



# Ohio Police & Fire Pension Fund

## 2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR YEAR ENDED  
DECEMBER 31, 2023



## **2023 Annual Comprehensive Financial Report**

For year ended Dec. 31, 2023

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

### **Prudence • Integrity • Empathy**

*Securing the future for Ohio's police and firefighters*

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# 2023

## ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR YEAR ENDED DEC. 31, 2023

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

# TABLE OF CONTENTS

## v INTRODUCTION

Board of Trustees .....	vi
Administrative Staff .....	vii
Professional Consultants .....	vii
Awards.....	viii
Letter of Transmittal .....	x
Demographics and Economic impact .....	xv

## 1 FINANCIAL

Independent Auditor's Report.....	2
Management's Discussion and Analysis (Unaudited) .....	5
<b>BASIC FINANCIAL STATEMENTS</b>	
Statement of Fiduciary Net Position.....	9
Statement of Changes in Fiduciary Net Position .....	10
Notes to Basic Financial Statements.....	11
<b>REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)</b>	
Schedule of Changes in the Employers' Net Pension Liability .....	39
Schedule of Employers' Net Pension Liability (Asset) .....	41
Schedule of Employer Contributions - Pension Trust Fund .....	41
Schedule of Investment Returns.....	41
Notes to Required Supplementary Pension Information .....	42
Schedule of Changes in Net Other Post-Employment Benefit (OPEB) Liability and Related Ratios .....	43
Schedule of Net OPEB Liability (Asset) .....	44
Schedule of Employer Contributions - Retiree Health Care Trust Fund .....	45
Schedule of Investment Returns.....	45
Notes to Required Supplementary OPEB Information .....	46
Schedule of Ohio Police & Fire Pension Fund's (OP&F) Proportionate Share of the Net Pension Liability of Ohio Public Employees Retirement System (OPERS) Plan.....	47
Schedule of Contributions OPERS Plan .....	48
Schedule of OP&F's Proportionate Share of the Net OPEB Liability OPERS Plan .....	49
Schedule of OPEB Contributions OPERS Plan .....	49
<b>ADDITIONAL INFORMATION</b>	
Schedule of Administrative Expenses.....	50
Schedule of Investment Expenses .....	50



## 52 INVESTMENTS

Investment Report .....	53
Investment Portfolio Summary .....	61
Ten Largest Common Stocks .....	62
Ten Largest Bonds and Obligations .....	62
Ten Largest Real Estate Holdings .....	62
Schedule of Investment Results .....	63
Investment Consultants and Money Managers .....	64
Schedule of Brokers' Fees Paid .....	66
Investment Policy and Guidelines .....	67

## 83 ACTUARIAL

Report of Actuary .....	84
Description of Actuarial Assumptions and Methods .....	88
Plan Summary .....	94
Analysis of Financial Experience - Pension Trust Fund .....	101
Short-Term Solvency Test - Pension Trust Fund .....	102
Active Member Valuation Data - Pension Trust Fund .....	103
Retirees and Beneficiaries Added to and Removed from Rolls - Pension Trust Fund .....	103
Calculation of Actuarial Value of Assets - Pension Trust Fund .....	104
Schedule of Funding Progress - Pension Trust Fund .....	104
Employer Contribution Rates .....	105
Member Contribution Rates .....	105

# TABLE OF CONTENTS

(continued)

## 106 STATISTICAL

### STATISTICAL OBJECTIVES

#### FINANCIAL TRENDS

Changes in Fiduciary Net Position-Combined Trust Fund .....	108
Changes in Fiduciary Net Position-Pension Trust Fund...	109
Changes in Fiduciary Net Position-Retiree Health Care Trust Fund .....	110
Revenues by Source .....	111
Expenses by Type .....	111
Benefit Expenses by Type.....	111
Deferred Retirement Option Plan (DROP) Program Balances .....	112

#### REVENUE CAPACITY INFORMATION

Active Member and Total Payroll Base Statistics .....	113
Active Membership Data .....	113
Retired Membership by Type of Benefits .....	114
Retirees and Beneficiaries Statistics .....	114
Average Monthly Benefit Payments .....	115
Member Health Care Information .....	116
State of Ohio Subsidy Payments .....	116
OP&F's Cost-Of-Living Allowance (COLA) History .....	117
Employer Contribution Rates.....	119
Member Contribution Rates .....	119
Health Care Allocation Rates from Employer Contributions .....	119
Actuarial Interest Rates .....	120
DROP and Re-Employed Interest Rates.....	121
DROP Member Count Roll Forward .....	122
Actuarial Valuation Information - Pension Trust Fund .....	122
Historical Annual Investment Results .....	123

### DEBT CAPACITY INFORMATION

#### DEMOGRAPHIC AND ECONOMIC INFORMATION

Number of Employer Units .....	124
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#### OPERATING INFORMATION

Retired Membership by Type of Benefits and Average Annual Allowance.....	125
Schedule of Average Benefits .....	126
Principal Participating Employers .....	127
OP&F Employee Budgeted Position Counts .....	128
Personnel Salaries by Year .....	128
OP&F Budget .....	128
Other Operating Statistics.....	129
Death Benefit Fund.....	129

#### LIST OF PROFESSIONAL ACRONYMS, SYMBOLS

#### AND ABBREVIATIONS



# INTRODUCTION

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT



**BOARD OF TRUSTEES**

**ADMINISTRATIVE STAFF**

**PROFESSIONAL CONSULTANTS**

**AWARDS**

**LETTER OF TRANSMITTAL**

**DEMOGRAPHICS AND ECONOMIC IMPACT**

## BOARD OF TRUSTEES



**Marco J. Miller**



**Tanya S. Czack**



**Stephen A. Corvi**



**John R. Deal**



**Mark E. Drum**



**Brian A. Steel**



**J. David Heller**



**Charles O. Moore**



**Karin Maloney Stifler**

## ABOUT THE BOARD OF TRUSTEES

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

The OP&F Board of Trustees appoints the Executive Director, an actuary and other advisors necessary for the transaction of business. By law, the Ohio Treasurer of State is custodian of OP&F's funds. The Board of Trustees meets periodically throughout the year and receives no compensation, but is reimbursed for necessary expenses.

## BOARD OF TRUSTEE MEMBERS

### **Marco J. Miller, Chair**

Retired, Columbus Fire

### **Tanya S. Czack, Chair-Elect**

Parma Heights Police

### **Stephen A. Corvi**

Columbus Fire

### **John R. Deal**

Cincinnati Fire

### **Mark E. Drum**

Retired, Delaware Police

### **Brian A. Steel**

Columbus Police

### **J. David Heller**

Investment Expert Member, appointed by the Ohio Senate and the Ohio House of Representatives

### **Charles O. Moore**

Investment Expert Member, appointed by the Governor of Ohio

### **Karin Maloney Stifler**

Investment Expert Member, appointed by the Ohio Treasurer of State



## ADMINISTRATIVE STAFF



(L-R): Scott Miller, Caren Sparks, Brian O'Brien, Mary Beth Foley, Ted Hall, Keisha Proctor, Jennifer Harville, Pam Vest-Boratyn, David Graham, John Danish

### EXECUTIVE STAFF

**Mary Beth Foley**

Executive Director

**Pamela Vest-Boratyn**

Deputy Executive Director

**John J. Danish**

General Counsel

**Brian C. O'Brien**

Information Technology Solutions Director

**Theodore G. Hall**

Chief Investment Officer

**Jennifer L. Harville**

Member Services Director

**Scott K. Miller**

Chief Financial Officer

**Caren R. Sparks**

Chief Audit Executive/Privacy and Ethics Officer

**Keisha D. Proctor**

Human Resources Director

**David B. Graham**

Communications Director

### PROFESSIONAL CONSULTANTS

(NOT PICTURED)

**Actuary**

Cavanaugh Macdonald Consulting, LLC

**Legal Counsel**

Ohio Attorney General, the Honorable Dave Yost

**Custodian of OP&F's Funds**

Ohio Treasurer of State, Robert Sprague

**Custodial Banks**

The Huntington National Bank - Domestic  
Northern Trust - International

**Independent Auditor**

Crowe LLP, Columbus, OH  
(Under contract with the Ohio Auditor of State)

**Health Care**

Alight Retiree Health Solutions

**Medical Advisors**

Joel S. Steinberg, M.D.  
OP&F Board Medical Advisor

James B. Talmage, M.D.

Disability Evaluation Panel Medical Advisor

**Investment Consultants and Money Managers**

(See Page 64)

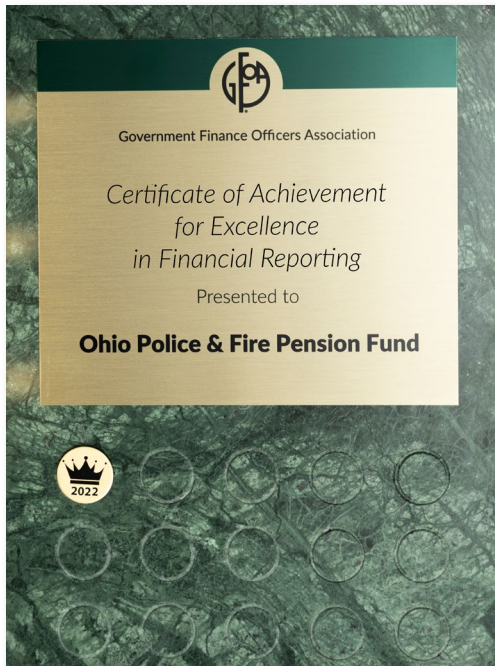
**Schedule of Brokers' Fees Paid**

(See Page 66)

## AWARDS

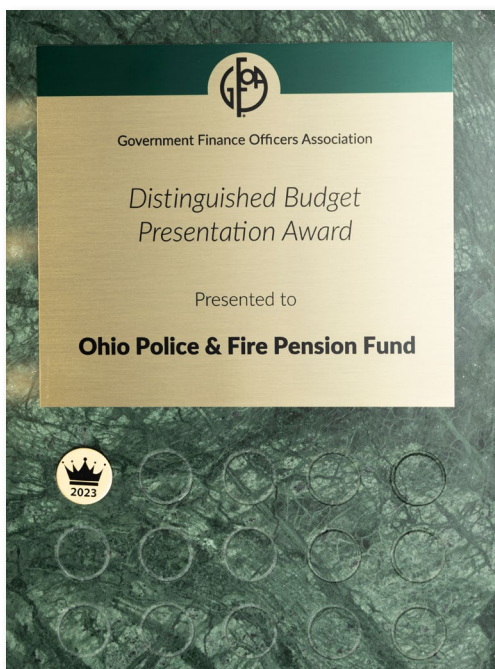
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*OP&F has been recognized by financial experts for their commitment to the highest possible fiscal standards. OP&F is honored to have been recognized with the following:*



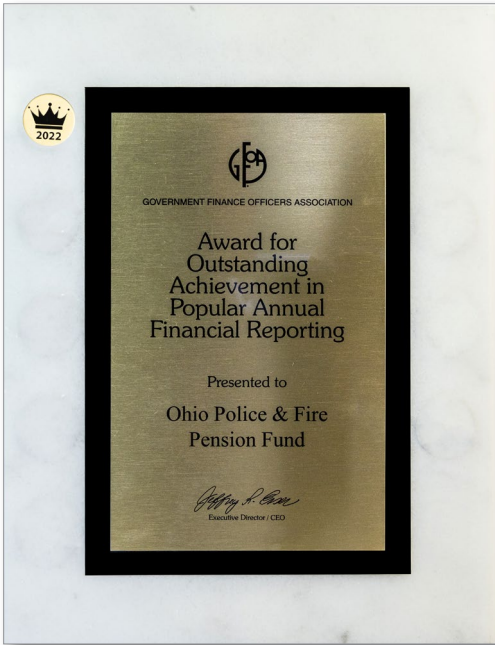
### 2022 CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING

For 34 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 Annual Comprehensive Financial Report. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized annual comprehensive financial report that satisfies both generally accepted accounting principles and applicable legal requirements.



