market returns are lagged by one quarter), OP&F's private markets portfolio provided a net return, on a time weighted basis, of 12.06 percent. It should be noted that evaluating private markets performance over short-time periods can be misleading. Saying that, for the ten-year period ended Sept. 30, 2015, the portfolio provided an annualized net return of 11.12 percent.

In 2014, OP&F adopted changes to how it measures the performance of the private markets portfolio on a go forward basis. The new methodology evaluates the performance of the private markets program by developing a public markets equivalent (PME) comparison of the private markets program's history. A PME comparison utilizes an Internal Rate of Return (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. Secondly, the performance of the private markets program is evaluated relative to the Cambridge Associates Private Equity Pooled Horizon IRR 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 time periods. For the ten-year period ended Sept. 30, 2015, OP&F's private markets program provided a net IRR of 10.7 percent, outperforming the Wilshire 5000 PME by 2.7 percent annualized. Relative to the Cambridge Associates Private Equity peer universe, OP&F's private equity program's net of fee IRR ranks in the top quartile since inception of the program as of Sept. 30, 2015.

With respect to the state of private markets, assessing metrics such as fundraising, investment activity and exit environments across various strategies provide insights on the health of the industry as a whole. Seeing that the venture capital industry is U.S.-centric given the industry is underdeveloped in other parts of the world, assessing these metrics only in the U.S. provides an adequate proxy for global activity levels. Across all the aforementioned metrics, the U.S. venture capital market was strong in 2015. In particular, a significant amount of capital was invested in 2015 and the market experienced robust exit activity. Two near-term challenges for the U.S. venture capital market are the existence of high valuation levels (i.e. pricing) and equity market volatility or uncertainty. In 2015, the North American buyout industry continued its recovery from the global financial crisis (GFC) as fundraising was solid and the industry experienced a strong exit environment, particularly with mergers and acquisition (M&A) activity and less so with initial public offerings (IPOs). On the other hand, investment activity has been challenged since the crisis given a competitive deal environment and managers maintaining discipline while experiencing increasing purchase price multiples (i.e. pricing). This has led to an abundance of capital to deploy among North American buyout shops. The European buyout industry experienced a solid year in terms of fundraising, investment activity and exit performance. Finally, with respect to special situations such as distressed debt, mezzanine, and secondary strategies, the outlook may be improving, especially the distressed debt and secondary strategies. Factors contributing to the optimism are increased equity market volatility, re-pricing of risk in credit markets and increasing prospects for an economic and market downturn in the medium-term.

OP&F continues to work prudently toward its 8.0 percent target allocation to the private markets asset class. On an invested basis, private markets comprised approximately 5.8 percent of OP&F's total assets as of year-end. In the future, OP&F will continue to work toward its 8.0 percent target by targeting domestic and global direct partnerships, and on an opportunistic basis, fund-of-funds (both U.S.

and non-U.S.) and secondary partnerships. OP&F believes that implementing its private markets exposure mainly through direct partnerships going forward will allow OP&F to achieve better risk-adjusted, net of fees, returns for the program, reduce costs and successfully implement the annual investment plans. As always, OP&F and its dedicated private markets investment consultant will prudently recommend commitments that allow the private markets portfolio to remain compliant with its policies and guidelines.

## TIMBER

As previously stated, OP&F hired its first timberland investment managers in 2012. Since that time, the managers have spent their time looking for opportunities and building diversified portfolios of timberlands across geographies, species and age classes. By the end of 2015, OP&F had committed \$410 million to the asset class, of which approximately \$219.9 million had been called. Distributions, since inception through year-end 2015, have totaled approximately \$5.9 million. Given the long-term nature of the asset class, the primary performance objective of the timberland portfolio is to exceed a real rate of return of 5.0 percent, net of fees, over rolling ten-year periods. Since inception, June 30, 2012, through Sept. 30, 2015 (timber returns are lagged by one quarter), OP&F's timberland portfolio provided an annualized net time weighted return of 3.42 percent versus its policy benchmark (CPI + 5.0 percent) return of 5.91 percent. For the one-year period ended Sept. 30, 2015, OP&F's timberland portfolio provided a net time weighted return of negative 0.05 percent versus its policy benchmark return of 5.76 percent. Given the youthfulness of the investments made to date and the long-term nature of the asset class, OP&F's timberland returns are not yet meaningful.

In the U.S., and in particular the U.S. South, the outlook for timber demand, and pricing, remains positive due to the expected recovery in the U.S. residential construction market. The supply of U.S. timber is to remain muted over the medium to long-term as a result of the Canadian pine beetle epidemic; however, timber pricing may be hindered in the short-term given a current supply overhang due to the GFC as well as the economic slowdown in China. The economic slowdown in China is having an impact on demand and pricing in the U.S. Northwest as well as several international markets given their export focus. Beyond the U.S., long-term fundamentals for timber continue to look positive as the world population continues to increase, a higher standard of living is desired, and the demand for alternative sources of energy continues to grow as a way to reduce carbon emissions. On the global supply front, the availability of land for timber production continues to experience a secular decline given increased urbanization and development and conservation efforts which restricts the harvesting of timber. From an investment

perspective, putting these factors together, a solid foundation for the future performance of timberland appears to be taking shape. For calendar year 2015, the National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Index had a total return of 4.97 percent. This index is generally regarded as the best proxy for U.S. private timberlands financial performance. The total return of 4.97 percent consisted of a 2.67 percent income return and an appreciation return of 2.25 percent. On the transaction front, an uptick in activity is expected in the near term as many of the closed-end timber funds formed in the early-to-mid 2000's reach their term expirations. In addition, vertically-integrated forest products companies who divested most of their timberlands in the early 2000's are reentering the timberland market as strategic buyers. Finally, the asset class continues to gather increasing interest from investors given its attractive portfolio attributes and the outlook on the future prospects of the timberland markets. One likely drawback to increased investor interest and competition for deals is the tendency for implied discount rates to compress.

On an invested basis, timber comprised approximately 1.7 percent of OP&F's total assets as of year-end. The increased investor interest and competitiveness for deals in the timberland space is expected to pose challenges for implementing OP&F's current 5.0 percent strategic target to timber. In the interim, OP&F continues to look for ways to diversify its timber portfolio in order to achieve the highest risk-adjusted returns as well as manage the timber portfolio to comply with its policy objectives and guidelines.

## 2016 DEVELOPMENTS AND CHALLENGES AHEAD

Two areas of intense focus for OP&F in 2016 will be the continued evaluation of the appropriate structure of the core fixed income allocation as well as conducting a closed search for an additional global inflation protected securities manager. Below are some of the other items already addressed in 2016 and a number that still lie ahead.

- Amended OP&F's Investment Policy and Guidelines statement.
- Amended OP&F's Proxy Voting Policy.
- Amended OP&F's Derivatives Policy Statement.
- Amended OP&F's Investment Manager Monitoring and Evaluation Policy.
- Amended OP&F's Timberland Investment Policy.
- Selected Delaware Investments as the investment manager for OP&F's U.S. equity active small-cap allocation.
- Approved an investment in Flight Fund I, managed by Grosvenor Capital Management, that will hold the complementary strategy to Bridgewater Associates and Grosvenor Capital Management within OP&F's portable alpha program.
- Approved the 2016 Private Markets Investment Plan.
- Implement the 2016 Private Markets Investment Plan and work toward target allocation:
  - Made commitments to Vista Equity Partners VI, Vista Foundation Fund III, Cinven Sixth Fund, L.P. and Montauk TriGuard Fund VII.
- Implement the 2016 Real Estate Investment Plan and work toward target allocation:
  - Made commitment to Greystar Equity Partners IX.
- Shift assets steadily toward the long-term asset allocation targets via semi-annual interim portfolio policy benchmark targets.
- Evaluate composition of real estate strategic portfolio for possible rebalancing.
- Continue due diligence on timberland investment management organizations.

Other initiatives that OP&F continues to evaluate are the possibility of implementing a currency hedge for OP&F's non-U.S. equity exposure, alternative foreign currency execution options, establishing a liquidity portfolio via the use of derivatives for portions of OP&F's exposure to several asset classes and the potential for a tactical asset allocation rebalancing overlay and consider the use of a real assets allocation to supplement OP&F's timber allocation. From an operational standpoint, OP&F continues to look for ways to improve the efficiency of and reduce the costs of OP&F's operations.

## INVESTMENT PORTFOLIO SUMMARY

### INVESTMENT PORTFOLIO SUMMARY - AS OF DEC. 31, 2015

Investment Type	Percent of Net Investment Value	Fair Value
Cash and Cash Equivalent	9.88%	\$1,365,494,791
U.S. Government Obligations	0.97%	133,981,501
U.S. Government Agencies	0.14%	19,061,943
U.S. Government Treasury STRIPS	0.82%	113,368,288
Municipal Bond Obligations	0.02%	2,590,386
Corporate Bonds and Obligations	13.67%	1,887,394,233
Domestic Commingled Bonds	3.13%	432,625,176
Mortgage and Asset-Backed Obligations	3.19%	440,843,917
Non-U.S. Bonds	2.76%	381,441,568
Domestic Stocks	7.26%	1,003,699,024
Domestic Pooled Stocks	13.24%	1,830,420,415
International Equities	19.79%	2,734,375,785
Real Estate	10.98%	1,518,060,742
Commercial Mortgage Funds	0.27%	37,256,334
Private Equity	5.84%	806,583,559
Private Debt	1.53%	211,092,340
Timber	1.70%	235,358,432
Master Limited Partnerships	5.06%	699,612,813
<b>TOTAL FAIR VALUE – CASH AND SECURITIES</b>	<b>100.25%</b>	<b>\$13,853,261,247</b>
Accrued Income	0.27%	37,919,623
Sales Receivable	0.11%	15,834,812
Purchases Payable	(0.63)%	(87,005,672)
<b>TOTAL INVESTMENT NET ASSET VALUE*</b>	<b>100.00%</b>	<b>\$13,820,010,010</b>

\* Trade Date Basis.

### TEN LARGEST COMMON STOCKS (BY FAIR VALUE)

Stock	Shares	Fair Value
Roche Holdings AG-Genusschein	151,141	\$41,733,639
Novartis AG-Reg Shs	457,648	39,684,162
Toyota Motor Corp.	509,200	31,696,158
UBS Group AG	1,481,009	28,880,415
KDDI Corp.	1,085,200	28,452,725
Reed Elsevier NV	1,371,587	23,153,900
Volkswagen AG Pfd	148,039	21,508,975
Akzo Nobel N.V.	319,131	21,382,729
Lloyds TSB Group PLC	19,764,621	21,286,076
British American Tobacco PLC	379,251	21,079,062

**TEN LARGEST BONDS AND OBLIGATIONS (BY FAIR VALUE)**

Description	Coupon	Maturity Date	Par Value	Fair Value
U.S. Treasury Inflationary	0.125	July 15, 2024	\$19,432,398	\$18,477,607
U.S. Treasury STRIPS	-	May 15, 2020	17,001,000	15,694,303
U.S. Treasury Note	1.875	Oct. 31, 2022	14,700,000	14,515,383
U.S. Treasury Bond	2.875	Aug. 15, 2045	14,000,000	13,600,230
U.S. Treasury STRIPS	-	Aug. 15, 2017	11,706,000	11,527,484
Numericable Group SA	6.000	May 15, 2022	9,175,000	8,899,750
Lucent Technologies Inc.	6.450	March 15, 2029	7,670,000	7,765,875
Realogy Corp.	-	Oct. 10, 2016	7,437,719	7,456,313
VPI Escrow Corp.	6.375	Oct. 15, 2020	7,665,000	7,396,725
U.S. Treasury STRIPS	-	Nov. 15, 2017	7,245,000	7,102,201

**TEN LARGEST REAL ESTATE HOLDINGS (BY FAIR VALUE)**

Description	Fair Value
JP Morgan Strategic Property Fund	\$196,845,662
Prudential PRISA	196,353,028
UBS Trumbull Property Fund	136,830,789
Heitman Core Property Fund	130,823,776
Jamestown Premier Property Fund	123,785,761
Morgan Stanley Prime Property Fund	86,843,924
LaSalle Property Fund, LP	77,295,343
Lion Industrial Trust	76,274,374
Blackstone Real Estate Partners VII	64,183,900
USAA Eagle Real Estate Feeder 1,LP	61,796,257

A complete listing of portfolio holdings can be obtained by calling (614) 228-2975.