### 2023 DISTINGUISHED BUDGET PRESENTATION AWARD

OP&F was again recognized by GFOA's Distinguished Budget Presentation Award in 2023, representing the 22nd 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.



## 2022 AWARD FOR OUTSTANDING ACHIEVEMENT IN POPULAR ANNUAL FINANCIAL REPORTING

For 22 years, the GFOA has awarded a Certificate of Outstanding Achievement in Popular Annual Financial Reporting to OP&F for the 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.



## 2023 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 / 1-888-864-8363 / [www.op-f.org](http://www.op-f.org)

June 30, 2024

Dear Chair and Members of the Board of Trustees:

We are pleased to submit to you the Annual Comprehensive Financial Report (ACFR) of the Ohio Police & Fire Pension Fund (OP&F) for the fiscal year ending Dec. 31, 2023. OP&F's management is responsible for the accuracy of the data presented here, as well as the completeness and fairness of the presentation. This ACFR was prepared to aid interested parties in assessing OP&F's financial status on Dec. 31, 2023 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 that 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, creating an unfunded deficit of \$415 million which resulted in a funded ratio of 15% at OP&F's inception. As of the Jan. 1, 2023 actuarial valuation OP&F had a funded ratio of 70.0%. Employers are paying the remaining unfunded accrued liability, which began in 1969, over a 67-year period. As of Dec. 31, 2023, the remaining balance due totaled \$15 million.

OP&F provides pension, disability, deferred retirement option plan (DROP) and health care stipend benefits to qualified members. In addition, OP&F provides survivor benefits, death benefits and health care stipend benefits 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, 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, 2023:

#### PARTICIPATING EMPLOYERS

	Police	Fire	Total
Municipalities	250	208	458
Townships	–	198	198
Villages	281	41	322
<b>TOTAL</b>	<b>531</b>	<b>447</b>	<b>978</b>

The table below is a tabulation of current participating members and beneficiaries based on data from the Jan. 1, 2023 actuarial valuation:

#### MEMBERS AND BENEFICIARIES

	Police	Fire	Total
Vested Active Members	6,433	6,091	12,524
Rehired Retirees	171	83	254
Non-Vested Active Members	9,008	8,399	17,407
Retirees	13,162	9,947	23,109
Beneficiaries and Survivors	4,588	3,266	7,854
Vested Former Members	174	106	280
<b>TOTAL</b>	<b>33,536</b>	<b>27,892</b>	<b>61,428</b>

#### FINANCIAL OVERVIEW

OP&F receives funds from the following sources: investment earnings, employer contributions, member contributions, state subsidies, and other income and reimbursements. Additions to the fiduciary net position were \$2,529.2 million in 2023 which included contributions received from employers and members as well as appreciation on investments of 9.52%.

Overall contributions increased by \$52.4 million or 5.6% in 2023. This increase is due to an increase in member and employer contributions and is offset slightly by the decrease in state subsidies.

The statutory employer contribution rate remained at 19.5% for police employers and 24.0% for fire employers. The statutory employer contribution rates have been unchanged since Jan. 1, 1986. OP&F has introduced legislation to increase the police employer rate from 19.5% to 24.0% to be equal with the fire employer rate. This legislation is still pending. The statutory member contribution rate remained unchanged from the prior year at 12.25% for both police and fire members. Both member and employer contributions are due monthly.

Statutory penalties are assessed if payments and/or the member contribution reports are received late and if a pre-employment physical is received late. It is OP&F's goal to help employers avoid penalty situations through employer

education, courtesy reminders and online tools. OP&F offers 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. OP&F will continue promoting these options and train employers on how to use them.

2023		
<b>Additions to Fiduciary Net Position</b> ( <i>dollars in millions</i> )	<b>Amount</b>	<b>Percent</b>
Net Investment Gain	\$1,533.2	60.6%
Contributions	994.4	39.3%
Other Additions	1.6	0.1%
<b>TOTAL ADDITIONS</b>	<b>\$2,529.2</b>	<b>100.0%</b>

2023		
<b>Deductions to Fiduciary Net Position</b> ( <i>dollars in millions</i> )	<b>Amount</b>	<b>Percent</b>
Benefit Payments	\$1,687.9	97.2%
Refund of Member Contributions	25.4	1.5%
Administrative and Other Expenses	22.5	1.3%
<b>TOTAL DEDUCTIONS</b>	<b>\$1,735.8</b>	<b>100.0%</b>

Benefit payments represent the largest deduction and usage of the additions to fiduciary net position. In 2023, OP&F experienced:

- A 5.9% increase in service retirement benefits. This increase is due to a 3.6% increase in the number of service retirees receiving pension benefits and a cost-of-living allowance (COLA) for eligible benefit recipients.
- A 3.2% decrease in the amount of health care benefit payments. This is due to a decrease in the amount of stipend benefits paid to members and beneficiaries.
- A 3.6% increase in DROP benefits. DROP benefits paid out fluctuate from year-to-year based on the timing of member requests to withdraw their funds on account.
- A 4.5% decrease in contributions refunded. Upon termination of active service in a police or fire department, a member may withdraw their accumulated employee contributions on deposit with OP&F. Similar to DROP benefits, contribution refunds paid out fluctuate from year-to-year based on the timing of member requests to withdraw their funds on account.
- A 74.4% increase in administrative and other expenses. This increase is primarily due to an increase of \$9.8 million in Pension and Other Post-Employment Benefit (OPEB) expenses in 2023 when compared to 2022. The Pension and OPEB expense recognized as part of OP&F's proportionate share of Ohio Public Employees Retirement System (OPERS) liabilities for Governmental Accounting Standards Board (GASB) Statement No. 68 pension expense and GASB Statement No. 75 OPEB expense was a positive \$1.7 million in 2023 compared to negative \$8.1 million in 2022.

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 \$793.4 million increase in the 2023 fiduciary net position primarily due to the depreciation of the fair value of investments. In addition, a portion of

employer contributions and a portion of investment income (and losses) are allocated to operate OP&F's health care stipend program.

In 2023, OP&F's investment portfolio returned a positive 9.52%. As of Dec. 31, 2023, total investments at fair value stood at \$17.52 billion.

In the annual actuarial report dated Jan. 1, 2023 completed by Cavanaugh Macdonald Consulting, OP&F achieved a 26.71 year amortization period. OP&F continues to be compliant with Ohio's requirement of a funding period of 30 years or less. A funding period is the amount of time it is estimated to pay off all unfunded obligations. The actuarial report also showed a slight increase in the funded ratio as of Jan. 1, 2023 to 70.0% (compared to 69.7% as of Jan. 1, 2022). The funded ratio indicates the percentage of the actuarial value of assets available to pay off all pension obligations of the system. The actuarial valuation confirms that OP&F is able to meet its current and future pension obligations. For more information on actuarial assumptions please refer to the Actuarial Section.

OP&F is not required by statute or GASB to pre-fund health care. As of Jan. 1, 2023 OP&F's Health Care Stabilization Fund (HCSF) had a solvency period until November 2038, or approximately 15 more years, assuming 7.50% annual returns. Maintaining the solvency period of the HCSF can be attributed to the transition from a self-insured health care model to a stipend-based model for retirees and beneficiaries, which was implemented on Jan. 1, 2019.

A report by Wilshire Advisors LLC (Wilshire), an investment consultant, showed that OP&F's investment portfolio continues to weather challenging market fluctuations. In 2023, the total portfolio's investment return was positive 9.52% placing it in the 89th percentile of Wilshire's All Public Plans – Total Fund Universe, a common source to establish peer group rankings. With 2023's result, OP&F's three-year annualized return now stands at 6.39%, while the five-year annualized return was 9.05%. OP&F's 10-year annualized return was 7.54%, which is in line with OP&F's 7.50% assumed rate of return. As mentioned earlier, the total portfolio's 2023 results ranked in the 89th percentile of Wilshire's All Public Plans – Total Fund Universe, while the three-year, five-year and 10-year results ranked in the top 8th, 38th and 14th percentiles, respectively, of that same peer universe.

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 calendar year 2023, OP&F's total gross rate of return on its investment portfolio was a positive 9.52%.

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

## **MATERIAL PLAN AMENDMENTS**

There were no material plan amendments in 2023. See the Actuarial Section for the assumptions used within this report.

## **INDEPENDENT AUDIT**

Crowe LLP, independent certified public accountants, audited the financial statements of OP&F for the year ended Dec. 31, 2023, 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 Annual Comprehensive Financial Report for the fiscal year ended Dec. 31, 2022. 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 Annual Report, 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. 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,