## SCHEDULE OF INVESTMENT RESULTS (FOR THE YEAR ENDED DEC. 31, 2015)

	Annualized Rates of Return		
	1-Year	3-Year	5-Year
<b>U.S. Equity</b>			
<b>OP&amp;F</b>	<b>0.53%</b>	<b>14.88%</b>	<b>11.83%</b>
Wilshire 5000	0.67%	14.72%	12.09%
<b>International Equity</b>			
<b>OP&amp;F</b>	<b>(0.77)%</b>	<b>4.28%</b>	<b>3.58%</b>
International Equity Policy Benchmark *	(4.32)%	2.33%	1.58%
<b>Fixed Income</b>			
<b>OP&amp;F - Core</b>	<b>1.45%</b>	<b>1.50%</b>	<b>3.42%</b>
Barclays Aggregate	0.55%	1.44%	3.25%
<b>OP&amp;F - High Yield (HY)</b>	<b>(0.95)%</b>	<b>2.63%</b>	<b>5.79%</b>
CS First Boston Developed Countries HY	(4.83)%	1.39%	4.76%
<b>OP&amp;F - GIPS</b>	<b>0.26%</b>	<b>2.29%</b>	<b>10.76%</b>
Barclays Global Inflation Linked Bond Index	(2.36)%	0.25%	7.31%
<b>OP&amp;F - Commercial Mortgages **</b>	<b>3.21%</b>	<b>6.14%</b>	<b>5.74%</b>
Barclays Mortgage Index **	3.43%	1.98%	3.03%
<b>Master Limited Partnerships</b>			
<b>OP&amp;F</b>	<b>(29.31)%</b>	<b>3.01%</b>	<b>N/A</b>
Alerian MLP Index	(32.59)%	(3.40)%	N/A
<b>Real Estate **</b>			
<b>OP&amp;F</b>	<b>16.83%</b>	<b>16.83%</b>	<b>16.30%</b>
NCREIF ODCE Index	13.85%	12.39%	12.95%
<b>Private Markets **</b>			
<b>OP&amp;F</b>	<b>12.06%</b>	<b>13.92%</b>	<b>13.77%</b>
Wilshire 5000 + 3%	2.65%	15.81%	16.58%
<b>Timber **</b>			
<b>OP&amp;F</b>	<b>1.03%</b>	<b>4.31%</b>	<b>N/A</b>
CPI + 5%	5.76%	6.04%	N/A
<b>Total Portfolio</b>			
<b>OP&amp;F</b>	<b>0.65%</b>	<b>7.91%</b>	<b>8.27%</b>
Policy Index***	(2.18)%	6.21%	7.12%

\* 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.

\*\* One quarter in arrears.

\*\*\* Interim Policy Index: 22.7 percent Wilshire 5000, 21.1 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 10.1 percent Barclays Aggregate, 13.2 percent CS First Boston Dev. Countries HY, 8.2 percent Global Treasury Inflation Protected Securities (TIPS) Custom, 10.5 percent NCREIF ODCE Index Lagged, 5.3 percent Wilshire 5000 + 3 percent Lagged, 2.1 percent CPI + 5 percent (Net), 6.9 percent Alerian MLP Index.

Long-Term Policy: 16 percent Wilshire 5000, 16 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 20 percent Barclays Aggregate, 15 percent CS First Boston Dev. Countries HY, 20 percent Global TIPS Custom, 12 percent NCREIF ODCE Index Lagged, 8 percent Wilshire 5000 + 3 percent Lagged, 5 percent NCREIF Timberland Lagged, 8 percent Alerian MLP Index (adds to 120 percent as "Risk Parity" approach uses 2x levered Global 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, 2015)

## INVESTMENT CONSULTANTS

TorreyCove Capital Partners  
(The) Townsend Group  
Wilshire Associates

## INVESTMENT MANAGERS – U.S. EQUITY

AQR Capital Management  
Bridgewater Associates, LP  
Columbia Threadneedle Management  
Grosvenor Capital Management, LP  
N.A. Investcorp, LLC  
Russell Implementation Services, Inc.  
State Street Global Advisors

## INVESTMENT MANAGERS – INTERNATIONAL EQUITY

Causeway Capital Management, LLC  
Dimensional Fund Advisors  
Fidelity Institutional Asset Management Trust Co.  
Franklin Templeton  
Russell Implementation Services, Inc.

## INVESTMENT MANAGERS - REAL ESTATE

AEW Capital Management  
(The) Blackstone Group  
CB Richard Ellis Investors, LLC  
Clarion Partners  
Colony Capital, LLC  
DivcoWest Real Estate Services, LLC  
DLJ Real Estate Capital Partners, Inc.  
Exeter Property Group  
Fortress Japan Opportunity Management, LLC  
Fremont Realty Capital, LP  
(The) Gerrity Group  
Greystar Investment Group, 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

## SECURITIES LENDING AGENTS

Key Bank Securities Lending  
JP Morgan Chase

## OTHER PROFESSIONAL CONSULTANTS

(see page vii)

## INVESTMENT MANAGERS – FIXED INCOME

Bridgewater Associates, LP  
GSO Capital Partners LP  
JPMorgan Investment Advisors, Inc.  
Kohlberg Kravis Roberts & Co. LP  
Loomis Sayles & Company, LP  
MC Credit Partners, LP  
MacKay Shields, LLC  
Neuberger Berman  
Pacific Investment Management Company, LLC  
PENN Capital  
Prima Capital Advisors, LLC  
Tennenbaum Capital Partners LLC  
Western Asset Management

## INVESTMENT MANAGERS – PRIVATE EQUITY

Abbott Capital Management, LLC  
Adams Street Partners  
Advent International  
Athenian Venture Partners  
Blue Chip Venture Partners, LP  
Blue Point Capital Partners, LP  
Coller Capital  
Conway MacKenzie  
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  
Montauk TriGuard Management, Inc.  
Morgenthaler Venture Partners  
NGP Energy Capital Management  
Northgate Capital Group  
Park Street Capital  
Peppertree Partners, LLC  
Primus Venture Partners  
(The) Riverside Company  
Rhône Capital LLC  
RRJ Management Ltd  
Summit Partners  
TA Associates, LP  
Warburg Pincus  
Wilshire Private Markets, LLC

## INVESTMENT MANAGERS – MASTER LIMITED PARTNERSHIPS

Harvest Fund Advisors, LLC  
Salient Capital Advisors, LLC  
Tortoise Capital Advisors, LLC

## INVESTMENT MANAGERS - TIMBER

Brookfield Timberlands Management  
Forest Investment Associates  
Global Forest Partners  
Hancock Timber Resources Group

## SCHEDULE OF BROKERS' FEES PAID (FOR THE YEAR ENDED DEC. 31, 2015)

Broker Name	Fees Paid	Units Traded	Average Cost Per Unit
Goldman Sachs	\$463,846	4,444,113	\$0.1044
Citigroup Global Markets	224,569	35,091,509	0.0064
UBS Securities	181,591	10,553,493	0.0172
Merrill Lynch Pierce Fenner Smith	178,100	85,481,057	0.0021
Morgan Stanley & Co., Inc.	171,950	29,139,204	0.0059
Frank Russell Sec/Broadcort Capital Clearing	140,438	14,043,786	0.0100
RBC Capital Markets	83,046	3,660,932	0.0227
Credit Suisse First Boston	82,575	6,681,619	0.0124
JP Morgan	81,525	8,526,482	0.0096
Investment Technology Group	79,953	5,972,950	0.0134
Barclays Securities Inc.	79,474	3,719,350	0.0214
Deutsche Bank Securities	65,919	4,585,302	0.0144
Instinet	64,375	25,125,948	0.0026
Jefferies & Co., Inc.	55,530	4,244,871	0.0131
Wells Fargo Securities	51,577	3,917,835	0.0132
BTIG, LLC	42,577	1,997,877	0.0213
Exane	38,178	1,248,302	0.0306
Sanford C. Bernstein	31,190	2,293,625	0.0136
Nomura Securities International, Inc.	28,127	13,968,558	0.0020
FBR Capital Markets	26,786	1,204,209	0.0222
Russell Implementation Services	24,353	2,435,270	0.0100
Macquarie Securities, Inc.	23,398	2,723,814	0.0086
HSBC Securities, Inc.	20,519	651,024	0.0315
Brokers Less than \$20,000	335,676	25,366,109	0.0132
<b>TOTAL</b>	<b>\$2,575,272</b>	<b>297,077,239</b>	<b>\$0.0087</b>

# 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 three 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.
- 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.

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.

## 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.
- Monitor compliance with this Policy.
- Assist in the development and recommendation of strategic asset allocation targets, investment structure, and rebalancing procedures, or, the development of investment structure 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 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 capital and private markets. 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, contributions and total assets. 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, 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, and the risks associated with alternative asset mix strategies, the Board has established the following Asset Allocation Policy:

<b>Asset Class</b>	<b>Long-Term Target Allocation–Notional Exposure</b>	<b>Range</b>
Domestic Equity	16.0%	±5.5%
Non-U.S. Equity	16.0%	±5.5%
<b>TOTAL EQUITY</b>	<b>32.0%</b>	<b>±5.5%</b>
Core Fixed Income	20.0%	±7.0%
Global Inflation Protected Securities	20.0%	±4.0%
High Yield	15.0%	±4.5%
<b>TOTAL FIXED INCOME</b>	<b>55.0%</b>	<b>±7.5%</b>
Real Estate	12.0%	±3.5%
Private Markets	8.0%	±2.5%
Timber	5.0%	±2.0%
Master Limited Partnerships (MLP or MLPs)	8.0%	±1.5%
<b>TOTAL ALTERNATIVES</b>	<b>33.0%</b>	<b>±6.0%</b>
Cash Equivalents	–%	±0.5%
<b>TOTAL</b>	<b>120.0%</b>	

<b>Asset Class</b>	<b>Long-Term Target Allocation–Market Value</b>
Domestic Equity	16.0%
Non-U.S. Equity	16.0%
Core Fixed Income	10.0%
Global Inflation Protected Securities	10.0%
High Yield	15.0%
Real Estate	12.0%
Private Markets	8.0%
Timber	5.0%
MLPs	8.0%
Cash Equivalents	–%
<b>TOTAL</b>	<b>100.0%</b>

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 and private real assets (real estate and timber) 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 may retain a derivative overlay Investment Manager(s) which may provide several benefits including: (1) reduce OP&F’s tracking error relative to our 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. DOMESTIC EQUITY

#### *Investment Objectives*

Total return of the domestic equity composite portfolio should exceed the return of the Wilshire 5000 Index over a three-year period 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 three-year period 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 any 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:

#### *1. Passive Large Capitalization Core Exposure*

The passive large capitalization core component has a target allocation of 40 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 capitalization equities or futures and is to be constructed so as to

match the characteristics and return of the Russell 1000 Index.

#### *2. Active Large Capitalization Portable Alpha Exposure*

The active large capitalization portable alpha component has a target allocation of 50 percent of the domestic equity composite portfolio, comprised of 18 percent to global macro strategies, 22 percent to market neutral strategies, and 10 percent to multi-strategy. 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.

#### *3. 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.

#### *4. Synthetic Small Capitalization Exposure*

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

### B. 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 three-year period 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 three-year period 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.

### **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 all capitalization ACWI-ex U.S. strategies and dedicated ACWI-ex U.S. small capitalization strategies as follows:

#### **1. Active All Capitalization ACWI-ex U.S. Exposure**

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

#### **2. 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.

## **C. FIXED INCOME**

### **1. Core**

#### **Investment Objectives**

Total return of the core fixed income composite should exceed the applicable levered return of the Barclays Aggregate Index over a three-year period 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 three-year period 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 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. Global Inflation Protected Securities (GIPS)**

#### **Investment Objectives**

Total return of the GIPS composite portfolio should exceed the levered return of a custom weighted-average mix of the Barclays country indexes within the Global Inflation-Linked Bond Index over a three-year period 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 GIPS composite portfolio whereas the overall objective is to provide risk-adjusted returns greater than the return of the custom weighted-average mix of the Barclays country indexes within the Global Inflation-Linked Bond Index.