Mary Beth Foley  
Executive Director

Scott K. Miller  
Chief Financial Officer

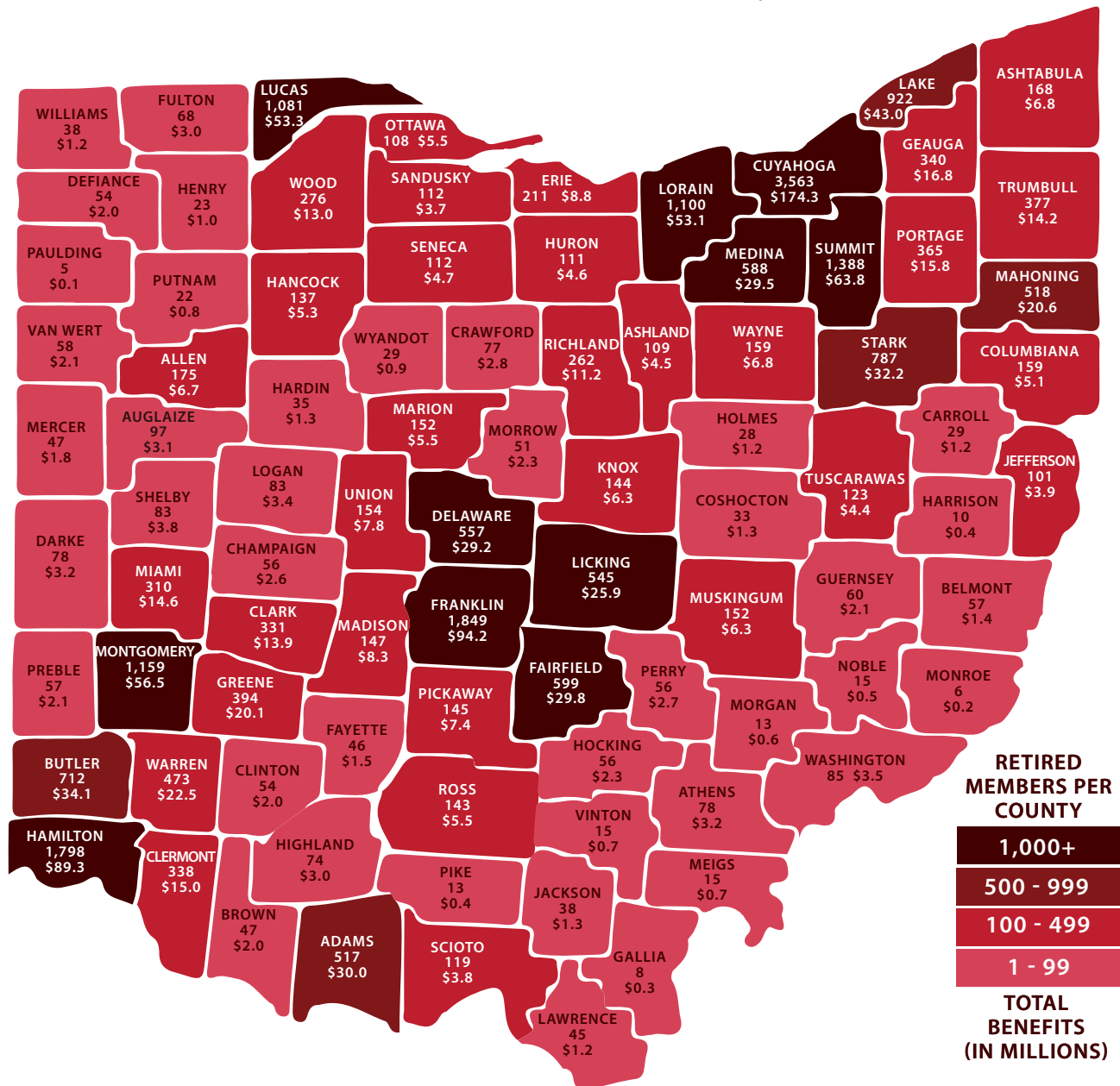


## DEMOGRAPHICS AND ECONOMIC IMPACT

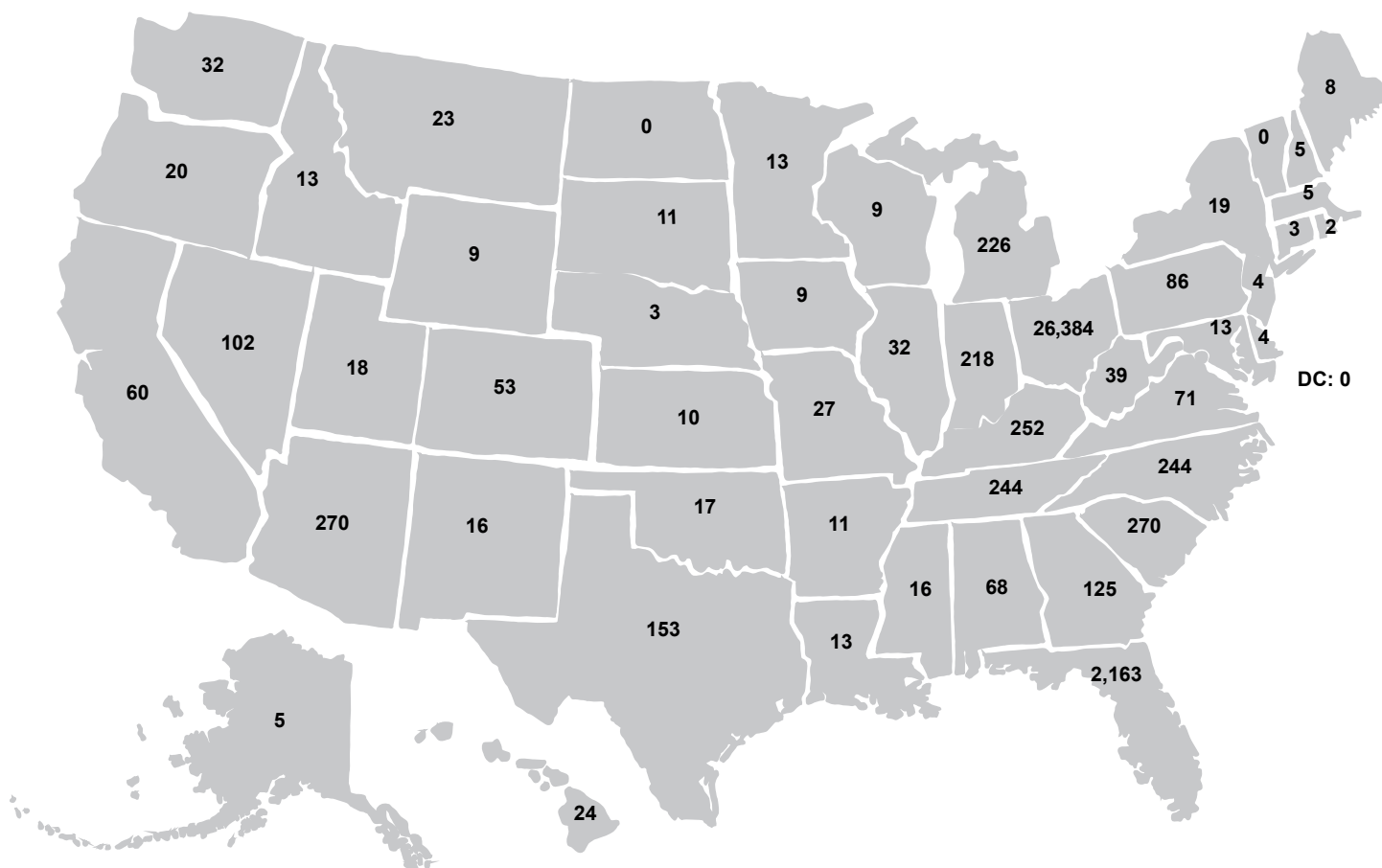
### MEMBERSHIP RESIDENCE (AS OF DEC. 31, 2023)

Type of Member	Total Persons	Ohio Residents	Non-Residents	Percent of Non-Residents
Active Members (including DROP)	30,637	30,040	597	1.9%
Retirees	24,529	20,777	3,752	15.3%
Survivors	6,923	5,607	1,316	19.0%
<b>TOTAL</b>	<b>62,089</b>	<b>56,424</b>	<b>5,665</b>	<b>9.1%</b>
Active Members in DROP	4,310	4,247	63	1.5%

### RETIREES AND BENEFITS PAID BY COUNTY (AS OF DEC. 31, 2023)



## BENEFICIARIES BY STATE (AS OF DEC. 31, 2023)



## BENEFICIARIES BY COUNTRY (AS OF DEC. 31, 2023)

Location	Retirees
United States	31,422
Canada	8
France	1
Germany	1
Ireland	2
Mexico	1
Philippines	5
Puerto Rico	2
Romania	1
South Africa	1
Spain	1
Thailand	1
Virgin Islands	4
Armed Forces, Europe	2

## ECONOMIC IMPACT ANALYSIS

OP&F hired the University of Cincinnati Economics Center to conduct an economic impact analysis of the Ohio Police & Fire Pension Fund in 2018. The Economics Center calculated the economic and fiscal impacts of OP&F's operations and capital expenditures using salary, non-wage expenditure, and capital expenditure data provided. This data, provided by OP&F, was applied to Economic Modeling Specialists International (EMSI) input-output model multipliers. The EMSI model captures the interdependencies of an economy's various industries, quantifying how direct expenditures on goods or services by a particular industry (or to individuals in the form of wages) yield additional expenditures within that economy. The State of Ohio is the primary geographic area of analysis for this study. OP&F provides vital pension and disability benefits to the State's full-time and retired police officers and firefighters, as well as their beneficiaries. OP&F members totaled approximately 59,000 individuals as of year-end 2018, with a nearly even split between active members and retirees and their beneficiaries. OP&F paid out \$1.17 billion in gross benefits to members worldwide in 2018, with approximately \$1.00 billion going to Ohio residents. Of this total, these Ohioans spent approximately \$811 million on products and services in the Ohio economy in 2018. This direct spending supported nearly 7,100 direct jobs and approximately \$276 million in employee earnings. The direct spending, in turn, generated indirect impacts of approximately \$871 million in spending, 6,885 jobs, and nearly \$312 million in earnings. The Economics Center estimates that household spending impacts in Ohio resulting from OP&F pension payments totaled \$1.68 billion in output, supported nearly 14,000 jobs, and more than \$587 million in employee earnings. OP&F operations and capital spending also benefited the Ohio economy in 2018,

with combined total economic impacts of approximately \$147 million in spending, 410 jobs, and nearly \$29 million in employee earnings. The Economics Center estimates that OP&F's total economic impact in 2018 to the Ohio economy included approximately \$1.83 billion in output, more than 14,000 jobs, and more than \$616 million in employee earnings.

OP&F's operations and pension distributions also generated substantial fiscal impacts to the State of Ohio, Ohio Counties and Transit Authorities, and the City of Columbus in 2018. OP&F distributions to Ohio residents generated approximately \$23.5 million in income tax revenues for the State of Ohio. In addition, beneficiaries' purchases of goods and services generated approximately \$13.8 million in State sales tax revenues, as well as \$2.7 million in County sales tax revenues and \$0.7 million in Transit Authority revenues. Earnings paid to OP&F employees in 2018 resulted in income tax collections of approximately \$338,000 by the State of Ohio and approximately \$266,000 by the City of Columbus. Total fiscal impacts of OP&F operations, pension distributions, and resulting household spending in 2018 totaled \$41.3 million which included approximately \$37.6 million to the State of Ohio, \$2.7 million to Ohio Counties, \$0.7 million to Ohio Transit Authorities, and \$0.3 million to the City of Columbus.

The complete report of the economic impact analysis of OP&F conducted by the University Of Cincinnati Economic Center can be found on [OP&F's website](#).



# FINANCIAL

## 2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT



### **INDEPENDENT AUDITOR'S REPORT MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)**

#### **BASIC FINANCIAL STATEMENTS**

Statement of Fiduciary Net Position

Statement 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 Pension Information

Schedule of Changes in Net OPEB  
Liability and Related Ratios

Schedule of Net OPEB Liability (Asset)

Schedule of Employer Contributions - Retiree Health Care  
Trust Fund

Schedule of Investment Returns

Notes to Required Supplementary OPEB Information

Schedule of OP&F's Proportionate Share of the Net  
Pension Liability of Ohio Public Employees Retirement  
System Plan

Schedule of Contributions Ohio Public Employees  
Retirement System Plan

Schedule of OP&F's Proportionate Share of the Net OPEB  
Liability Ohio Public Employees Retirement System Plan

Schedule of OPEB Contributions Ohio Public Employees  
Retirement System Plan

#### **ADDITIONAL INFORMATION**

Schedule of Administrative Expenses

Schedule of Investment Expenses



# INDEPENDENT AUDITOR'S REPORT



**Crowe LLP**  
Independent Member Crowe Global

## INDEPENDENT AUDITOR'S REPORT

Board of Trustees  
Ohio Police & Fire Pension Fund  
Columbus, Ohio

### **Report on the Audit of the Financial Statements**

#### ***Opinion***

We have audited the financial statements of the Ohio Police & Fire Pension Fund (Fund), as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise the Fund's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Fund, as of December 31, 2023, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### ***Basis for Opinion***

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards (Government Auditing Standards)*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Fund, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### ***Responsibilities of Management for the Financial Statements***

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Fund's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 Fund's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Fund's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, 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.

**Supplementary Information**

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Fund's basic financial statements. The schedules of administrative expenses and investment expenses are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such 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. The 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 schedules of administrative expenses and investment expenses are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

**Other Information**

Management is responsible for the other information included in the annual report. The other information comprises the Introduction, Investments, Actuarial and Statistical sections but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated June 12, 2024 on our consideration of the Fund's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Fund's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Fund's internal control over financial reporting and compliance.



Crowe LLP

Columbus, Ohio  
June 12, 2024

## MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)

This Management Discussion and Analysis (MD&A) of OP&F's financial performance provides a narrative overview of financial activities for the fiscal year ended Dec. 31, 2023. 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 Annual Report.

### FINANCIAL HIGHLIGHTS

Additions are received primarily from investment income and employer and member pension contributions. For fiscal year 2023, these additions totaled positive \$2,529.2 million compared to negative \$1,185.5 million in 2022, which is a 313.3% increase. Investment income can fluctuate dramatically because it includes realized and unrealized investment gains and losses which are largely based on the performance of global capital markets.

The employer contribution rates of 19.5% for police and 24.0% for fire remained unchanged in both 2023 and 2022. The member contribution rate was 12.25% for both police and fire in 2023 and 2022.

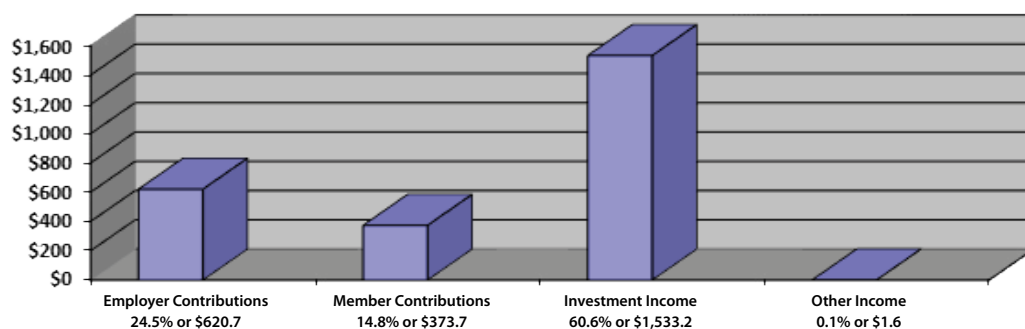
Deductions are incurred primarily for the purpose for which OP&F was created; the payment of pension, disability and survivor benefits to qualified members and survivors. Included in the deductions from OP&F's fiduciary net position for 2023 were benefits for retirement, DROP, disability, health

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 stipends are funded through an allocation of employer contributions and investment income. Deductions totaled \$1,735.8 million in 2023 and were \$1,660.9 million in 2022, which is a 4.5% increase over 2022. Please refer to the Plan Summary in the Actuarial Section for further information on plan benefits.

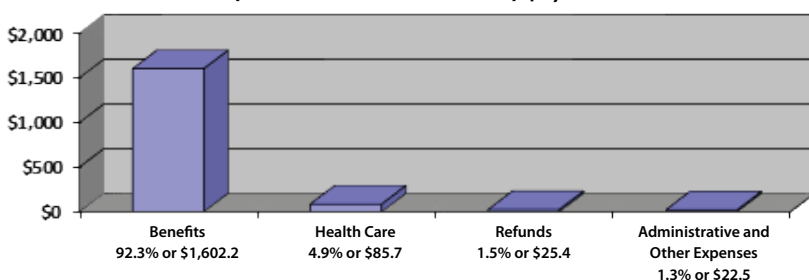
In February 2022, based on market data and in consultation with OP&F's actuarial and investment consultants, the Board of Trustees reduced the actuarial assumption for the long-term expected rate of return from 8.00% to 7.50%. The long-term expected rate of return is also reviewed as part of the actuarial five-year experience study. The next review of the actuarial assumptions is to be completed for adoption with the Jan. 1, 2027 valuation, covering the five-year period 2022-2026.

OP&F administers the State of Ohio Public Safety Officers Death Benefit Fund (DBF). 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. OP&F assesses a fee of 1.5% on benefits paid to cover the cost of administering the State of Ohio Death Benefit Fund. The DBF assets and related liability for unpaid benefits were \$1.6 million and \$(0.03) million at Dec. 31, 2023 and 2022, respectively. This fund is included in the accompanying financial statements.

#### 2023 ADDITIONS (DOLLARS IN MILLIONS) \$2,529.2



#### 2023 DEDUCTIONS (DOLLARS IN MILLIONS) \$1,735.8



## 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 RSI is provided. The RSI consists of information pertaining to OP&F's actuarial methods and assumptions and provides data on the net pension liability and the changes in net pension liability. Also included in the RSI is data on contributions from employers, along with other information useful in evaluating the financial condition of OP&F. Following the RSI are the Schedule of Administrative Expenses and the Schedule of Investment Expenses.

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

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

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

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

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

In 2017, OP&F implemented GASB Statement No. 74, Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans, which resulted in an additional note disclosure to the financial statements and additional RSI related to OP&F's Retiree Health Care program. In 2018, OP&F implemented the provisions of GASB Statement No. 75, Accounting and Financial Reporting for Post-Employment Benefits Other Than Pensions, and recorded a liability representing OP&F's proportionate share of OPEB liability.

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

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

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

	2023	2022	2023 Change	
			Amount	Percent
Cash and Short-term Investments	\$1,856.6	\$1,384.5	\$472.1	34.1%
Receivables	274.6	342.2	(67.6)	(19.8)%
Investments, at Fair Value	16,148.9	15,878.0	270.9	1.7%
Capital Assets, Net of Depreciation	20.0	21.0	(1.0)	(4.8)%
Other Assets	0.2	0.3	(0.1)	(33.3)%
<b>TOTAL ASSETS</b>	<b>18,300.3</b>	<b>17,626.0</b>	<b>674.3</b>	<b>3.8%</b>
DEFERRED OUTFLOWS	12.6	5.8	6.8	117.2%
Benefits and Accounts Payable	89.6	70.1	19.5	27.8%
Investments Payable	530.4	656.0	(125.6)	(19.1)%
<b>TOTAL LIABILITIES</b>	<b>620.0</b>	<b>726.1</b>	<b>(106.1)</b>	<b>(14.6)%</b>
DEFERRED INFLOWS	2.3	8.5	(6.2)	(72.9)%
<b>FIDUCIARY NET POSITION, END OF YEAR</b>	<b>\$17,690.6</b>	<b>\$16,897.2</b>	<b>\$793.4</b>	<b>4.7%</b>

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

	2023	2022	2023 Change	
			Amount	Percent
Contributions	\$994.4	\$942.0	\$52.4	5.6%
Net Investment Gain(Loss)	1,533.2	(2,128.5)	3,661.7	172.0%
Other Additions	1.6	1.0	0.6	60.0%
<b>TOTAL ADDITIONS</b>	<b>2,529.2</b>	<b>(1,185.5)</b>	<b>3,714.7</b>	<b>313.4%</b>
Benefit Payments	1,687.9	1,621.4	66.5	4.1%
Refund of Member Contributions	25.4	26.6	(1.2)	(4.5)%
Administrative Expenses and Other	22.5	12.9	9.6	74.4%
<b>TOTAL DEDUCTIONS</b>	<b>1,735.8</b>	<b>1,660.9</b>	<b>74.9</b>	<b>4.5%</b>
<b>Net Increase(Decrease)</b>	<b>793.4</b>	<b>(2,846.4)</b>	<b>3,639.8</b>	<b>127.9%</b>
<b>Fiduciary Net Position, Beginning of Year</b>	<b>16,897.2</b>	<b>19,743.6</b>	<b>(2,846.4)</b>	<b>(14.4)%</b>
<b>FIDUCIARY NET POSITION, END OF YEAR</b>	<b>\$17,690.6</b>	<b>\$16,897.2</b>	<b>\$793.4</b>	<b>4.7%</b>



## FINANCIAL ANALYSIS

### FIDUCIARY NET POSITION

The fiduciary net position available for benefits and expenses in 2023 was \$17,690.6 million versus \$16,897.2 million in 2022, which represents a 4.7% net increase. The overall net increase in 2023 can be primarily attributed to net appreciation on the fair value of investments. Please refer to the Investment Section for additional information on OP&F's investment activities in 2023.

### REVENUE ADDITIONS TO FIDUCIARY NET POSITION

Based on the numbers found on page seven, overall contributions received by OP&F in 2023 increased 5.6% or \$52.4 million compared to 2022. This increase is primarily due to the increase in member and employer contributions received in 2023.

Pension contributions from employers increased \$31.7 million, or 5.4%, in 2023. Employer pension contribution increases are also due to an increase in the average annual salary and total annual payroll. Employer contributions are not impacted by DROP and the employer contributions associated with DROP participation are not allocated to the individual DROP accounts.

In 2023, pension contributions from members increased \$20.7 million, or 5.9%. The increase in 2023 can be attributed to the 4.3% increase in the average annual salary, from \$86,333 to \$90,046. The active member population, or contributing members, increased by 567, or 1.9%, to 30,185 in 2023.

In 2023, members purchasing service credit or transferring in their member contributions increased by \$3.7 million, or 17.7% compared to 2022. These purchases and transfers-in fluctuate year-to-year based on the number and amount of the service credit being purchased by the membership and the number and amount of members transferring contributions from other retirement systems.

In 2023, contributions received through the state-subsidy decreased \$27,539, or 15.1%. The state-subsidy decreased from \$182,678 to \$155,139. This trend is due to a normal decline in the population of survivors receiving this subsidized benefit.

Investment net appreciation totaled \$1,533.2 million in 2023. The net appreciation of 2023 can be attributed to a positive gross return of 9.52% from OP&F's investment portfolio. In 2022, investment net depreciation totaled \$2,128.5 million. The net depreciation of 2022 can be attributed to a negative gross return of 8.73% from OP&F's investment portfolio.

### EXPENSE DEDUCTIONS FROM NET POSITION

Overall benefit deductions for service retirement, DROP, disability and survivors increased \$69.4 million or 4.5% in 2023. This increase in pension benefits is due to an increase in pension benefits paid to service and disability retirees, and survivors and beneficiaries of \$60.9 million or 4.7%. DROP benefit distributions increased \$8.5 million or 3.6% in 2023 compared to 2022. Service retiree benefits increased \$55.1 million or 5.9% while the number of service retirees increased by 605 individuals, or 3.5% in 2023. Survivors and beneficiaries decreased by 70 individuals, or 0.9% and disability retirees decreased by 117 individuals, or 2.0%.

In 2023, health care benefits decreased by 3.2% and gross health care payments totaled \$85.7 million and represented 4.9% of all plan deductions. In 2022, health care benefits totaled \$88.6 million and represented 5.3% of all plan deductions. The decreases in health care benefits in 2023 can be attributed to the decrease in the amount of stipend payments made to members and beneficiaries.

Refunds to members decreased \$1.2 million in 2023, from \$26.6 million in 2022 to \$25.4 million in 2023. These refunds include actual refunds of member contributions on deposit for inactive members.

Administrative and other expenses increased by \$9.6 million or 74.4% in 2023 compared to 2022. This increase is primarily due to an increase of \$9.8 million in Pension and OPEB expense compared to 2022. The Pension and OPEB expense recognized as part of OP&F's proportionate share of OPERS liabilities for GASB 68 pension expense and GASB 75 OPEB expense was positive \$1.7 million in 2023 compared to negative \$8.1 million in 2022.