#### **Investment Characteristics**

The main focus of investing will be a diversified mix of global inflation-linked securities. The GIPS composite portfolio, as well as each Investment Manager(s) portfolio, shall have similar portfolio characteristics as that of a custom weighted-average mix of the Barclays country indexes within the Global Inflation-Linked Bond Index.

#### **Investment Structure**

GIPS assets will be managed on an active basis. Given the GIPS allocation target set forth in the Asset Allocation Policy above, the GIPS composite portfolio will be levered approximately 2.0x. GIPS 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 GIPS 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.

### **3. Commercial Mortgages**

#### **Investment Objectives**

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

**D. HIGH YIELD****Investment Objectives**

Total return of the high yield fixed income composite portfolio should exceed the return of the CS First Boston High Yield Index, Developed Countries Only over a three-year period 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 three-year period 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 and direct lending strategies. The high yield fixed income composite portfolio shall have similar portfolio characteristics as that of the CS First Boston High Yield Index, Developed Countries Only, or a blended benchmark of the aforementioned index, leveraged loan indices and direct lending strategies. 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.

**E. 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. The return target for the real estate composite portfolio is set forth in OP&F's Real Estate Strategic Plan. 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 Strategic Plan.

**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.

**F. 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**

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. Annual commitment targets

to such investments will be established by OP&F's Private Markets Investment Plan. As stated in OP&F's Private Markets Investment Policy, in order to meet the target allocation of Total Portfolio assets to private markets investments, 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 individual private markets investments.

## G. TIMBER

### *Investment Objectives*

The primary performance objective, along with the strategic objectives, of the timber composite portfolio will be set forth in OP&F's Timberland Investment Policy. Both the returns for the timber 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 Timberland Investment Policy.

### *Investment Structure*

The target allocation of total portfolio assets to timber 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 individual timberland investments, with the exception of investments in timberland-focused public Real Estate Investment Trusts (REITs) or exchange traded funds.

## H. MASTER LIMITED PARTNERSHIPS (MLP)

### *Investment Objectives*

Total return of the MLP composite portfolio should exceed the return of the Alerian MLP Index over a three-year period 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 three-year period 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.

## I. CASH EQUIVALENTS

### *Investment Objectives*

Total return of the cash equivalents composite portfolio should exceed the 91-day Treasury Bill rate of return over rolling twelve-month periods. To provide effective cash management when investing cash balances, emphasis is placed on the protection of principal through the purchase of higher quality money market instruments, while at the same time attempting to achieve the highest available return.

### *Investment Characteristics*

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.

### *Investment Structure*

Staff is responsible for the cash management function, which is described in OP&F's Short-Term Cash Management Policy.

## 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 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.

2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT

# Actuarial Section

OHIO POLICE & FIRE PENSION FUND

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Ohio  
Police  
& Fire Pension  
Fund

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www.op-f.org • 1-888-864-8363

# REPORT OF ACTUARY



A Xerox Company

Oct. 13, 2015

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

Members of the Board:

Ohio Police & Fire retained Buck Consultants, LLC (Buck) to complete this 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, 2015, 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 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. No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of Buck.

This report does not include accounting disclosure information under Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. Buck Consultants will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2015 year-end. Buck prepares a separate valuation of OP&F retiree health care benefits in accordance with and in compliance with the parameters set forth in Statement No. 43.

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 8.25 percent per annum compounded annually. The assumptions were effective Jan. 1, 2012 and recommended by the actuary based on a five-year experience review covering the period 2007-2011. The next experience review will cover the five-year period 2012-2016. 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. Additional assumptions related to the benefit provision changes under Senate Bill No. 340 were employed for this 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.

Since last year's valuation, OP&F changed its method of accounting for the DROP program to comply with the provisions of GASB Statement No. 67, Financial Reporting for Pension Plans, which was implemented during the year ended Dec. 31, 2014. Previously, OP&F recognized the DROP balances as a liability in the statement of fiduciary net position and the related expenses in the statement of changes in fiduciary net position. As a liability, the DROP balances were excluded from the value of assets used for the actuarial valuation. For consistency with this exclusion from the asset value, the actuarial accrued liability (AAL) also was reduced by the DROP balances. Starting with the Jan. 1, 2015 actuarial valuation, the DROP balances are included in both the assets and the AAL.

Including the DROP balances in the assets and AAL has no impact on the unfunded actuarial accrued liability (i.e., the difference between the AAL and assets) or the pension funding period. However, it did slightly increase the funded ratio (i.e., the ratio of actuarial assets to the AAL).

### 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 and 30 years for 2013, 2014 and 2015, respectively.

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 next 30-year funding plan be developed and presented not later than 90 days after the Board of Trustees' receipt of the Jan. 1, 2016 actuarial valuation.

The funded ratio (i.e., the ratio of actuarial assets to the AAL) determined as of Jan. 1, 2015 is 70.8 percent, compared to 66.7 percent determined as of Jan. 1, 2014. Taking into account the Medicare Part B premium reimbursements, the funded ratio would be 69.0 percent. The funded ratio is not intended to measure the adequacy of funding in any analysis of a possible settlement of plan liabilities, nor is it intended to assess the need for or the amount of future contributions. Additionally, the measurement of a Funded Ratio using the Market Value of Assets would not be materially different.

### Financial Results and Membership Data

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, 2015 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, Buck performed no analysis of the potential range of such future differences.

The undersigned are Enrolled Actuaries, Associates 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 actuarial opinions contained in this report. 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.

Respectfully submitted,



Larry Langer, FCA, ASA, EA, MAAA  
Principal, Consulting Actuary



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Director, Consulting Actuary

## DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

### Assumptions

The actuarial assumptions were adopted as of Jan. 1, 2012, based on a five-year experience review covering the period 2007-2011. The next review of the actuarial assumptions is to be completed for adoption with the Jan. 1, 2017 valuation.

**INTEREST RATE:** 8.25 percent per annum, compounded annually.

**SALARY INCREASE RATES:** Assumed annual salary increases are as follows.

Years of Service	Salary Increase Rate
Less than 1	11.00%
1	9.50%
2	8.50%
3	6.50%
4	5.00%
5 or more	4.25%

**DROP INTEREST RATE:** 4.5 percent per annum, compounded annually.

**COLA:** Three percent simple; 2.6 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

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	10.3%	6.3%	3.5%	4.4%	3.9%	2.2%	2.1%	2.0%	1.8%	1.8%	1.5%
30	10.4%	5.8%	4.4%	3.5%	3.2%	3.0%	2.9%	2.5%	2.2%	1.8%	1.5%
35	13.0%	5.3%	3.2%	3.8%	3.5%	3.4%	3.2%	3.1%	2.5%	1.7%	1.3%
40	14.0%	6.0%	4.6%	4.5%	4.1%	3.9%	3.3%	3.2%	1.8%	1.5%	0.9%
45	16.0%	6.3%	6.1%	5.9%	5.2%	4.3%	3.5%	3.5%	2.1%	1.2%	0.8%
50	18.0%	8.3%	8.1%	7.5%	6.5%	5.3%	4.1%	4.0%	3.9%	3.1%	1.5%
55	20.0%	12.0%	10.0%	9.4%	8.0%	6.5%	5.2%	5.1%	4.9%	4.5%	1.7%
60	20.0%	12.0%	10.0%	9.4%	8.0%	6.5%	5.2%	5.1%	4.9%	4.5%	1.7%

#### FIREFIGHTERS

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	2.8%	2.2%	1.6%	1.5%	1.2%	1.1%	1.0%	1.0%	0.9%	0.9%	0.8%
30	3.8%	1.6%	1.8%	1.7%	1.6%	1.3%	1.2%	1.1%	1.0%	1.0%	0.9%
35	4.2%	3.4%	2.1%	2.0%	1.9%	1.4%	1.3%	1.25%	1.1%	0.9%	0.8%
40	4.5%	3.6%	2.2%	2.1%	2.0%	1.5%	1.4%	1.3%	1.2%	1.0%	0.6%
45	4.6%	3.8%	2.7%	2.6%	2.5%	1.9%	1.6%	1.4%	1.3%	1.1%	0.5%
50	6.1%	4.4%	4.0%	3.8%	3.5%	2.7%	2.4%	2.2%	2.1%	1.5%	0.7%
55	6.1%	5.0%	5.0%	5.0%	4.0%	3.5%	2.4%	2.2%	2.0%	1.5%	1.1%
60	6.1%	5.0%	5.0%	5.0%	4.0%	3.5%	2.4%	2.2%	2.0%	1.5%	1.1%

**RATES OF DISABILITY**

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

Age	Police	Firefighters
20	.002%	.004%
30	.255%	.063%
40	.732%	.454%
50	1.126%	.891%
55	.933%	1.350%
60	.966%	1.331%
64	1.441%	3.126%

On duty permanent and total	23%
On duty partial	61%
Off duty ordinary	16%

**RETIREMENT RATES**

The following rates of retirement apply to members not in DROP.

Age	Police	Firefighters
48	10%	10%
49-52	5%	5%
53-54	11%	5%
55-57	11%	10%
58-59	5%	13%
60	15%	20%
61	25%	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	5%	5%							
50	4%	5%	5%						
51	4%	5%	5%	10%					
52	4%	5%	5%	10%	10%				
53	4%	5%	5%	10%	10%	12%			
54	4%	5%	5%	10%	10%	12%	14%		
55	5%	5%	5%	15%	15%	12%	17%	30%	
56	5%	5%	5%	15%	15%	12%	17%	30%	100%
57	5%	5%	5%	15%	15%	12%	17%	30%	100%
58	5%	5%	5%	15%	15%	12%	17%	30%	100%
59	16%	5%	5%	15%	16%	15%	18%	32%	100%
60	16%	5%	5%	15%	16%	15%	18%	32%	100%
61	16%	5%	5%	15%	16%	15%	18%	32%	100%
62	16%	5%	5%	15%	16%	15%	18%	32%	100%
63	16%	5%	5%	15%	16%	15%	18%	32%	100%
64	19%	5%	5%	17%	17%	16%	19%	35%	100%
65-69	19%	5%	5%	17%	17%	16%	19%	35%	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	4%	3%	3%						
51	4%	3%	3%	10%					
52	4%	3%	3%	10%	12%				
53	4%	3%	3%	10%	12%	13%			
54	4%	3%	3%	10%	12%	13%	15%		
55	5%	3%	3%	12%	12%	13%	17%	27%	
56	5%	3%	3%	12%	12%	13%	17%	27%	100%
57	5%	3%	3%	12%	12%	13%	17%	27%	100%
58	5%	3%	3%	17%	16%	15%	20%	35%	100%
59	6%	3%	3%	17%	16%	15%	20%	35%	100%
60	6%	3%	3%	17%	16%	15%	20%	35%	100%
61	6%	3%	3%	17%	16%	15%	20%	35%	100%
62	6%	3%	3%	17%	16%	15%	20%	35%	100%
63	30%	3%	3%	20%	20%	20%	20%	40%	100%
64	30%	3%	3%	20%	20%	20%	20%	40%	100%
65-69	30%	3%	3%	20%	20%	20%	20%	40%	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.

**RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS**

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

**MORTALITY**

Rates of death are based on the RP2000 Combined Table, age-adjusted as follows. For active members, set back six years. For disability retirements, set forward five years for police and three years for firefighters. For service retirements, set back zero years for police and two years for firefighters. For beneficiaries, set back zero years. The rates are applied on a fully generational basis, with a base year of 2009, using mortality improvement Scale AA.

**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 3.25 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.

**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 50 percent Joint and Survivor pension. If the joint annuitant predeceases the retiree, assume the retiree's benefit increases 17.65 percent.

**DEPENDENT PARENTS**

Costs based upon allowance for mortality (same rates as for beneficiaries), but no specific allowance for change in dependency status.

**DEPENDENT CHILDREN**

Each 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 (\$104.90 per month for 2015) is assumed to increase as follows.

Year	Increase
2015	5.40%
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.

**METHODS****ACTUARIAL COST METHOD**

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

**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.

**PAYROLL GROWTH**

Inflation rate of 3.25 percent plus productivity increase rate of 0.5 percent.

**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.

# PLAN SUMMARY

## SUMMARY OF BENEFITS AND CONTRIBUTION PROVISIONS

The following is intended to summarize the key provisions valued 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 immediately 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. On July 2, 2014, the member contribution rate increased by 0.75 percent to 11.5 percent. On July 2, 2015, the member contribution rate increased to 12.25 percent. This was the final scheduled increase to occur.

#### 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. Allowable average annual salary means one-third of the total salary during the three years for which the total earnings were greatest. A salary benchmark is established for these members under which certain increases are excluded from salary for the purpose of determining allowable average annual salary.
- 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. Allowable average annual salary means one-fifth of the total salary during the five years for which the total earnings were greatest. Members with less than 15 years of service credit will have their pension benefit calculated based on a five year allowable average annual salary with no benchmarking included.

### 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 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 separation from service, a member can receive the contributions that he or she made to the plan or the employee share of member contributions picked-up on the member's behalf by their employer. Employer contributions are not refundable.

### **TERMINATION BEFORE RETIREMENT WITH 25 YEARS 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 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 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
Years 4-5	75 percent of member's contributions
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 contributions
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.

### **COST-OF-LIVING ALLOWANCES**

Retired members who are at least 55 years old and have been receiving OP&F benefits for at least one year are eligible for a cost-of-living allowance adjustment. The age 55 provision for receiving a COLA does not apply to those who are receiving a permanent and total disability benefit and statutory survivors.

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. 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.

### **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 Trustee 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 may not exceed 60 percent of the allowable average annual salary. Service credit 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.

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 18 or marries, whichever occurs first. The payment can continue to an unmarried full-time student until age 22. 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.

**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

Survivors	Monthly Pension	Causes of Termination
Widow / Widower	current amount + future COLA	• Death
Minor child	current amount + future COLA	• Death • Marriage • Attainment of age 18
Dependent disabled child	current amount + future COLA	• Death • Recovery from disability
Student	current amount + future COLA	• Death • Marriage • Attainment of age 22 • Loss of student status
One dependent parent Two dependent parents	current amount + future COLA 1/2 current amount (each) + future COLA	• Death • Re-marriage • Termination of dependency

Benefit Type	Base Monthly Benefit Amount	Base Monthly Benefit Amount Plus Increases Through July 1, 2014	Monthly Increase Effective July 1, 2015
Spouse *	\$550	\$793.10**	\$16.50
Child	150	216.30***	4.50
One Parent	200	288.40****	6.00
Two Parents	100	144.20	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 Surviving 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.

*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.

**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.

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 death of the beneficiary, to be effective the month following OP&F's receipt of notice of death, or it may be cancelled upon divorce 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. Elected option may be cancelled within one year after benefits commence, with the consent of the beneficiary.

**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.

**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.

#### **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 as of Jan. 1, 1989 are allowed to select between two different pension calculation plans. Under the terminal pay method, a pension is calculated using terminal payments such as accrued sick leave and vacation compensation to increase the average annual salary, but subject to certain limitations and these members do not receive cost-of-living adjustments. Under the COLA method, no terminal payments are added, but the pension is subject to annual increases once the member attains the age of 55 and has been receiving a pension benefit for at least one year. The COLA method is the automatic calculation method for an active member with fewer than 15 years of service as of Jan. 1, 1989.

OP&F members who have 15 or more years of service credit as of July 1, 2013 and who are not receiving a benefit from OP&F, and members who are receiving a pension that became effective before July 1, 2013, will receive a COLA once they have received pension benefits for at least one year and have attained the age of 55. The COLA amount will be equal to three percent of the member's base pension benefit.

OP&F members who have less than 15 years of service credit as of July 1, 2013 will receive a COLA once they have received a pension for at least one year and have attained the age of 55. The COLA amount 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.

Persons who are statutory survivors or are receiving permanent and total disability benefits will continue to receive the COLA regardless of age.

#### **POST-RETIREMENT COST-OF-LIVING ALLOWANCE (COLA)**

Members who retired prior to July 24, 1986 or their surviving beneficiaries under optional plans are entitled to cost-of-living 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.

## ANALYSIS OF FINANCIAL EXPERIENCE - PENSION TRUST FUND

### GAINS AND LOSSES AS OF JAN. 1, 2015 AND 2014

Type of Activity	Experience Gain (Loss)	
	2015	2014
<b>Plan Experience:</b>		
<b>Turnover</b>		
If more liabilities are released by withdrawal separations from active membership than assumed, there is a gain. If smaller releases, there is a loss.	\$(9,205,962)	\$(9,005,087)
<b>Retirement</b>		
If members retire at older ages than assumed, there is a gain. If younger, there is a loss.	(742,371)	2,074,994
<b>Death among retired members and beneficiaries</b>		
If more deaths occur than assumed, there is a gain. If fewer deaths than assumed, there is a loss.	(43,649,147)	4,614,595
<b>Disability Retirants</b>		
If disability claims are less than assumed, there is a gain. If more claims, there is a loss.	32,032,671	13,304,806
<b>Salary increase/decrease</b>		
If there are smaller pay increases than assumed, there is a gain. If greater increases, there is a loss.	78,297,521	101,583,243
<b>Return to work</b>		
If participants return to work with previous service restored, there is a loss.	(497,912)	(1,535,632)
<b>New Entrants</b>		
If new entrants join OP&F, there is a loss.	(5,138,911)	(5,249,686)
<b>Deaths among actives</b>		
If claims costs are less than assumed, there is a gain. If more claims costs, there is a loss.	(2,689,167)	(2,508,111)
<b>Investments</b>		
If there is a greater investment return than assumed, there is a gain. If less return, there is a loss.	224,797,351	447,649,124
<b>Other Experience and Payroll Growth</b>		
If other experience, including less than expected payroll growth, increases the unfunded liability, there is a loss. Otherwise, there is a gain.	18,496,211	(96,420,632)
<b>NET GAIN (OR LOSS) DURING THE YEAR DUE TO PLAN EXPERIENCE</b>	<b>\$291,700,284</b>	<b>\$454,507,614</b>

### 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)	(2)	(3)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets		
		Active Member Contributions	Retirants and Beneficiaries	Active Members (Employer Financed Portion)		(1)	(2)	(3)
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%

## 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	
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	69,359	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

\* Includes rehired retirees.

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

Year Ended Dec. 31	Added to rolls		Removed from rolls		Rolls end of year		Percentage Change in Allowance	Average Annual Allowances	Percentage Change in Membership
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
2014	1,261	\$413,778	859	\$17,204	27,963	\$931,176	4.59%	\$33.30	1.46%
2013	1,361	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%

## CALCULATION OF ACTUARIAL VALUE ASSETS

Item	Amount				
1. Market Value of Assets as of Dec. 31, 2014	\$13,453,447,836				
2. Determination of Deferred Gain (Loss)					
<b>Return on Market Value of Assets</b>					
<b>Year</b>	<b>Actual</b>	<b>Expected</b>	<b>Gain/(Loss)</b>	<b>Percentage Deferred</b>	<b>Deferred Amount</b>
2014	\$786,522,451	\$1,065,611,384	\$(279,088,933)	75%	\$(209,316,700)
2013	1,893,854,624	953,408,015	940,446,609	50%	470,223,305
2012	1,531,042,478	878,042,138	653,000,340	25%	163,250,085
2011	210,581,639	908,664,044	(698,082,405)	–%	–
Total Deferred Gain (Loss)					424,156,690
Total Deferred Gain					424,156,690
3. Adjustment for 20 percent corridor					–
4. Actuarial Value of Assets available for benefits (1) - (2) + (3)					\$13,029,291,146

## CALCULATION OF ACTUARIAL VALUE ASSETS

Item	Amount				
1. Market Value of Assets as of Dec. 31, 2013	\$11,920,512,944				
2. Determination of Deferred Gain (Loss)					
<b>Return on Market Value of Assets</b>					
<b>Year</b>	<b>Actual</b>	<b>Expected</b>	<b>Gain/(Loss)</b>	<b>Percentage Deferred</b>	<b>Deferred Amount</b>
2013	\$1,893,854,624	\$953,408,015	\$940,446,609	75%	\$705,334,957
2012	1,531,042,478	878,042,138	653,000,340	50%	326,500,170
2011	210,581,639	908,664,044	(698,082,405)	25%	(174,520,601)
2010	1,551,247,761	814,871,444	736,376,317	–%	–
Total Deferred Gain (Loss)					857,314,526
Total Deferred Gain					857,314,526
3. Adjustment for 20 percent corridor					–
4. Actuarial Value of Assets available for benefits (1) - (2) + (3)					\$11,063,198,418

## EMPLOYER CONTRIBUTION RATES (1967 - PRESENT)\*

Time Frame of Rates	Employer 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%

## MEMBER CONTRIBUTION RATES

Time Frame of Rates	Member 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%
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%

\* 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.

## SCHEDULE OF FUNDING PROGRESS

FOR THE VALUATION YEAR ENDING JAN. 1, 2015

### 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 Percentage of Active Member Payroll
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%

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

### RETIREE HEALTH CARE 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 Percentage of Active Member Payroll
2015	\$1,031.9	\$5,399.5	\$4,367.6	19.1%	\$1,986.6	219.9%
2014	1,053.5	5,244.5	4,191.0	20.1%	1,942.3	215.8%
2013	935.6	4,234.8	3,299.2	22.1%	1,913.4	172.5%
2012	780.1	3,698.7	2,918.6	21.1%	1,897.4	153.8%
2011	717.7	3,295.3	2,577.6	21.8%	1,868.5	137.9%
2010	573.4	3,232.4	2,659.0	17.7%	1,895.2	140.3%

**SHORT-TERM SOLVENCY TEST - RETIREE HEALTH CARE TRUST FUND (DOLLARS IN THOUSANDS)**

Valuation Year Jan. 1	(1) Active Member Contributions	(2) Retirees, Survivors, and Inactive Members	(3) Employer- Financed Portion of Active Members	Reported Assets	Portion of Actuarial Accrued Liabilities Covered By Valuation Assets		
					Liability	Liability	Liability
					(1)	(2)	(3)
2015	\$-	\$2,551,196	\$2,848,354	\$1,031,941	-%	40.45%	-%
2014	-	2,571,338	2,673,221	1,053,534	-%	40.97%	-%
2013	-	2,280,017	1,954,750	935,605	-%	41.04%	-%
2012	-	2,180,929	1,517,848	780,142	-%	35.77%	-%
2011	-	1,615,031	1,680,282	717,730	-%	44.44%	-%
2010	-	1,609,184	1,623,207	573,399	-%	35.63%	-%

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

Year Beginning Jan. 1	Added to Rolls		Removed from Rolls		Rolls End of Year		Average Annual Subsidy	Increase in Average Subsidy
	Number	Annual Subsidy	Number	Annual Subsidy	Number	Annual Subsidy		
2014	1,845	\$8,967	1,817	\$8,509	26,822	\$130,360	\$4.860	\$.177
2013	1,710	8,008	1,639	7,540	26,794	125,482	4.683	.083
2012	2,361	10,862	1,682	7,397	26,723	122,943	4.601	.203
2011	2,241	9,855	1,593	6,378	26,044	114,528	4.397	.394
2010	1,579	6,322	1,491	6,497	25,396	101,679	4.004	(.354)
2009	1,568	6,833	1,626	6,244	25,308	110,286	4.358	.517