# BASIC FINANCIAL STATEMENTS

## STATEMENT OF FIDUCIARY NET POSITION

AS OF DEC. 31, 2023

	Pensions	Post-Employment Health Care	2023 Total	Death Benefit Fund
<b>Assets:</b>				
Cash and Short-term Investments	\$1,773,811,183	\$82,720,027	\$1,856,531,210	\$1,626,526
<b>Receivables:</b>				
Employers' Contributions	58,621,318	1,387,711	60,009,029	-
Members' Contributions	33,578,635	-	33,578,635	-
Accrued Investment Income	45,489,154	2,121,344	47,610,498	-
Investment Sales Proceeds	113,132,032	5,275,807	118,407,839	-
Local Funds Receivable	15,003,184	-	15,003,184	-
<b>TOTAL RECEIVABLES</b>	<b>265,824,323</b>	<b>8,784,862</b>	<b>274,609,185</b>	<b>-</b>
<b>Investments, at fair value:</b>				
Bonds-Domestic	2,930,581,950	136,664,951	3,067,246,901	-
Bonds-International	45,384	2,116	47,500	-
Mortgage and Asset-Backed Securities	842,905,031	39,308,089	882,213,120	-
Stocks-Domestic	3,887,908,102	181,308,962	4,069,217,064	-
Stocks-International	2,315,480,210	107,980,256	2,423,460,466	-
Real Estate	1,730,958,157	80,721,616	1,811,679,773	-
Private Debt	435,900,849	20,327,829	456,228,678	-
Private Equity	1,391,942,704	64,911,947	1,456,854,651	-
Real Assets	1,031,860,485	48,119,850	1,079,980,335	-
Master Limited Partnerships	403,137,189	18,799,926	421,937,115	-
Derivatives-Domestic	(405,721)	(18,920)	(424,641)	-
Derivatives-International	(5,187,304)	(241,905)	(5,429,209)	-
<b>TOTAL INVESTMENTS</b>	<b>14,965,127,036</b>	<b>697,884,717</b>	<b>15,663,011,753</b>	<b>-</b>
Collateral on Loaned Securities	464,286,109	21,651,549	485,937,658	-
<b>Capital Assets, net of accumulated depreciation, where applicable:</b>				
Land	3,200,000	-	3,200,000	-
Building and Improvements	8,373,922	-	8,373,922	-
Furniture and Equipment	16,617	-	16,617	-
Computer Software and Hardware	8,383,761	-	8,383,761	-
<b>TOTAL CAPITAL ASSETS, NET</b>	<b>19,974,300</b>	<b>-</b>	<b>19,974,300</b>	<b>-</b>
Prepaid Expenses and Other	196,253	-	196,253	-
<b>TOTAL ASSETS</b>	<b>17,489,219,204</b>	<b>811,041,155</b>	<b>18,300,260,359</b>	<b>1,626,526</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>				
Deferred Outflows- Pension and OPEB	12,601,565	-	12,601,565	-
<b>Liabilities:</b>				
Investment Commitments Payable	42,512,571	1,982,534	44,495,105	-
Accrued Administrative Expenses	34,502,992	-	34,502,992	-
Due to State of Ohio	-	-	-	1,626,526
Obligations Under Securities Lending	464,286,109	21,651,549	485,937,658	-
Other Liabilities	55,085,238	-	55,085,238	-
<b>TOTAL LIABILITIES</b>	<b>596,386,910</b>	<b>23,634,083</b>	<b>620,020,993</b>	<b>1,626,526</b>
<b>DEFERRED INFLOWS OF RESOURCES</b>				
Deferred Inflows - Pension and OPEB	2,262,506	-	2,262,506	-
<b>FIDUCIARY NET POSITION HELD IN TRUST FOR PENSION AND POST-EMPLOYMENT HEALTH CARE BENEFITS</b>	<b>\$16,903,171,353</b>	<b>\$787,407,072</b>	<b>\$17,690,578,425</b>	<b>\$-</b>

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

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

### FOR THE YEAR ENDED DEC. 31, 2023

	Pensions	Post-Employment Health Care	2023 Total	Death Benefit Fund
<b>Additions:</b>				
From Contributions:				
Members'	\$373,663,497	\$-	\$373,663,497	\$-
Employers'	606,451,277	14,118,199	620,569,476	-
State of Ohio-Subsidies	155,139	-	155,139	-
State of Ohio-Death Benefit Fund	-	-	-	37,197,599
<b>TOTAL CONTRIBUTIONS</b>	<b>980,269,913</b>	<b>14,118,199</b>	<b>994,388,112</b>	<b>37,197,599</b>
<b>From Investment Income (Loss):</b>				
Net Appreciation (Depreciation)				
Value of Investments	1,107,053,077	52,730,668	1,159,783,745	-
Bond Interest	140,092,404	6,672,820	146,765,224	-
Dividends	88,734,106	4,226,544	92,960,650	-
Alternative Investment Income	72,842,424	3,469,599	76,312,023	-
Master Limited Partnerships Income	40,185,730	1,914,109	42,099,839	-
Other Investment Income (Loss)	66,954,203	3,189,133	70,143,336	-
Less Investment Expenses	(55,025,760)	(2,620,963)	(57,646,723)	-
<b>NET INVESTMENT INCOME (LOSS)</b>	<b>1,460,836,184</b>	<b>69,581,910</b>	<b>1,530,418,094</b>	<b>-</b>
<b>From Securities Lending Activities:</b>				
Securities Lending Income	31,415,789	1,496,383	32,912,172	-
Securities Lending Expense	(28,728,208)	(1,368,369)	(30,096,577)	-
<b>NET INCOME FROM SECURITIES LENDING</b>	<b>2,687,581</b>	<b>128,014</b>	<b>2,815,595</b>	<b>-</b>
Interest on Local Funds Receivable	663,711	-	663,711	-
Other Income	898,489	61,393	959,882	-
<b>TOTAL ADDITIONS</b>	<b>2,445,355,878</b>	<b>83,889,516</b>	<b>2,529,245,394</b>	<b>37,197,599</b>
<b>Deductions:</b>				
Service Retirement Benefits	987,488,444	-	987,488,444	-
Disability Benefits	262,994,687	-	262,994,687	-
Health Care Benefits	-	85,706,913	85,706,913	-
Survivor Benefits	104,837,623	-	104,837,623	-
Death Fund Benefits	-	-	-	37,197,599
DROP Withdrawals	246,890,978	-	246,890,978	-
Contribution Refunds	25,372,254	-	25,372,254	-
Administrative Expenses	22,030,985	416,709	22,447,694	-
Other Expenses	143,854	-	143,854	-
<b>TOTAL DEDUCTIONS</b>	<b>1,649,758,825</b>	<b>86,123,622</b>	<b>1,735,882,447</b>	<b>37,197,599</b>
CHANGE IN FIDUCIARY NET POSITION	795,597,053	(2,234,106)	793,362,947	-
<b>FIDUCIARY NET POSITION - BEG OF YEAR</b>	<b>16,107,574,300</b>	<b>789,641,178</b>	<b>16,897,215,478</b>	<b>-</b>
<b>FIDUCIARY NET POSITION - END OF YEAR</b>	<b>\$16,903,171,353</b>	<b>\$787,407,072</b>	<b>\$17,690,578,425</b>	<b>\$-</b>

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

# NOTES TO BASIC FINANCIAL STATEMENTS

(DEC. 31, 2023)

## 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 2023, OP&F adopted the provisions of GASB Statement No. 94, Public-Private and Public-Public Partnerships and Availability Payment Arrangements, GASB Statement No. 96, Subscription-Based Information Technology Arrangements, GASB Statement No. 99, Omnibus 2022's components. The adoption of these pronouncements had no material impact on the financial statements.

The GASB has issued the following pronouncements: GASB Statement No. 100, Accounting Changes and Error Corrections – an Amendment of GASB Statement No. 62, is effective for fiscal years beginning after June 15, 2023, GASB Statement No. 101, Compensated Absences, effective for fiscal years beginning after Dec. 15, 2023, GASB Statement No. 102, Certain Risk Disclosures, effective for fiscal years beginning after June 15, 2024, and GASB Statement No. 103, Financial Reporting Model Improvements, effective for fiscal years beginning after June 15, 2025. OP&F is analyzing the impact that these GASB pronouncements will have on the financial statements.

### MANAGEMENT USE OF ESTIMATES

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

### INVESTMENTS

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

Investments are reported at fair value. Fair value is the amount reasonably expected to be received for an investment in a current sale between a willing buyer and a willing seller. Securities traded on a national or international exchange, including master limited partnerships (MLPs), 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. Commingled assets that are not traded on a national exchange are valued by the commingled manager. The fair value of real estate and timber are based on independent appraisal or internal manager valuations. The value of OP&F's private interests are based on values established by each partnership's valuation committee. Investments, for which no national exchanges or pricing services exist, such as private equity assets are valued at fair value by the investment partnership based on the valuation methodology outlined in the partnership agreement.

OP&F performs due diligence reviews of the investment pricing, process and infrastructure of private investments to assure that asset values provided by the managers are reasonable. Investments that do not have an established market such as private markets, real estate, and private credit partnerships, along with other commingled asset, are reported at estimated fair value received from the investment managers.

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 Service (IRS) Code that is exempt from federal income taxes under Section 501(a) of the IRS Code. OP&F's DROP plan was also determined to be part of the 401(a) trust. A separate health care trust accrual account is maintained for health care benefits under 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**

Capital projects related to the acquisition of property and equipment, greater than or equal to \$5,000, are capitalized and recorded at cost. Depreciation is computed using the straight-line method over the estimated useful life of the related assets. The range of estimated useful life 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\***

<b>Non-Depreciable Capital Assets</b>	<b>Jan. 1, 2023</b>	<b>Additions</b>	<b>Disposals</b>	<b>Dec. 31, 2023</b>
Land	\$3,200,000	\$-	\$-	\$3,200,000
<b>Depreciable Capital Assets</b>	<b>Jan. 1, 2023</b>	<b>Additions</b>	<b>Disposals</b>	<b>Dec. 31, 2023</b>
Building and Improvements	\$21,395,605	\$-	\$-	\$21,395,605
Furniture and Equipment	3,372,927	-	(148,486)	3,224,441
Computer Software and Hardware	28,049,366	2,143,529	(1,664,389)	28,528,506
<b>TOTAL DEPRECIABLE CAPITAL ASSETS</b>	<b>52,817,898</b>	<b>2,143,529</b>	<b>(1,812,875)</b>	<b>53,148,552</b>
<b>Accumulated Depreciation</b>	<b>Jan. 1, 2023</b>	<b>Additions</b>	<b>Disposals</b>	<b>Dec. 31, 2023</b>
Building and Improvements	12,496,454	525,229	-	13,021,683
Furniture and Equipment	3,325,390	30,920	(148,486)	3,207,824
Computer Software and Hardware	19,198,911	2,610,223	(1,664,389)	20,144,745
<b>TOTAL ACCUMULATED DEPRECIATION</b>	<b>35,020,755</b>	<b>3,166,372</b>	<b>(1,812,875)</b>	<b>36,374,252</b>
<b>TOTAL DEPRECIABLE CAPITAL ASSETS, NET</b>	<b>\$17,797,143</b>	<b>\$(1,022,843)</b>	<b>\$-</b>	<b>\$16,774,300</b>

\* Additions in capital assets are related to purchases of property and equipment in 2023. Increases in accumulated depreciation are a result of depreciation expensed over the useful life of the asset which was expensed in 2023. Decreases in both the capital assets and accumulated depreciation are related to the disposal of property and equipment in 2023.

## 2. DESCRIPTION OF THE SYSTEM

### ORGANIZATION

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

OP&F administers pension, disability, DROP and health care stipend benefits to qualified members. In addition, OP&F administers survivor benefits, death benefits and a health care stipend benefit for eligible survivors, spouses, children and dependent parents. OP&F is a separate financial reporting entity in accordance with criteria established by GASB Statement No.14. Since 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 64.

### PLAN MEMBERSHIP

Member data as of Jan. 1, 2023 actuarial valuation and employer data as of Dec. 31, 2023, as follows:

	2023		
Employee Members	Police	Fire	Total
<b>Retirees and Beneficiaries</b>			
Currently receiving benefits	17,750	13,213	30,963
Terminated employees entitled to benefits but not yet receiving them	174	106	280
<b>TOTAL BENEFIT MEMBERS</b>	<b>17,924</b>	<b>13,319</b>	<b>31,243</b>
<b>Current Members</b>			
Vested*	6,604	6,174	12,778
Non-vested	9,008	8,399	17,407
<b>TOTAL CURRENT MEMBERS</b>	<b>15,612</b>	<b>14,573</b>	<b>30,185</b>
<b>TOTAL EMPLOYEE MEMBERS</b>	<b>33,536</b>	<b>27,892</b>	<b>61,428</b>
<b>Employer Members</b>			
Municipalities	250	208	458
Townships	-	198	198
Villages	281	41	322
<b>TOTAL EMPLOYER MEMBERS</b>	<b>531</b>	<b>447</b>	<b>978</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.

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

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

### NORMAL SERVICE RETIREMENT

#### ELIGIBILITY

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

#### BENEFIT

An annual pension equal to a percentage of the allowable average annual salary. The percentage equals 2.5% for each of the first 20 years of service credit, 2.0% for each of the next five years of service credit and 1.5% for each year of service credit in excess of 25 years. The maximum pension of 72% 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% of the allowable average annual salary multiplied by the number of full years of service credit (up to 25 years of service credit).

## AGE/SERVICE COMMUTED RETIREMENT

### ELIGIBILITY

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

### BENEFIT

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

## ACTUARIALLY REDUCED

### ELIGIBILITY

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

### BENEFIT

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

## OTHER BENEFITS

In addition to retirement benefits, OP&F also provides disability and survivor 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 an 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 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 until the officer would have been eligible to retire as of the maximum age and service pension for the officer's position, which will be reduced at the member's maximum pension eligibility date. If the public safety officer would have qualified for maximum age and service retirement, the survivors are eligible for a transitional benefit equal to 75% of the monthly base pay. The transitional benefit is paid in addition to any other payment that they might be eligible to receive without offset.

## DEFERRED RETIREMENT OPTION PLAN (DROP)

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, 2023, 4,310 members were enrolled in the DROP program, with total values of the DROP accounts equaling \$2,123.2 million.

### ELIGIBILITY

A member is eligible to participate in DROP when he or she is eligible for a normal service retirement.

- 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 U.S. Treasury Note Business Day Series, as published by the U.S. Department of the Treasury, with a cap of 5.0% and a floor of 2.5%. This variable interest rate is compounded annually and 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 who elect to participate in DROP do not qualify for an annual COLA at any time during DROP. Member contributions are credited to their DROP account based on the number of years of DROP service. OP&F applies contributions to DROP in the following manner:

<b>Years of DROP Service</b>	<b>Percentage of Member Contributions</b>
Years 1-3	50% of member's contributions
Years 4-5	75% of member's contributions
Years 6-8	100% of member's contributions

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 electing to participate in 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 to their date of retirement when eligible. These members will also receive the DROP account balance as a lump sum or monthly distribution.

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. Also, the member's surviving spouse or contingent dependent beneficiary will receive either a 50% joint and survivor annuity or the annuity plan selected by the member, whichever is greater. 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 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. Acceptance of a refund of employee contributions cancels the member's rights, benefits and total service with OP&F. Employer contributions to OP&F are not refundable.

## HEALTH CARE

A stipend funded by OP&F via the HCSF is available to eligible members through a Health Reimbursement Arrangement and can be used to reimburse retirees for qualified health care expenses. This stipend model allows eligible members the option of choosing an appropriate health care plan on the insurance exchange. Implementation of the stipend model has helped OP&F meet the funding goal of a 15 year future solvency projection in the HCSF.

Health care costs paid from the funds of the plan are included in the employer contribution rates, which are currently 19.5% and 24.0% of salaries for police and fire employers, respectively. During 2023, the Board of Trustees has allocated employer contributions equal to 0.5% of annual covered payroll to the HCSF. The HCSF is part of the Pension Reserve Fund.

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



### 3. CONTRIBUTIONS AND RESERVES

#### CONTRIBUTIONS

The ORC Chapter 742 requires contributions by active members and their employers. Contribution rates are subject to annual review by the Ohio Retirement Study Council (ORSC). Additionally, an actuary is used to determine the actuarial implications of the requirement. The adequacy of contribution rates is determined annually using the entry age normal actuarial cost method. 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 Jan. 1, 2023 through Dec. 31, 2023:

Percentage of active member payroll	Police	Fire	Percent Contributed
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 Jan. 1, 2023 through Dec. 31, 2023.

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, 2023, OP&F's amortization period was 26.71 years.

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 \$155,139 for the year ended Dec. 31, 2023.

The chart below summarizes the member and employer contributions for 2023:

#### 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
2023	\$190,414,746	\$281,776,615	100%	\$183,248,751	\$338,792,861	100%

#### 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%, compounded semi-annually. Local governments began repayment in 1969 and payments are required to be made until 2035.

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

Local Funds Receivable	
Year ending December 2024	\$1,634,926
Year ending December 2025	1,668,370
Year ending December 2026	1,668,370
Year ending December 2027	1,668,370
Year ending December 2028	1,668,370
Thereafter	10,694,638
<b>TOTAL PROJECTED PAYMENTS</b>	<b>19,003,044</b>
Less future interest portion	(3,999,860)
<b>BALANCE AT DEC. 31, 2023*</b>	<b>\$15,003,184</b>

\* The Local Funds Receivable balance due at Dec. 31, 2023 includes \$17,898 due from two employers, which had previously underpaid their semi-annual payment.

## RESERVES

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

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

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

### *The Police Officers' and Firefighters' Contribution Fund*

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

### *The Police Officers' and Firefighters' Employers' Contribution Fund*

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

### *The Police Officers' and Firefighters' Pension Reserve Fund*

This fund is the account from which all retirement, disability, DROP, health care stipend and survivor benefits are paid. Included in this fund is the HCSF from which payments for the health care stipend are made. Amounts are transferred into the Pension Reserve Fund from the Contribution Funds and the Guarantee Fund.

### *The Guarantee Fund*

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

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

### *The Expense Fund*

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

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

	2023
Members' Contribution	\$3,788,970,052
Employers' Contribution	(1,343,767,627)
Pension Reserve*	15,245,376,000
<b>TOTAL</b>	<b>\$17,690,578,425</b>

\* Pension Reserve includes Health Care Stabilization Fund balance of \$787,407,072.

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## 4. FAIR VALUE MEASUREMENT

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

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

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

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

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

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

The Level 3 Real Assets securities consists primarily of investments in timberlands. Due to the significance of certain unobservable assumptions in the valuation of timberland this investment is valued using income capitalization, sales comparison or cost methods. The income capitalization method involves using a range of discount rates to determine the present value of the future income that can be produced over the holding period. The sales comparison approach is a method of estimating the fair value based on open market prices recently paid for similar timberland properties in the market area. The cost approach is a method of estimating the fair value based on the concept that a market participant would pay no more than the real asset property than the cost to purchase and develop a comparable property having utility. The remainder of the assets are primarily securities which are in default and valued by the bank or manager using internally developed valuation estimates.

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

The following table shows the classification of OP&F fair value measurement for its investments as of Dec. 31, 2023  
(Dollars in thousands):

		Fair Value Measurements Using:		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	Dec. 31, 2023			
Investments by fair value level				
Corporate Bond Obligations	\$1,890,768	\$-	\$1,889,701	\$1,067
Domestic Equities	1,419,778	1,412,921	1,253	5,604
International Equities	1,483,231	1,482,798	-	433
Master Limited Partnerships	421,937	421,937	-	-
Non-Agency Mortgage and Asset-Backed Securities	453,888	-	453,888	-
Municipal Bond Obligations	3,289	-	3,289	-
International Bonds	47	-	47	-
Real Assets	96,622	-	-	96,622
U.S. Agency Mortgage and Asset-Backed Securities	428,326	-	428,326	-
U.S. Government Treasury Obligations	234,537	-	234,537	-
U.S. Government Treasury STRIPS*	8,987	-	8,987	-
TOTAL INVESTMENTS BY FAIR VALUE LEVEL	\$6,441,410	\$3,317,656	\$3,020,028	\$103,726
Investments measured at Net Asset Value (NAV)				
Domestic Commingled Bonds	\$929,665			
Domestic Pooled Stocks	1,282,439			
Domestic Stocks	1,367,000			
International Equities	940,229			
Private Debt	456,229			
Private Equity	1,456,855			
Real Assets	983,358			
Real Estate	1,811,680			
TOTAL INVESTMENTS MEASURED AT NAV	\$9,227,455			
Investment Derivatives				
Futures	\$-	\$-	\$-	\$-
Options/Swaptions	(132)	-	(132)	-
Foreign Currency Forwards	(5,430)	-	(5,430)	-
Credit Default Swap - International	-	-	-	-
Credit Default Swaps - Domestic	(292)	-	(292)	-
TOTAL INVESTMENT DERIVATIVES	\$(5,854)	\$-	\$(5,854)	\$-
TOTAL INVESTMENTS	\$15,663,011			
Securities not leveled in investment portfolio				
Cash Equivalents	\$1,857,006			

\* Separate Trading of Registered Interest and Principal Securities (STRIPS).



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

	<b>Dec. 31, 2023</b>	<b>Unfunded Commitments<sup>(1)</sup></b>	<b>Redemption Frequency (If Currently Eligible)</b>	<b>Redemption Notice Period<sup>(2)</sup></b>
Bond/Credit Funds <sup>(3)</sup>	\$1,385,894	\$162,052	Daily, Not Eligible	1 Days - Not Eligible
Domestic Equity Funds <sup>(4)</sup>	647,916	-	Daily	0 Days
Hedge Funds <sup>(5)</sup>				
<i>Global Macro</i>	634,523	-	Monthly	5 Days
Hedge Fund of Funds <sup>(6)</sup>				
<i>Multi-Strategy</i>	1,366,836	-	Daily	5 Days
<i>Market Neutral</i>	164	-	Daily	0 Days
International Equity Funds <sup>(7)</sup>	940,229	-	Daily, Bi-monthly	0-9 Days
Private Equity/Venture Capital Funds <sup>(8)</sup>	1,456,855	419,169	Not Eligible	Not Eligible
Real Estate Funds				
<i>Open-End<sup>(9)</sup></i>	1,220,227	-	Quarterly	30-90 Days
<i>Closed-End<sup>(10)</sup></i>	591,453	341,399	Not Eligible	Not Eligible
Real Assets Funds				
<i>Open-End<sup>(11)</sup></i>	517,567	-	Annually, Quarterly	90 day period, 90 days
<i>Closed-End<sup>(12)</sup></i>	465,791	244,187	Not Eligible	Not Eligible
<b>TOTAL INVESTMENTS MEASURED AT THE NAV</b>	<b>\$9,227,455</b>			

(1) Unfunded Commitments do not include distributions subject to recall.

(2) Days = Business or Calendar Days.

(3) **Bond/Credit Funds:** Consisting of two credit/bond funds and 16 private debt funds. Each is valued at the net asset value at the end of the period based on the value of the underlying assets. Distributions from the private debt funds are received when the underlying assets are liquidated. This is estimated to occur from five to eight years.

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

(5) **Hedge Funds:** Consisting of one Global Macro commingled fund held in two separate accounts. This fund can be redeemed monthly with five days' notice.

(6) **Hedge Fund of Funds:** Consisting of one multi strategy and one market neutral fund. The multi strategy fund can be redeemed daily with five days' notice while the market neutral fund can be redeemed daily with zero days' notice. Both funds are subject to the liquidity of the underlying investments.