## ANALYSIS OF FINANCIAL EXPERIENCE - RETIREE HEALTH CARE TRUST FUND

### GAINS AND LOSSES AS OF JAN. 1, 2015 AND 2014

Type of Activity	Experience Gain (Loss)	
	Jan. 1, 2015	Jan. 1, 2014
<b>Plan experience:</b>		
<b>Turnover</b>		
If more liabilities are released by withdrawal separations from active membership than assumed, there is a gain. If smaller releases, there is a loss.	\$43,440	\$(2,485,621)
<b>Retirement</b>		
If members retire at older ages than assumed, there is a gain. If younger, there is a loss.	2,688,907	(11,491,271)
<b>Disability Retirement</b>		
If disability claims are less than assumed, there is a gain. If more claims, there is a loss.	19,805,645	16,462,068
<b>New Entrants</b>		
If new entrants join OP&F, there is a loss.	(11,471,301)	(1,819,245)
<b>Deaths</b>		
If more deaths occur than assumed, there is a gain. If fewer deaths than assumed, there is a loss.	114,439,222	64,735,083
<b>Claims Costs</b>		
If per capita costs or trend rates are less than assumed, there is a gain. Otherwise there is a loss.	168,165,402	132,825,323
<b>Investment</b>		
If there is a greater investment return than assumed, there is a gain. If less return, there is a loss.	43,276,507	111,629,684
<b>Other Experience</b>		
If all other experience, including but not limited to data changes, increases the unfunded liability, there is a loss. Otherwise, there is a gain.	(146,011,272)	(350,477,198)
<b>NET GAIN (OR LOSS) DURING THE YEAR DUE TO PLAN EXPERIENCE</b>	<b>190,936,550</b>	<b>(40,621,177)</b>
<b>Change assumptions effective Jan. 1, 2015 and Jan. 1, 2014</b>	<b>-</b>	<b>(612,516,661)</b>
<b>TOTAL NET GAIN (OR LOSS)</b>	<b>\$190,936,550</b>	<b>\$(653,137,838)</b>

2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT

# Statistical Section

## OHIO POLICE & FIRE PENSION FUND

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### Statistical Objectives

#### Financial Trends

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

#### Revenue Capacity Information

- Active Member and Total Payroll Base Statistics
- Active Membership Data
- Retired Membership by Type of Benefits
- Retired Membership by Type of Benefits and Average Annual Allowance
- Retirees and Beneficiaries Statistics
- Average Monthly Benefit Payments
- Member Health Care Contributions
- State of Ohio Subsidy Payments
- Schedule of Average Benefits
- 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
- Actuarial Valuation Information – Retiree Health Care Trust Fund
- Historical Annual Investment Results

#### Debt Capacity Information

#### Demographic and Economic Information

- Number of Employer Units
- Principal Participating Employers

#### Operating Information

- OP&F Employee Budgeted Position Counts
- Personnel Salaries by Year
- OP&F Budget
- Other Operating Statistics
- Death Benefit Fund
- Economic Impact

#### List of Professional Acronyms and Symbols

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## 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 102 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.
- Retired Membership by Type of Benefits and Average Annual Allowance.
- Retirees and Beneficiaries Statistics.
- Average Monthly Benefit Payments.
- Member Health Care Contributions.
- State of Ohio Subsidy Payments.
- Schedule of Average Benefits.

- 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 Reemployed Interest Rates.
- DROP Member Count Roll Forward.
- Actuarial Valuation Information – Pension Trust Fund.
- Actuarial Valuation Information – Retiree Health Care Trust Fund.
- Historical Annual Investment Results.
- Number of Employer Units.
- Principal Participating Employers.
- OP&F Employee Budgeted Position Counts.
- Personnel Salaries by Year.
- OP&F Budget.
- Other Operating Statistics.
- Death Benefit Fund.
- Economic Impact.

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)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Additions</b>										
Employer Contributions	\$438.7	\$427.8	\$418.2	\$417.0	\$407.5	\$414.0	\$404.3	\$405.9	\$400.0	\$374.0
Member Contributions and Purchases	245.8	224.0	211.4	177.5	176.8	175.5	168.4	172.5	165.1	167.4
Investment Income	(10.0)	860.7	2,053.0	1,657.9	229.6	1,651.8	1,894.9	(3,832.9)	1,163.1	1,629.8
Health Care Contributions	71.2	70.0	66.6	65.1	62.5	58.9	59.1	57.0	56.0	58.5
Other Revenues	29.2	25.2	28.5	30.7	40.5	25.8	24.3	26.0	22.3	25.1
<b>TOTAL ADDITIONS</b>	<b>774.9</b>	<b>1,607.7</b>	<b>2,777.7</b>	<b>2,348.2</b>	<b>916.9</b>	<b>2,326.0</b>	<b>2,551.0</b>	<b>(3,171.5)</b>	<b>1,806.5</b>	<b>2,254.8</b>
<b>Deductions</b>										
Benefit Payments	1,369.9	1,310.5	1,302.5	1,236.4	1,204.2	1,132.1	1,085.1	1,021.0	965.0	945.0
Refund of Member Contributions	13.8	15.2	16.0	26.5	22.0	15.8	15.7	17.7	15.1	18.0
Administrative Expenses	16.3	16.2	15.9	15.4	15.4	15.1	16.3	16.0	16.3	16.8
<b>TOTAL DEDUCTIONS</b>	<b>1,400.0</b>	<b>1,341.9</b>	<b>1,334.4</b>	<b>1,278.3</b>	<b>1,241.6</b>	<b>1,163.0</b>	<b>1,117.1</b>	<b>1,054.7</b>	<b>996.4</b>	<b>979.8</b>
<b>CHANGES IN FIDUCIARY NET POSITION</b>	<b>(625.1)</b>	<b>265.8</b>	<b>1,443.3</b>	<b>1,069.9</b>	<b>(324.7)</b>	<b>1,163.0</b>	<b>1,433.9</b>	<b>(4,226.2)</b>	<b>810.1</b>	<b>1,275.0</b>
<b>FIDUCIARY NET POSITION – BEGINNING OF YEAR</b>	<b>14,478.4**</b>	<b>14,219.6</b>	<b>12,776.3*</b>	<b>10,468.5</b>	<b>10,793.2</b>	<b>9,630.2</b>	<b>8,196.3</b>	<b>12,422.5</b>	<b>11,612.4</b>	<b>10,337.4</b>
<b>FIDUCIARY NET POSITION – END OF YEAR</b>	<b>\$13,853.3</b>	<b>\$14,485.4</b>	<b>\$14,219.6</b>	<b>\$11,538.4</b>	<b>\$10,468.5</b>	<b>\$10,793.2</b>	<b>\$9,630.2</b>	<b>\$8,196.3</b>	<b>\$12,422.5</b>	<b>\$11,612.4</b>
<b>Reserve Fund Balances:</b>										
Employers' Contribution Reserves	\$1,058.3	\$2,701.1	\$2,907.9	\$873.8	\$901.6	\$1,515.9	\$674.6	\$(524.8)	\$3,998.7	\$3,654.8
Members' Contribution Reserves	2,600.0	2,491.3	2,393.7	2,122.8	2,065.8	2,056.8	1,983.2	1,901.3	1,815.6	1,731.3
Health Care Contribution Reserves	929.4	1,031.9	1,053.5	935.6	780.1	717.7	573.4	438.7	527.0	436.6
Pension Reserves	9,265.6	8,261.1	7,864.5	7,606.2	6,721.0	6,502.8	6,399.0	6,381.1	6,081.2	5,789.7
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$13,853.3</b>	<b>\$14,485.4</b>	<b>\$14,219.6</b>	<b>\$11,538.4</b>	<b>\$10,468.5</b>	<b>\$10,793.2</b>	<b>\$9,630.2</b>	<b>\$8,196.3</b>	<b>\$12,422.5</b>	<b>\$11,612.4</b>

\* Effective Jan. 1, 2013, OP&F had a change in accounting principle with retrospective application. For more information, see the Notes to the Basic Financial Statements, note number two.

\*\* In 2015, OP&F implemented GASB 68, which required OP&F to restate the Beginning Of Year Fiduciary Net Position. For more information, see the Notes to the Basic Financial Statements, note number three.

## FINANCIAL TRENDS

### CHANGES IN FIDUCIARY NET POSITION PENSION TRUST FUND (DOLLARS IN MILLIONS)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Additions</b>										
Employer Contributions	\$428.5	\$418.0	\$349.5	\$286.7	\$278.2	\$285.2	\$277.7	\$276.4	\$278.3	\$235.0
Member Contributions and Purchases	245.8	224.0	211.4	177.5	176.8	175.5	168.4	172.5	165.1	167.4
Investment Income	(16.7)	779.8	1,893.9	1,531.0	210.6	1,551.3	1,791.3	(3,697.1)	1,113.1	1,567.1
Health Care Contributions	-	-	-	-	-	-	-	-	-	-
Other Revenues	5.9	7.2	12.9	9.5	11.9	9.1	9.5	10.7	8.7	10.4
<b>TOTAL ADDITIONS</b>	<b>663.5</b>	<b>1,429.0</b>	<b>2,467.7</b>	<b>2,004.7</b>	<b>677.5</b>	<b>2,021.1</b>	<b>2,246.9</b>	<b>(3,237.5)</b>	<b>1,565.2</b>	<b>1,979.9</b>
<b>Deductions</b>										
Benefit Payments	1,156.7	1,110.9	1,111.2	1,049.0	1,027.9	972.2	916.4	867.6	815.8	766.1
Refund of Member Contributions	13.8	15.2	16.0	26.5	22.0	15.8	15.7	17.7	15.1	18.0
Administrative Expenses	15.6	15.5	15.1	14.8	14.7	14.4	15.6	15.1	14.6	14.4
<b>TOTAL DEDUCTIONS</b>	<b>1,186.1</b>	<b>1,141.6</b>	<b>1,142.3</b>	<b>1,090.3</b>	<b>1,064.6</b>	<b>1,002.4</b>	<b>947.7</b>	<b>900.4</b>	<b>845.5</b>	<b>798.5</b>
<b>CHANGES IN FIDUCIARY NET POSITION</b>	<b>(522.6)</b>	<b>287.4</b>	<b>1,325.4</b>	<b>914.4</b>	<b>(387.1)</b>	<b>1,018.7</b>	<b>1,299.2</b>	<b>(4,137.9)</b>	<b>719.7</b>	<b>1,181.4</b>
<b>FIDUCIARY NET POSITION – BEGINNING OF YEAR</b>	<b>13,446.5**</b>	<b>13,166.1</b>	<b>11,840.7*</b>	<b>9,688.4</b>	<b>10,075.5</b>	<b>9,056.8</b>	<b>7,757.6</b>	<b>11,895.5</b>	<b>11,175.8</b>	<b>9,994.4</b>
<b>FIDUCIARY NET POSITION – END OF YEAR</b>	<b>\$12,923.9</b>	<b>\$13,453.5</b>	<b>\$13,166.1</b>	<b>\$10,602.8</b>	<b>\$9,688.4</b>	<b>\$10,075.5</b>	<b>\$9,056.8</b>	<b>\$7,757.6</b>	<b>\$11,895.5</b>	<b>\$11,175.8</b>
<b>Reserve Fund Balances:</b>										
Employers' Contribution Reserves	\$1,058.3	\$2,701.1	\$2,907.9	\$873.8	\$901.6	\$1,515.9	\$674.6	\$(524.8)	\$3,998.7	\$3,654.8
Members' Contribution Reserves	2,600.0	2,491.3	2,393.7	2,122.8	2,065.8	2,056.8	1,983.2	1,901.3	1,815.6	1,731.3
Pension Reserves	9,265.6	8,261.1	7,864.5	7,606.2	6,721.0	6,502.8	6,399.0	6,381.1	6,081.2	5,789.7
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$12,923.9</b>	<b>\$13,453.5</b>	<b>\$13,166.1</b>	<b>\$10,602.8</b>	<b>\$9,688.4</b>	<b>\$10,075.5</b>	<b>\$9,056.8</b>	<b>\$7,757.6</b>	<b>\$11,895.5</b>	<b>\$11,175.8</b>

\* Effective Jan. 1, 2013, OP&F had a change in accounting principle with retrospective application. For more information, see the Notes to the Basic Financial Statements, note number two.

\*\* In 2015, OP&F implemented GASB 68, which required OP&F to restate the Beginning Of Year Fiduciary Net Position. For more information, see the Notes to the Basic Financial Statements, note number three.