(7) **International Equity Funds:** Consisting of three commingled funds which invest in international developed and emerging markets equity securities. These investments are valued at net asset value on a daily basis. These funds are eligible for redemption on a daily to bi-monthly basis with zero to nine days' notice.

(8) **Private Equity/Venture Capital Funds:** Consisting of 67 commingled funds and fund-of-funds involving domestic, international and global buyout, distressed debt, special situations, growth equity and venture capital funds. These are long-term lock-up vehicles, typically with 10-year terms plus available extensions. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. Distributions are received when underlying assets are liquidated and this typically occurs from five to 15 years.

(9) **Open-End Real Estate Funds:** Consisting of 15 commingled funds which invest primarily in operating and substantially leased institutional quality properties located in the U.S. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. These funds are eligible for redemption on a quarterly basis subject to available liquidity with thirty to ninety days' notice. In the one investment as footnoted, there is no lock-up period, however, redemption fee may apply. Limited partners redeeming before the second anniversary will be subject to redemption fees. Redemption fee is 2.0% in the first year after initial closing and 1.0% in the second year following the initial closing. The redemption fee of 2% in the first year after initial closing has expired for OP&F.

(10) **Closed-End Real Estate Funds:** Consisting of 40 commingled funds which invest in properties on a global basis having more risk and correspondingly higher expected returns than those in the Open-End Real Estate Funds. These are long-term lock-up vehicles, typically with 10-year terms plus available extensions. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses.

(11) **Open-End Real Assets Funds:** Consisting of three commingled funds, two of which invests primarily in a diversified portfolio of infrastructure assets on a global basis while the other invests primarily in a diversified portfolio of infrastructure assets in the U.S. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. One fund is eligible for redemption on a quarterly basis subject to available liquidity with ninety days' notice. One fund is eligible for redemption on an annual basis subject to a maximum of 20% of net asset value of the fund per year along with available liquidity. In addition, limited partners are subject to a redemption step-down discount on net asset value within the first five years (7.5% in Year One, with a 1.5% reduction in each subsequent year). Limited partners can submit redemption notices between April 1 and June 30 each year. One fund is eligible for redemption on a quarterly basis subject to available liquidity with ninety days' notice. In addition, a six-year lock-up period applies to founding investors (three-years hard lock-up and three-years soft lock-up) and three-years soft lock-up for other investors commencing on the date of the first capital call. Redemptions can be requested during the soft lock-up, however, a 5.0% discount to net asset value would apply to the benefit of other existing investors.

(12) **Closed-End Real Assets Funds:** Consisting of 11 commingled funds which invest either in timberland, agriculture or infrastructure assets on a global basis. These are long-term lock-up vehicles, typically with 10-year terms plus available extensions. These investments are valued at net asset value, typically on a quarterly basis, as reported by the fund. The unfunded commitments can be called to make new investments or pay fees and expenses. These funds are not eligible for redemption and distributions are received when underlying assets are liquidated and this occurs from five to 15 years.

## 5. CASH AND INVESTMENTS

A summary of cash and short-term securities and investments held at Dec. 31, 2023 is as follows:

Category	2023 Fair Value
Cash and Cash Equivalent*	\$1,857,005,542
Corporate Bond Obligations	1,890,767,954
Domestic and International Derivatives	(5,853,850)
Domestic Commingled Bonds	929,664,935
Domestic Equities	2,786,778,201
Domestic Pooled Equities	1,282,438,863
International Bonds	47,500
International Equities	2,423,460,466
Master Limited Partnerships	421,937,115
Municipal Bond Obligations	3,289,310
Non-Agency Mortgage and Asset-Backed Securities	453,887,500
Private Debt	456,228,678
Private Equity	1,456,854,651
Real Assets	1,079,980,335
Real Estate	1,811,679,773
U.S. Agency Mortgage and Asset-Backed Securities	428,325,620
U.S. Government Treasury Obligations	234,537,342
U.S. Government Treasury STRIPS	8,987,360
<b>GRAND TOTAL</b>	<b>\$17,520,017,295</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.

### 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, 2023, the annual money weighted rate of return on investments, net of investment expense was 9.650%.

### 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 and securities lending account not covered by federal deposit insurance be collateralized with securities permitted under ORC 135.18 at 102% 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, private market assets, private credit and real 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 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, 2023

	2023
Uninsured deposits collateralized with securities held by the pledging financial institution	\$3,087,532
Uninsured and uncollateralized deposits	\$76,145

- Non-agency mortgage and asset-backed instruments refer to mortgage and asset-backed securities that are made up of mortgage loans not guaranteed by U.S. government supported agency.
- 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.

## 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 regarding credit risk is based on the type of fixed income instruments. For credit risk purposes, OP&F classifies its fixed income securities into four main types: core, high yield, private credit and short-term fixed income. The credit risk policies related to these types are as follows:

### CORE FIXED INCOME

OP&F's two 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.
- Agency 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).

The following tables show ratings by asset class in OP&F's fixed income portfolio as of Dec. 31, 2023:

#### RATINGS BY ASSET CLASS – 2023

S&P* Ratings	Corporate Bond Obligations	Domestic Commingled Bonds	Municipal Bond Obligations	International Bonds	U.S. Government Treasury Obligations	U.S. Government Treasury STRIPS	U.S. Agency Mortgage and Asset-Backed Securities	Non-Agency Mortgage and Asset-Backed Securities	GRAND TOTAL
AAA	\$1,312,631	\$-	\$802,068	\$-	\$-	\$-	\$204,297	\$373,614,727	\$375,933,723
AA+	3,579,792	929,664,935	83,709	-	-	-	420,563,715	6,719,398	1,360,611,549
AA	2,592,960	-	1,126,105	-	-	-	74,729	24,791,632	28,585,426
AA-	18,569,764	-	1,277,428	-	-	-	-	1,635,127	21,482,319
A+	52,239,062	-	-	-	-	-	-	2,009,106	54,248,168
A	40,621,539	-	-	-	-	-	1,415,656	14,785,214	56,822,409
A-	121,757,861	-	-	-	-	-	1,757,316	2,277,507	125,792,684
BBB+	115,218,833	-	-	-	-	-	1,016,419	-	116,235,252
BBB	135,240,351	-	-	-	-	-	-	1,966,826	137,207,177
BBB-	178,538,016	-	-	-	-	-	1,139,028	695,831	180,372,875
BB+	159,072,127	-	-	-	-	-	635,184	518,378	160,225,689
BB	218,292,187	-	-	-	-	-	-	3,192,081	221,484,268
BB-	272,683,719	-	-	-	-	-	1,519,276	-	274,202,995
B+	190,418,787	-	-	-	-	-	-	523,905	190,942,692
B	166,862,651	-	-	-	-	-	-	605,430	167,468,081
B-	89,373,269	-	-	-	-	-	-	2,148,744	91,522,013
CCC+	81,272,367	-	-	-	-	-	-	786,914	82,059,281
CCC	17,756,080	-	-	-	-	-	-	466,296	18,222,376
CCC-	12,211,864	-	-	-	-	-	-	2,724,859	14,936,723
CC	-	-	-	-	-	-	-	1,766,720	1,766,720
D	263,375	-	-	-	-	-	-	602,574	865,949
NR**	12,890,719	-	-	47,500	-	-	-	12,056,231	24,994,450
FF&C***	-	-	-	-	234,537,342	8,987,360	-	-	243,524,702
<b>GRAND TOTAL</b>	<b>\$1,890,767,954</b>	<b>\$929,664,935</b>	<b>\$3,289,310</b>	<b>\$47,500</b>	<b>\$234,537,342</b>	<b>\$8,987,360</b>	<b>\$428,325,620</b>	<b>\$453,887,500</b>	<b>\$3,949,507,521</b>

\* Standard & Poor's (S&P).

\*\* Not Rated (NR).

\*\*\* Full Faith and Credit (FF&C).

### HIGH YIELD FIXED INCOME

As of Dec. 31 2023, OP&F had three high yield fixed-income portfolios that invest in publicly traded securities. 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 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.

### PRIVATE CREDIT

As of Dec. 31 2023, OP&F had 17 private credit strategies consisting of 16 limited partnership funds managed by 13 different investment firms. One of the private credit strategies is a common stock holding of an investment company that manages private credit strategies.

The limited partnership funds are not publicly listed and as such do not have specific credit rating. However, most of OP&F's private credit securities range from the equivalent of B to BB+ in terms of comparable S&P credit rating.

### SHORT-TERM INVESTMENTS

All short-term investments are managed externally and consist mainly of commercial paper and U.S. Treasury Bills. The management of short-term investments are governed by the applicable investment manager guidelines. The following table lists the short-term investment ratings as of Dec. 31, 2023:

S&P/Moody's Rating	Fair Value 2023	Percent 2023
A-1+/P-1	\$118,283,291	80.97%
A-1/P-1	26,735,269	18.30%
A-2/P-2	1,061,061	0.73%
<b>GRAND TOTAL</b>	<b>\$146,079,621</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.

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 2023, the permissible ranges for the three core fixed income portfolio managers were:

Portfolio Benchmark	2023 Benchmark Duration (years)	Portfolio Manager	Portfolio Permissible Range
Bloomberg U.S. Government Inflation-Linked Bond Index	13.22	Bridgewater Associates*	Replicate benchmark
Bloomberg U.S. Aggregate Bond Index	6.24	PGIM Core Bond	Benchmark +/- 2 years
Bloomberg U.S. Aggregate Bond Index	6.24	Loomis Core Bond	Benchmark +/- 2 years

\* Bridgewater Associates holds a 2:1 levered portfolio.

Since portfolio level duration is the best measure of interest rate risk, OP&F does not require its managers to measure or report on the duration of each security sector. 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, 2023:

Investment Type	Fair Value 2023	Effective Duration (years)
U.S. Government Treasury Obligations	\$234,537,342	9.45
U.S. Government Treasury STRIPS	8,987,360	16.96
U.S. Agency Mortgage and Asset-Backed Securities	428,325,620	5.52
Non-Agency Mortgage and Asset-Backed Securities	453,887,500	2.16
Municipal Bond Obligations	3,289,310	14.39
Corporate Bond Obligations	1,890,767,954	3.74
International Bonds	47,500	-
Domestic Commingled Bonds	929,664,935	13.77
<b>TOTAL FIXED INCOME EFFECTIVE DURATION</b>	<b>\$3,949,507,521</b>	<b>6.49</b>

## 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, 2023, 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% of the core fixed income portfolio to be invested in the securities of any one issuer, and no more than 5.0% 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% 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, 2023, OP&F did not hold investments in any one issuer that represented 5.0% or more of OP&F's net assets.