## FINANCIAL TRENDS

### CHANGES IN FIDUCIARY NET POSITION

#### RETIREE HEALTH CARE TRUST FUND (DOLLARS IN MILLIONS)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Additions</b>										
Employer Contributions	\$10.2	\$9.8	\$68.7	\$130.3	\$129.3	\$128.8	\$126.6	\$129.5	\$121.7	\$139.0
Member Contributions and Purchases	-	-	-	-	-	-	-	-	-	-
Investment Income	6.7	80.9	159.1	126.9	19.0	100.5	103.6	(135.8)	50.0	62.7
Health Care Contributions	71.2	70.0	66.6	65.1	62.5	58.9	59.1	57.0	56.0	58.5
Other Revenues	23.3	18.0	15.6	21.2	28.6	16.7	14.8	15.3	13.6	14.7
<b>TOTAL ADDITIONS</b>	<b>111.4</b>	<b>178.7</b>	<b>310.0</b>	<b>343.5</b>	<b>239.4</b>	<b>304.9</b>	<b>304.1</b>	<b>66.0</b>	<b>241.3</b>	<b>274.9</b>
<b>Deductions</b>										
Benefit Payments	213.2	199.6	191.3	187.4	176.3	159.9	168.7	153.4	149.2	178.9
Refund of Member Contributions	-	-	-	-	-	-	-	-	-	-
Administrative Expenses	0.7	0.7	0.8	0.6	0.7	0.7	0.7	0.9	1.7	2.4
<b>TOTAL DEDUCTIONS</b>	<b>213.9</b>	<b>200.3</b>	<b>192.1</b>	<b>188.0</b>	<b>177.0</b>	<b>160.6</b>	<b>169.4</b>	<b>154.3</b>	<b>150.9</b>	<b>181.3</b>
<b>CHANGES IN FIDUCIARY NET POSITION</b>	<b>(102.5)</b>	<b>(21.6)</b>	<b>117.9</b>	<b>155.5</b>	<b>62.4</b>	<b>144.3</b>	<b>134.7</b>	<b>(88.3)</b>	<b>90.4</b>	<b>93.6</b>
<b>FIDUCIARY NET POSITION – BEGINNING OF YEAR</b>	<b>1,031.9</b>	<b>1,053.5</b>	<b>935.6</b>	<b>780.1</b>	<b>717.7</b>	<b>573.4</b>	<b>438.7</b>	<b>527.0</b>	<b>436.6</b>	<b>343.0</b>
<b>FIDUCIARY NET POSITION – END OF YEAR</b>	<b>\$929.4</b>	<b>\$1,031.9</b>	<b>\$1,053.5</b>	<b>\$935.6</b>	<b>\$780.1</b>	<b>\$717.7</b>	<b>\$573.4</b>	<b>\$438.7</b>	<b>\$527.0</b>	<b>\$436.6</b>
<b>Reserve Fund Balances:</b>										
Health Care Contribution Reserves	\$929.4	\$1,031.9	\$1,053.5	\$935.6	\$780.1	\$717.7	\$573.4	\$438.7	\$527.0	\$436.6
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$929.4</b>	<b>\$1,031.9</b>	<b>\$1,053.5</b>	<b>\$935.6</b>	<b>\$780.1</b>	<b>\$717.7</b>	<b>\$573.4</b>	<b>\$438.7</b>	<b>\$527.0</b>	<b>\$436.6</b>

## FINANCIAL TRENDS

### 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
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)
2007	400.0	165.1	22.4%	1,163.1	56.0	22.3	1,806.5
2006	374.0	167.4	21.3%	1,629.8	58.5	25.1	2,254.8

### EXPENSES BY TYPE (DOLLARS IN MILLIONS)

Year	Benefit Payments	Refund of Member Contributions	Administrative Expenses	Total Expenses
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
2007	965.0	15.1	16.3	996.4
2006	945.0	18.0	16.8	979.8

### BENEFIT EXPENSES BY TYPE (DOLLARS IN MILLIONS)

Year	Service	Disability	Health Care	Survivor	DROP	Total Benefits
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
2007	391.5	191.7	149.2	60.6	172.0	965.0
2006	377.0	183.4	178.8	58.3	147.5	945.0

## FINANCIAL TRENDS

### DROP PROGRAM BALANCES (DOLLARS IN MILLIONS)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Police</b>										
DROP Program Beginning Balance	\$687.8	\$661.0	\$666.5	\$694.7	\$650.8	\$544.9	\$436.9	\$337.8	\$246.8	\$161.5
Accrued Pension and COLA	103.0	97.6	95.4	90.7	92.3	98.3	92.4	86.4	80.3	74.6
Accrued Member Share Contributions	15.2	12.3	11.9	11.3	11.7	12.5	13.0	11.8	12.1	9.0
Accrued Interest	14.6	15.1	14.2	17.8	32.2	29.2	23.9	18.7	14.2	10.0
Withdrawals	(98.7)	(98.2)	(127.0)	(148.0)	(92.3)	(34.1)	(21.3)	(17.8)	(15.6)	(8.3)
<b>DROP PROGRAM ENDING BALANCE - POLICE</b>	<b>721.9</b>	<b>687.8</b>	<b>661.0</b>	<b>666.5</b>	<b>694.7</b>	<b>650.8</b>	<b>544.9</b>	<b>436.9</b>	<b>337.8</b>	<b>246.8</b>
<b>Fire</b>										
DROP Program Beginning Balance	616.4	584.6	571.4	593.1	536.2	441.4	344.5	257.3	180.0	113.6
Accrued Pension and COLA	101.3	97.8	94.0	88.4	89.3	89.6	80.0	75.0	66.9	55.8
Accrued Member Share Contributions	14.9	12.9	12.0	11.0	11.2	11.2	11.3	10.0	9.5	6.9
Accrued Interest	13.1	13.3	12.4	15.2	27.3	23.8	19.2	14.7	10.6	7.2
Withdrawals	(104.7)	(92.2)	(105.2)	(136.3)	(70.9)	(29.8)	(13.6)	(12.5)	(9.7)	(3.5)
<b>DROP PROGRAM ENDING BALANCE - FIRE</b>	<b>641.0</b>	<b>616.4</b>	<b>584.6</b>	<b>571.4</b>	<b>593.1</b>	<b>536.2</b>	<b>441.4</b>	<b>344.5</b>	<b>257.3</b>	<b>180.0</b>
<b>Combined Police and Fire</b>										
DROP Program Beginning Balance	1,304.2	1,245.6	1,237.9	1,287.8	1,187.0	986.3	781.4	595.1	426.8	275.1
Accrued Pension and COLA	204.3	195.4	189.4	179.1	181.6	187.9	172.4	161.4	147.2	130.4
Accrued Member Share Contributions	30.1	25.2	23.9	22.3	22.9	23.7	24.3	21.8	21.6	15.9
Accrued Interest	27.7	28.4	26.6	33.0	59.5	53.0	43.1	33.4	24.8	17.2
Withdrawals	(203.4)	(190.4)	(232.2)	(284.3)	(163.2)	(63.9)	(34.9)	(30.3)	(25.3)	(11.8)
<b>DROP PROGRAM ENDING BALANCE</b>	<b>\$1,362.9</b>	<b>\$1,304.2</b>	<b>\$1,245.6</b>	<b>\$1,237.9</b>	<b>\$1,287.8</b>	<b>\$1,187.0</b>	<b>\$986.3</b>	<b>\$781.4</b>	<b>\$595.1</b>	<b>\$426.8</b>

## REVENUE CAPACITY INFORMATION

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

#### 10-YEAR HISTORY OF MEMBERSHIP DATA\*

Year	Payroll Base	Member Contributions	Number of Members*	Percentage Change in Payroll Base	Percentage Change in Member Contributions	Percentage Change in Members
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%
2007	1,782.9	165.1	28,609	1.5%	(1.4)%	2.1%
2006	1,756.2	167.4	28,026	4.3%	(0.2)%	0.5%

\* Includes rehired retirees.

### ACTIVE MEMBERSHIP DATA

#### NUMBER AND ALLOWABLE AVERAGE ANNUAL SALARY AS OF JAN. 1, 2015\*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 25	574									574
	\$46,019									\$46,019
25-29	2,131	374	2							2,507
	\$51,584	\$66,155	\$81,153							\$53,781
30-34	1,468	1,628	438	2						3,536
	\$54,252	\$69,283	\$71,826	\$69,517						\$63,358
35-39	622	1,001	1,647	660	5					3,935
	\$53,784	\$67,908	\$73,575	\$76,279	\$71,050					\$69,455
40-44	245	497	1,309	2,483	752	14				5,300
	\$53,059	\$66,651	\$70,684	\$75,123	\$80,011	\$87,258				\$72,938
45-49	96	181	542	1,512	2,063	906	18			5,318
	\$54,325	\$64,435	\$69,607	\$73,585	\$78,975	\$83,339	\$81,969			\$76,301
50-54	42	69	162	533	1,054	1,608	482	9		3,959
	\$49,105	\$63,551	\$67,043	\$72,241	\$76,602	\$80,771	\$84,071	\$79,442		\$77,714
55-59	21	31	59	152	351	621	538	93	3	1,869
	\$43,516	\$60,654	\$62,248	\$69,314	\$72,360	\$78,335	\$82,993	\$90,670	\$79,087	\$77,243
60-64	10	7	15	42	96	151	141	48	9	519
	\$59,713	\$60,111	\$72,606	\$67,953	\$73,650	\$75,520	\$79,150	\$80,876	\$87,072	\$75,647
Over 64	1	3	8	7	12	26	9	7	12	85
	\$59,394	\$57,575	\$62,449	\$62,180	\$70,768	\$71,371	\$72,315	\$80,578	\$87,113	\$72,142
Total	5,210	3,791	4,182	5,391	4,333	3,326	1,188	157	24	27,602
	\$52,070	\$67,834	\$71,539	\$74,310	\$77,892	\$80,731	\$82,878	\$86,582	\$86,095	\$70,587

\* Excludes rehired retirees.

## REVENUE CAPACITY INFORMATION

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

Year	Service		Survivors		Disability		Total Beneficiaries
	Police	Fire	Police	Fire	Police	Fire	
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
2007	6,459	5,012	4,067	3,115	3,594	2,436	24,683
2006	6,419	5,045	3,982	3,089	3,521	2,403	24,459

### RETIRED MEMBERSHIP BY TYPE OF BENEFITS AND AVERAGE ANNUAL ALLOWANCE (SOURCE: ACTUARIAL VALUATION) AS OF JAN. 1, 2015

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
<b>Service Retirees</b>			
Under 60	2,620	\$125,238,479	\$47,801
60 - 64	2,908	142,835,330	49,118
65 - 69	2,962	141,261,166	47,691
70 - 74	2,259	98,473,863	43,592
75 - 79	1,366	52,975,188	38,781
Over 79	1,699	49,669,136	29,234
<b>TOTAL</b>	<b>13,814</b>	<b>\$610,453,162</b>	<b>\$44,191</b>
<b>Survivors and Beneficiaries</b>			
Under 60	1,253	\$12,117,402	\$9,671
60 - 64	613	7,547,078	12,312
65 - 69	863	10,030,785	11,623
70 - 74	1,065	11,418,167	10,721
75 - 79	1,101	11,045,356	10,032
Over 79	2,894	27,892,597	9,638
<b>TOTAL</b>	<b>7,789</b>	<b>\$80,051,385</b>	<b>\$10,277</b>
<b>Disability Retirees</b>			
Under 60	2,472	\$96,859,404	\$39,183
60 - 64	1,113	45,377,355	40,770
65 - 69	1,157	45,287,436	39,142
70 - 74	772	28,010,676	36,283
75 - 79	488	15,844,690	32,469
Over 79	358	9,291,908	25,955
<b>TOTAL</b>	<b>6,360</b>	<b>\$240,671,469</b>	<b>\$37,841</b>

## REVENUE CAPACITY INFORMATION

### RETIREES AND BENEFICIARIES STATISTICS (DOLLARS IN MILLIONS)

Year	Benefit Payments*	Refunds	Total Payments*	Number of Benefit Recipients**	Percentage Change in Benefit Recipients	Percentage Change Total Benefit Payments
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%
2007	815.8	15.1	830.9	24,831	0.3%	6.0%
2006	766.1	18.0	784.1	24,766	0.8%	7.4%

\* 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
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
2007	3,251	1,265	-	1,928
2006	3,274	1,068	-	1,665

#### DISABILITY RETIREMENT\*

Year	Permanent and Total	Permanent and Total Presumptive	Partial	Partial Presumptive	Off Duty
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
2007	3,301	3,611	2,846	2,959	2,634
2006	3,341	2,930	2,793	2,939	2,306

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

## REVENUE CAPACITY INFORMATION

### 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
2015	\$71.2	2%	26,822	\$213.2	33%	\$0.00529
2014	70.0	5%	26,794	199.6	35%	0.00484
2013	66.6	2%	26,723	191.3	35%	0.00467
2012	65.1	4%	26,044	187.4	35%	0.00470
2011	62.5	6%	25,396	176.3	35%	0.00448
2010	58.9	0%	25,308	159.9	37%	0.00399
2009	59.1	4%	25,366	168.7	35%	0.00432
2008	57.0	2%	26,786	153.4	37%	0.00360
2007	56.0	(5)%	26,787	149.2	38%	0.00348
2006	58.5	7%	28,559	178.9	33%	0.00421

\* 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
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)%
2007	968,373	(10)%
2006	1,077,865	(9)%

# REVENUE CAPACITY INFORMATION

## 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+	
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
2007	Average Monthly Benefit	\$2,347	\$2,769	\$2,934	\$2,644	\$3,019	\$3,378	\$4,087	\$3,322
	Average Final Average Salary	\$47,179	\$57,089	\$60,319	\$58,482	\$62,037	\$63,478	\$65,783	\$62,550
	Number of Active Recipients	6	28	50	49	43	306	91	573
2006	Average Monthly Benefit	\$1,778	\$2,762	\$2,828	\$2,705	\$2,993	\$3,273	\$3,891	\$3,201
	Average Final Average Salary	\$45,078	\$56,511	\$57,983	\$56,217	\$60,964	\$63,072	\$64,682	\$61,478
	Number of Active Recipients	5	33	60	68	55	259	102	582

\* All years begin Jan. 1 and end Dec. 31.

## REVENUE CAPACITY INFORMATION

### OP&F'S COST OF LIVING ALLOWANCE (COLA) HISTORY - PART 1 OF 2

COLA Payment Dates	Members who are 55 years old with less than 15 years of service credit as of July 1, 2013 EDOR* July 1, 2015 to June 30, 2016 COLA Paid	Members who are 55 years old with less than 15 years of service credit as of July 1, 2013 EDOR* July 1, 2014 to June 30, 2015 COLA Paid	Members who are 55 years old with less than 15 years of service credit as of July 1, 2013 EDOR* July 1, 2013 to June 30, 2014 COLA Paid	Members who are 55 years old with less than 15 years of service credit as of July 1, 2012 to June 30, 2013 COLA Paid	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 1 year	EDOR* July 1, 2000 to June 30, 2012	EDOR* July 1, 1999 to June 30, 2000	EDOR* July 1, 1998 to June 30, 1999
July 1, 2016 - June 30, 2017	-%	-%	-%	-%	3.00%	3.00%	3.00%	3.00%
July 1, 2015 - June 30, 2016		1.70%	1.70%	1.70%	3.00%	3.00%	3.00%	3.00%
July 1, 2014 - June 30, 2015			1.20%	1.20%	3.00%	3.00%	3.00%	3.00%
July 1, 2013 - June 30, 2014				2.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2012 - June 30, 2013						3.00%	3.00%	3.00%
July 1, 2011 - June 30, 2012						3.00%	3.00%	3.00%
July 1, 2010 - June 30, 2011						3.00%	3.00%	3.00%
July 1, 2009 - June 30, 2010						3.00%	3.00%	3.00%
July 1, 2008 - June 30, 2009						3.00%	3.00%	3.00%
July 1, 2007 - June 30, 2008						3.00%	3.00%	3.00%
July 1, 2006 - June 30, 2007						3.00%	3.00%	3.00%
July 1, 2005 - June 30, 2006						3.00%	3.00%	3.00%
July 1, 2004 - June 30, 2005						3.00%	3.00%	3.00%
July 1, 2003 - June 30, 2004						3.00%	3.00%	3.00%
July 1, 2002 - June 30, 2003						3.00%	3.00%	3.00%
July 1, 2001 - June 30, 2002						3.00%	3.00%	3.00%
July 1, 2000 - June 30, 2001							2.20%	2.20%
July 1, 1999 - June 30, 2000								1.30%
July 1, 1998 - June 30, 1999								
July 1, 1997 - June 30, 1998								
July 1, 1996 - June 30, 1997								
July 1, 1995 - June 30, 1996								
July 1, 1994 - June 30, 1995								
July 1, 1993 - June 30, 1994								
July 1, 1992 - June 30, 1993								
July 1, 1991 - June 30, 1992								

\* 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.

# REVENUE CAPACITY INFORMATION

## OP&F'S COST OF LIVING ALLOWANCE (COLA) HISTORY - PART 2 OF 2

COLA Payment Dates	EDOR* July 1, 1997 to June 30, 1998	EDOR* July 1, 1996 to June 30, 1997	EDOR* July 1, 1995 to June 30, 1996	EDOR* July 1, 1994 to June 30, 1995	EDOR* July 1, 1993 to June 30, 1994	EDOR* July 1, 1992 to June 30, 1993	EDOR* July 1, 1991 to June 30, 1992	EDOR* July 1, 1990 to June 30, 1991
July 1, 2016 - June 30, 2017	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2015 - June 30, 2016	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2014 - June 30, 2015	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2013 - June 30, 2014	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2012 - June 30, 2013	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2011 - June 30, 2012	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2010 - June 30, 2011	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2009 - June 30, 2010	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2008 - June 30, 2009	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2007 - June 30, 2008	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2006 - June 30, 2007	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2005 - June 30, 2006	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2004 - June 30, 2005	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2003 - June 30, 2004	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2002 - June 30, 2003	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2001 - June 30, 2002	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2000 - June 30, 2001	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%
July 1, 1999 - June 30, 2000	1.30%	1.30%	1.30%	2.90%	2.70%	2.70%	1.30%	2.90%
July 1, 1998 - June 30, 1999	2.30%	2.30%	2.30%	3.00%	3.00%	3.00%	2.40%	3.00%
July 1, 1997 - June 30, 1998		2.90%	2.90%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 1996 - June 30, 1997			2.90%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 1995 - June 30, 1996				0.00%	3.00%	3.00%	3.00%	3.00%
July 1, 1994 - June 30, 1995					0.00%	0.00%	3.00%	3.00%
July 1, 1993 - June 30, 1994						3.00%	3.00%	3.00%
July 1, 1992 - June 30, 1993							3.00%	3.00%
July 1, 1991 - June 30, 1992								3.00%

\* 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.

## REVENUE CAPACITY INFORMATION

### EMPLOYER CONTRIBUTION RATES (1967–PRESENT)\*

Time Frame of Rates	Employer 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

Time Frame of Rates	Member 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%
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

## REVENUE CAPACITY INFORMATION

### ACTUARIAL INTEREST RATES

Time Frame of Rates	Actuarial Interest Rates	
	Police	Fire
Jan. 1, 1989 thru Present	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

Time Frame of Rates*	Drop and Reemployed Interest Rates	
	Police	Fire
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 Federal Reserve, with a cap of five percent.

## REVENUE CAPACITY INFORMATION

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

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Police</b>										
Balance Beginning of Year	1,918	1,883	1,795	1,801	1,985	1,990	1,893	1,797	1,683	1,524
Number of members that entered into DROP    Increases	364	322	384	329	356	289	289	258	272	298
Number of members that terminated DROP    Decreases	(281)	(287)	(296)	(335)	(540)	(294)	(192)	(162)	(158)	(139)
<b>SUB-TOTAL AT YEAR END - POLICE</b>	<b>2,001</b>	<b>1,918</b>	<b>1,883</b>	<b>1,795</b>	<b>1,801</b>	<b>1,985</b>	<b>1,990</b>	<b>1,893</b>	<b>1,797</b>	<b>1,683</b>
<b>Fire</b>										
Balance Beginning of Year	1,907	1,862	1,741	1,740	1,888	1,744	1,648	1,541	1,375	1,145
Number of Members that entered into DROP    Increases	290	346	369	283	315	349	258	249	285	317
Number of members that terminated DROP    Decreases	(310)	(301)	(248)	(282)	(463)	(205)	(162)	(142)	(119)	(87)
<b>SUB-TOTAL AT YEAR END - FIRE</b>	<b>1,887</b>	<b>1,907</b>	<b>1,862</b>	<b>1,741</b>	<b>1,740</b>	<b>1,888</b>	<b>1,744</b>	<b>1,648</b>	<b>1,541</b>	<b>1,375</b>
<b>Police and Fire</b>										
Balance Beginning of Year	3,825	3,745	3,536	3,541	3,873	3,734	3,541	3,338	3,058	2,669
Number of members that entered into DROP    Increases	654	668	753	612	671	638	547	507	557	615
Number of members that terminated DROP    Decreases	(591)	(588)	(544)	(617)	(1,003)	(499)	(354)	(304)	(277)	(226)
<b>TOTAL AT YEAR END - POLICE AND FIRE</b>	<b>3,888</b>	<b>3,825</b>	<b>3,745</b>	<b>3,536</b>	<b>3,541</b>	<b>3,873</b>	<b>3,734</b>	<b>3,541</b>	<b>3,338</b>	<b>3,058</b>

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

As of Jan. 1	Valuation Assets*	Actuarial Accrued Liabilities (AAL)	Unfunded/ (Overfunded) Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as Percentage of Active Member Payroll
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%
2007	10,158.0	12,987.5	2,829.5	78.2%	1,782.9	158.7%
2006	9,550.6	12,190.4	2,639.8	78.3%	1,756.2	150.3%

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

## REVENUE CAPACITY INFORMATION

### ACTUARIAL VALUATION INFORMATION - RETIREE HEALTH CARE TRUST FUND (DOLLARS IN MILLIONS)

As of Jan. 1	Valuation Assets	Actuarial Accrued Liabilities (AAL)	Unfunded/ (Overfunded) Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as Percentage of Active Member Payroll
2015	\$1,031.9	\$5,399.65	\$4,367.6	19.1%	\$1,986.6	219.9%
2014	1,053.5	5,244.5	4,191.0	20.1%	1,942.3	215.8%
2013	935.6	4,234.8	3,299.2	22.1%	1,913.4	172.5%
2012	780.1	3,698.7	2,918.6	21.1%	1,897.4	153.8%
2011	717.7	3,295.3	2,577.6	21.8%	1,868.5	137.9%
2010	573.4	3,232.4	2,659.0	17.7%	1,895.2	140.3%
2009	438.7	3,163.6	2,724.9	13.9%	1,900.9	143.3%
2008	527.0	3,623.5	3,096.5	14.5%	1,831.4	169.1%
2007	436.6	3,273.7	2,837.1	13.3%	1,782.9	159.1%
2006	343.0	3,334.8	2,991.8	10.3%	1,756.2	170.4%

## HISTORICAL ANNUAL INVESTMENT RESULTS

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>U.S. Equity</b>										
OP&F	0.53%	11.27%	35.53%	15.88%	0.94%	22.43%	32.82%	(38.02)%	5.37%	14.80%
<b>International Equity*</b>										
OP&F	(0.77)%	(5.56)%	21.01%	19.96%	(12.37)%	15.11%	39.58%	(45.71)%	20.61%	28.24%
<b>Emerging Markets</b>										
OP&F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Fixed Income</b>										
OP&F–Core	1.45%	4.07%	(1.05)%	6.31%	6.41%	9.72%	11.76%	0.37%	6.50%	4.59%
OP&F–High Yield	(0.95)%	2.81%	6.15%	15.64%	6.00%	15.02%	47.02%	(20.17)%	2.91%	10.22%
OP&F–GIPS	0.26%	19.43%	(10.62)%	14.93%	35.50%	15.28%	9.84%	2.04%	11.72%	2.97%
OP&F–Commercial Mortgage**	3.21%	8.56%	6.72%	5.28%	4.99%	16.63%	(0.63)%	0.68%	2.31%	5.08%
<b>Master Limited Partnerships</b>										
OP&F	(29.31)%	16.91%	32.25%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Real Estate **</b>										
OP&F	16.83%	18.57%	15.11%	13.06%	18.01%	4.86%	(37.27)%	2.07%	20.67%	26.60%
<b>Private Markets **</b>										
OP&F	12.06%	18.34%	11.50%	9.58%	17.66%	12.57%	(11.61)%	(2.32)%	31.88%	17.43%
<b>Timber **</b>										
OP&F	1.03%	8.99%	3.37%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total Portfolio</b>										
OP&F	0.65%	6.79%	16.94%	15.41%	2.57%	15.85%	20.73%	(28.06)%	10.47%	16.15%
Policy Index***	(2.18)%	6.87%	14.61%	14.94%	2.43%	12.61%	22.81%	(28.89)%	9.16%	15.69%

\* 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 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.

\*\* One quarter in arrears.

\*\*\* Interim Policy Index: 22.7 percent Wilshire 5000, 21.1 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI index, 10.1 percent Barclays Aggregate, 13.2 percent CS First Boston Dev. Countries HY, 8.2 percent Global Treasury Inflation Protected Securities (TIPS) Custom, 10.5 percent NCREIF ODCE Index Lagged, 5.3 percent Wilshire 5000 + 3 percent Lagged, 2.1 percent CPI + 5 percent (Net), 6.9 percent Alerian MLP Index.

Long-Term Policy: 16 percent Wilshire 5000, 16 percent MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index, 20 percent Barclays Aggregate, 15 percent CS First Boston Dev. Countries HY, 20 percent Global TIPS Custom, 12 percent NCREIF ODCE Index Lagged, 8 percent Wilshire 5000 + 3 percent Lagged, 5 percent NCREIF Timberland Lagged, 8 percent Alerian MLP Index (adds to 120 percent as "Risk Parity" approach uses 2x levered Global Inflation-Protected Securities and 2x levered Core Fixed Income).

Time Weighted methodology, based upon fair 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

Year	Municipalities		Townships		Villages		Total		Total
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Both
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
2007	251	229	-	122	289	33	540	384	924
2006	252	225	-	119	284	32	536	376	912

### PRINCIPAL PARTICIPATING EMPLOYERS

Employer Name	Covered Employees	Rank	Percentage of Total Covered Members
City of Columbus	3,526	1	12.7%
City of Cleveland	2,490	2	9.0%
City of Cincinnati	1,904	3	6.9%
City of Toledo	1,204	4	4.3%
City of Akron	831	5	3.0%
City of Dayton	649	6	2.3%
City of Canton	331	7	1.2%
City of Youngstown	306	8	1.1%
City of Springfield	265	9	1.0%
City of Hamilton	210	10	0.8%
All Others	16,053		57.7%
<b>TOTAL</b>	<b>27,769</b>		<b>100.0%</b>

## OPERATING INFORMATION

### OP&F EMPLOYEE BUDGETED POSITION COUNTS

Department	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Administration*	36	48	47	45	46	46	47	44	45	42
Finance *	21	21	22	22	13	13	13	13	13	16
Business and Technology Solutions (BTS)*	26	25	24	24	24	24	24	25	25	25
Investments	14	14	14	15	15	15	14	14	14	14
Member Services *	46	34	34	38	46	46	51	54	64	69
<b>TOTAL FULL-TIME POSITIONS</b>	<b>143</b>	<b>142</b>	<b>141</b>	<b>144</b>	<b>144</b>	<b>144</b>	<b>149</b>	<b>150</b>	<b>161</b>	<b>166</b>

\* In 2015, Customer Service was transitioned to Member Services and Purchasing was transitioned to BTS from Administration. In 2012, Employer Services was transitioned to Finance from Member Services.

### PERSONNEL SALARIES BY YEAR (DOLLARS IN THOUSANDS)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Salaries and Wages	\$9,635.1	\$9,054.2	\$9,248.5	\$8,756.9	\$8,807.9	\$8,313.9	\$8,660.2	\$8,866.4	\$8,844.4	\$8,763.8
Average Salary per Budgeted Staff	\$67.4	\$63.8	\$65.6	\$60.8	\$61.2	\$57.7	\$58.1	\$59.1	\$54.9	\$52.8

### OP&F BUDGET (DOLLARS IN MILLIONS)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Administrative Expenses (Actual)*	\$59.4	\$61.6	\$59.4	\$52.8	\$50.3	\$46.5	\$41.0	\$43.6	\$45.9	\$41.7
Administrative Expenses (Budget)*	\$65.4	\$62.6	\$62.6	\$58.7	\$54.5	\$45.6	\$46.5	\$54.6	\$61.0	\$48.5
Percentage of Budget vs Actual	91%	98%	95%	90%	92%	102%	88%	80%	75%	86%
* Excludes depreciation expense.										
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Capital (Actual)	\$1.3	\$2.1	\$3.1	\$2.9	\$1.7	\$2.0	\$0.6	\$2.1	\$1.2	\$0.7
Capital (Budget)	\$3.0	\$2.8	\$3.4	\$3.4	\$3.7	\$4.4	\$3.2	\$4.6	\$3.8	\$5.8
Percentage of Budget vs Actual	43%	75%	91%	85%	46%	45%	19%	46%	32%	12%
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Operating Expenses (Actual)*	\$16.3	\$16.2	\$15.9	\$15.4	\$15.4	\$15.0	\$16.3	\$16.0	\$16.7	\$14.7
Investment Expenses (Actual)*	\$43.1	\$45.4	\$43.5	\$37.4	\$34.9	\$31.5	\$24.7	\$27.6	\$29.2	\$27.0

\* Excludes depreciation expense.

# OPERATING INFORMATION

## OTHER OPERATING STATISTICS

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Total Staff	143	142	141	144	144	144	149	150	161	166
Investment Staff	14	14	14	15	15	15	14	14	14	14
Investment										
Actual Expenses	\$43.1	\$45.4	\$43.5	\$37.4	\$34.9	\$31.5	\$24.7	\$27.6	\$29.2	\$27.0
Investment Income	\$(10.0)	\$860.7	\$2,053.0	\$1,657.9	\$229.6	\$1,651.8	\$1,894.9	\$(3,832.9)	\$1,163.1	\$1,629.8
Investment Staff to										
Investment Expense Ratio	\$3.1	\$3.2	\$3.1	\$2.5	\$2.3	\$2.1	\$1.8	\$2.0	\$2.1	\$1.9
Total Staff to Investment										
Income Ratio	\$(0.1)	\$6.1	\$14.6	\$11.5	\$1.6	\$11.5	\$12.7	\$(25.6)	\$7.2	\$9.8
Investment Staff to										
Investment Income Ratio	\$(0.7)	\$61.5	\$146.6	\$110.5	\$15.3	\$110.1	\$135.4	\$(273.8)	\$83.1	\$116.4

## 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, 2015 as an agency fund. The following is a schedule of DBF financial activity:

Balance Jan. 1, 2015	<b>\$732,073</b>
Less: Survivor Benefits Paid Jan. 1 thru June 30, 2015	(9,418,047)
Balance returned to State of Ohio	(1,314,025)
State Funding Received	20,000,000
Less: Survivor Benefits Paid July 1 thru Dec. 31, 2015	(9,278,421)
<b>BALANCE DEC. 31, 2015</b>	<b>\$721,580</b>

## ECONOMIC IMPACT

In 2006, OP&F commissioned an independent and comprehensive economic study to determine the impact of pension benefits, health care spending and other dollars spent that effected Ohio's economy. The results remain relevant today and show the importance of OP&F's fiscal impact on the state. Two of the principle findings of the study show:

- OP&F activity resulted in more than \$1.1 billion in economic output across Ohio.
- OP&F activity resulted in 11,059 jobs in Ohio.

When OP&F makes direct payments to retirees and survivors, this income is spent and re-spent on goods and services produced in the local and regional economy where the beneficiaries reside. This spending (often termed "induced" impact by economists) in turn creates additional jobs in the sectors where the beneficiaries spend their benefit payments.

OP&F creates additional economic impact by providing health care and medical prescription insurance to retirees and survivors. Again, the consumption of health care by OP&F beneficiaries leads to ripple effects throughout the local and regional economy as a result of the increased demand for these services. Finally, OP&F contributes to Ohio's economy by paying salaries to OP&F employees and purchasing goods and services that are needed to carry out the day-to-day operations and management of the pension fund.

These economic effects are often referred to as multiplier effects. In other words, any new dollar that is spent will have multiple economic effects throughout the local and regional economy as it leads to new jobs, which through typical economic inter-relationships then lead to other jobs. To provide a comprehensive estimate of the total economic impact of OP&F, both the direct and indirect effects of OP&F expenditures must be captured.

## DIRECT IMPACT ON OHIO'S ECONOMY\*

Category	Dollar Amount
Benefit Payments to Retirees and Survivors	\$495,923,807
OP&F Health Insurance Expenditures	149,162,338
DROP Withdrawals	4,847,766
OP&F Administrative Expenditures	15,120,000
<b>TOTAL DIRECT ECONOMIC IMPACT</b>	<b>\$665,053,911</b>

\*Based on Dec. 31, 2006 data.

## IMPACT ON ECONOMIC OUTPUT\*

Category	Dollar Amount
Benefit Payments to Retirees and Survivors	\$738,628,918
OP&F Health Insurance Expenditures	330,155,792
DROP Withdrawals	7,220,263
OP&F Administrative Expenditures	32,343,192
<b>TOTAL DIRECT ECONOMIC IMPACT</b>	<b>\$1,108,348,165</b>

\*Based on Dec. 31, 2006 data.

## LIST OF PROFESSIONAL ACRONYMS AND SYMBOLS

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AAL = Actuarial Accrued Liabilities	HCSF = Health Care Stabilization Fund
ACH = Automated Clearing House	HY = High Yield
ACWI Ex-U.S. = All Country World Index Ex-U.S.	IPOs = Initial Public Offering
ARC = Annual Required Contributions	IRC = Internal Revenue Code
Bps = Basis Points	IRR = Internal Rate of Return
BTS = Business and Technology Solutions	IRS = Internal Revenue Service
Buck = Buck Consultants, LLC	I/S Free = Iran and Sudan Free
CAFR = Comprehensive Annual Financial Report	JSA = Joint and Survivor Annuity
COLA = Cost of Living Allowance	LACC = Life Annuity Certain and Continuous
CPI = Consumer Price Index	M&A = Mergers and Acquisitions
CS First Boston = Credit Suisse First Boston	MD&A = Management Discussion and Analysis
DB = Defined Benefits	MLP = Master Limited Partnerships
DBF = Death Benefit Fund	MSCI = Morgan Stanley Capital International
DC = Defined Contribution	NCREIF = National Council of Real Estate Investment Fiduciaries
DROP = Deferred Retirement Option Plan	ODCE = Open End Diversified Core Equity
E&P = Exploration and Production	OP&F = Ohio Police & Fire Pension Fund
EAFE = Europe, Australia, Far East	OPEB = Other Post-Employment Benefit
EDOR = Effective Date of Retirement	OPERS = Ohio Public Employees Retirement System
€ = Euro	ORC = Ohio Revised Code
FAS = Final Average Salary	ORSC = Ohio Retirement Study Council
FFC = Full Faith and Credit	PIMCO = Pacific Investment Management Company
FHLMC = Federal Home Loan Mortgage Corporation	PME = Public Market Equivalent
FNMA = Federal National Mortgage Association	PPCC = Public Pension Coordination Council
GASB = Government Accounting Standards Board	QE = Quantitative Easing
GDP = Gross Domestic Product	REITs = Real Estate Investment Trusts
GFC = Global Financial Crisis	REMICs = Real Estate Mortgage Investment Conduits
GFOA = Government Finance Officers Association of the U.S. and Canada	RFP = Request for Proposal
GIPS = Global Inflation Protected Securities	RSI = Required Supplementary Information
GNMA = Government National Mortgage Association	S&P = Standard and Poor's

## LIST OF PROFESSIONAL ACRONYMS AND SYMBOLS

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STIF = Short Term Investment Fund

STRIPS = Separate Trading of Registered Interest  
and Principal Securities

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



**Prudence • Integrity • Empathy**

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