**SECURITIES LENDING**

As of Dec. 31, 2023, OP&F participates in securities lending program managed by one of its custody banks, as authorized by the Board of Trustees. Securities are loaned to investment broker/dealers (borrower). Securities loaned are collateralized by the borrower at 102% of the domestic and 105% 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 the 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 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, 2023:

**SECURITIES LENT AS OF DEC. 31, 2023**

<b>Securities Lent</b>	<b>Underlying Security</b>	<b>Collateral Received</b>	<b>Collateral Fair Value</b>	<b>Type of Collateral</b>
Domestic Corporate Fixed Income	\$203,698,284	\$208,390,532	\$208,390,532	Cash
Domestic Equities	70,438,220	72,433,917	72,433,917	Cash
U.S. Government and Treasuries	107,960,676	110,161,418	110,161,418	Cash
International Bonds	27,729,267	28,316,519	28,316,519	Cash
International Equities	64,794,033	66,635,272	66,635,272	Cash
<b>TOTAL SECURITIES LENT</b>	<b>\$474,620,480</b>	<b>\$485,937,658</b>	<b>\$485,937,658</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. As of Dec. 31, 2023, OP&F is working towards its long-term target allocation of 12.4% to international equity. OP&F has no specific policy regarding the international custodial credit risk; however, the five international equity managers are allowed to hold 5.0%

to 10% of their holdings in cash and cash equivalents. 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 swept into designated money market funds. For the year ending Dec. 31, 2023, OP&F's exposure to foreign currency risk is as follows:

**2023 EXPOSURE TO CURRENCY RISK**

Currency	Fair Value (Cash Deposits)	Fair Value (Fixed Income)	Fair Value (Currency Contracts)	Fair Value (Equities)	Fair Value (Private Equity and Real Estate)	Fair Value (Derivatives)	Total Fair Value (Cash Deposits and Securities)
Australian Dollar	\$-	\$-	\$(648,229)	\$13,305,121	\$-	\$444,636	\$13,101,528
Brazilian Real	33,932	-	(50)	6,709,751	70,425	-	6,814,058
British Pound	-	-	(654,123)	200,029,148	-	1,001,749	200,376,774
Canadian Dollar	16,585	-	(878,364)	49,198,666	-	1,122,311	49,459,198
China Offshore Yuan	-	-	-	29,445,046	-	-	29,445,046
Danish Kroner	-	-	-	16,024,889	-	-	16,024,889
Euro	25,628	47,500	(2,277,218)	389,499,468	153,146,702	(608,402)	539,833,678
Hong Kong Dollar	-	-	7,899	56,987,848	-	306,396	57,302,143
Indonesian Rupiah	-	-	-	10,723,042	-	-	10,723,042
Japanese Yen	-	-	(767,528)	190,811,014	1,520,200	476,373	192,040,059
New Turkish Lira	-	-	-	3,576,874	-	-	3,576,874
Norwegian Kroner	-	-	-	2,285,329	-	-	2,285,329
Polish Zloty	-	-	-	315,515	-	-	315,515
Qatari Riyal	-	-	-	603,555	-	-	603,555
Singapore Dollar	-	-	-	26,181,684	-	-	26,181,684
South Korean Won	-	-	(404)	26,486,455	-	-	26,486,051
Swedish Kroner	-	-	(286,176)	76,037,870	-	212,476	75,964,170
Swiss Franc	-	-	(111)	58,883,897	-	-	58,883,786
Taiwanese New Dollar	-	-	-	30,819,202	-	-	30,819,202
Thai Baht	-	-	-	2,829,149	-	-	2,829,149
United Arab Emirates Dirham	-	-	-	2,082,201	-	-	2,082,201
<b>GRAND TOTAL</b>	<b>\$76,145</b>	<b>\$47,500</b>	<b>\$(5,504,304)</b>	<b>\$1,192,835,724</b>	<b>\$154,737,327</b>	<b>\$2,955,539</b>	<b>\$1,345,147,931</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 eight external managers constituting \$4.41 billion of notional value as of Dec. 31, 2023. This amount represented 25.02% of the total portfolio. OP&F uses this exposure to synthetics to maintain market exposure while also increasing liquidity and flexibility.

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

All the contracts are valued at the spot foreign exchange rate at Dec. 31, 2023. The changes in the value of the open contracts are recognized as unrealized appreciation (depreciation). A realized gain or loss is recorded at the time of the delivery/closing of the contract. The realized gain or loss is the difference between the value of the original contract and the closing/delivery value of such contracts. Both realized and unrealized gains and losses are included in the Statement of Changes in Fiduciary Net Position as net appreciation (depreciation). The following tables represent the balances of the outstanding currency transactions as of Dec. 31, 2023:

### OPEN CURRENCY CONTRACTS AS OF DEC. 31, 2023

Purpose	Fair Value (Outstanding Purchases)	Fair Value (Outstanding Sales)	Unrealized Appreciation (Depreciation)
Trade Settlement	\$1,046,017	\$1,045,776	\$(241)
Position Hedging	310,131,746	304,627,683	(5,504,063)
<b>GRAND TOTAL</b>	<b>\$311,177,763</b>	<b>\$305,673,459</b>	<b>\$(5,504,304)</b>

On delivered/closed currency contracts OP&F had a realized gain of \$8,420,674 in 2023.

- **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 swaptions as part of its fixed income program. OP&F's exposure represented less than 1.0% of the total portfolio fair value at year-end.
- **Swaps:** A swap is a derivative contract through which two parties exchange financial instruments that involve cash flows based on a notional principal amount that both parties agree to. Usually, the principal does not change hands but each cash flow comprises one leg of the swap. One cash flow is generally fixed, while the other is variable and based on a benchmark interest rate, floating currency exchange rate or index price.

OP&F invested in interest rate and credit default swaps through one external manager. The fair value for the total swap position at Dec. 31, 2023 was:

#### SWAP HOLDINGS AS OF DEC. 31, 2023

Type of Swap	Fair Value (Receive Side)	Fair Value (Pay Side)	Fair Value (Total Swap Position)
Credit Default Swap	\$-	\$(292,311)	\$(292,311)
<b>Total Swap Position</b>	<b>\$-</b>	<b>\$(292,311)</b>	<b>\$(292,311)</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.



## 6. 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.

## 7. COMPENSATED ABSENCES

As of Dec. 31, 2023, \$3.0 million was 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 two years 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 base rate upon termination of employment.

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

OP&F is self-insured for employee benefits for medical, dental, vision and prescription coverage. A third-party administrator manages the program. OP&F holds a stop-loss policy per covered life per year with a \$100,000 specific deductible.

## 9. COMMITMENTS AND CONTINGENCIES

From time to time, OP&F is named as a defendant in 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, 2023.

OP&F is committed to making additional capital contributions to the following investment types as of Dec. 31, 2023:

Asset Class	Unfunded Commitments	Fair Value At Dec. 31, 2023
Private Equity*	\$419,169,463	\$1,456,854,651
Private Debt	162,052,325	456,228,678
Real Estate	341,398,555	1,811,679,773
Real Assets	244,186,662	1,079,980,335
<b>TOTAL</b>	<b>\$1,166,807,005</b>	<b>\$4,804,743,437</b>

\*Included in the Private Equity are two Euro based unfunded commitments totaling as of Dec. 31, 2023: €311,716 (€ = Euro) (\$344,337 U.S.D.). Unfunded Commitments do not include distributions subject to recall.

## 10. STATE OF OHIO PUBLIC SAFETY OFFICERS DEATH BENEFIT FUND

Pursuant to ORC Section 742.62, the OP&F Board of Trustees administers the DBF. 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 DBF is considered to be a custodial fund administered by OP&F and, accordingly, its assets and related liabilities for unpaid benefits of \$1,626,526 are included in the accompanying financial statements as of Dec. 31, 2023.

## 11. EMPLOYERS' NET PENSION LIABILITY (ASSET)

The components of the net pension liability of employers as of Dec. 31, 2023:

Year Ending Dec. 31	(a) Total Pension Liability	(b) Plan Fiduciary Net Position	(a)-(b)=(c) Net Pension Liability (Asset)	(b) / (a) Plan Fiduciary Net Pension as a Percentage of Total Pension Liability	(d) Covered Payroll	(c) / (d) Net Pension Liability (Asset) as a Percentage of Covered Payroll
2023	\$26,564,551,513	\$16,903,171,353	\$9,661,380,160	63.63%	\$2,823,066,800	342.23%

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, 2023, is based on the results of an actuarial valuation date of Jan. 1, 2023 and rolled-forward using generally accepted actuarial procedures.

A summary of the actuarial assumptions as of the latest actuarial valuation (except see note on investment rate of return) is shown below.

### Actuarial Assumptions

Valuation date	Jan. 1, 2023
Actuarial cost method	Entry age
Investment rate of return	7.50%
Projected salary increases	3.75% - 10.50%
Payroll increases	3.25%
Inflation assumptions	2.75%
Cost-of-living adjustments	2.20% simple
Service Retiree and Vested Former Member Mortality	Mortality for service retirees is based on the Pub-2010 Below-Median Safety Amount-Weighted Healthy Retiree mortality table with rates adjusted by 96.2% for males and 98.7% for females. All rates are projected using the MP-2021 Improvement Scale.
Disability Mortality	Mortality for disabled retirees is based on the Pub-2010 Safety Amount-Weighted Disabled Retiree mortality table with rates adjusted by 135% for males and 97.9% for females. All rates are projected using the MP-2021 Improvement Scale.
Contingent Annuitant Mortality	Mortality for contingent annuitants is based on the Pub-2010 Below-Median Safety Amount-Weighted Contingent Annuitant Retiree mortality table with rates adjusted by 108.9% for males and 131% for females. All rates are projected using the MP-2021 Improvement Scale.
Pre-Retirement Mortality	Mortality for active members is based on the Pub-2010 Below-Median Safety Amount-Weighted Employee mortality table. All rates are projected using the MP-2021 Improvement Scale.

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 Investment Policy and Guidelines Statement. 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, 2023 are summarized below:

**TARGET ALLOCATIONS (SOURCE: WILSHIRE)**

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return**
Domestic Equity	18.6%	4.1%
International Equity	12.4%	4.9%
Private Markets	10.0%	7.3%
Core Fixed Income*	25.0%	2.4%
High Yield Fixed Income	7.0%	4.1%
Private Credit	5.0%	6.8%
U.S. Inflation Linked Bonds*	15.0%	2.1%
Midstream Energy Infrastructure	5.0%	5.8%
Real Assets	8.0%	6.0%
Gold	5.0%	3.5%
Private Real Estate	12.0%	5.4%
Commodities	2.0%	3.5%
<b>TOTAL</b>	<b>125.0%</b>	

Note: Assumptions are geometric.

\* Levered 2.0x.

\*\* Net of expected inflation.

OP&F's Board of Trustees has incorporated the risk parity concept into OP&F's asset liability valuation and its overall asset allocation. Risk parity has a 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 1.25 times due to the application of leverage in core fixed income and U.S. inflation linked bonds and the implementation approach for gold.

Total pension liability was calculated using the discount rate of 7.50%. 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 7.50%. Based on those assumptions, OP&F's fiduciary net position was projected to be available to make all future benefit payments of current plan members. Therefore, a long-term expected rate of return on pension plan investments was applied to all periods of projected benefits to determine the total pension liability.

Net pension liability is sensitive to changes in the discount rate. To illustrate the potential impact the following table presents the net pension liability calculated using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1.0% lower, 6.50%, or 1.0% higher, 8.50%, than the current rate.

#### CHANGES IN DISCOUNT RATE

Sensitivity of the Net Pension Liability to Changes in the Discount Rate at Dec. 31, 2023

	1.0% Decrease	Current Discount Rate	1.0% Increase
Discount Rate	6.50%	7.50%	8.50%
Total Pension Liability	\$29,700,388,934	\$26,564,551,513	\$23,956,797,667
Plan Fiduciary Net Position	16,903,171,353	16,903,171,353	16,903,171,353
<b>NET PENSION LIABILITY (ASSET)</b>	<b>\$12,797,217,581</b>	<b>\$9,661,380,160</b>	<b>\$7,053,626,314</b>

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

### PLAN ADMINISTRATION

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

### PLAN MEMBERSHIP

As of Jan. 1, 2023, OP&F's health care plan membership consisted of the following:

### PARTICIPANTS BY STATUS

Status	Number
Active Members*	29,931
Inactive Members Eligible for Allowances	280
Retiree Members or their Beneficiaries Currently Receiving Benefits	24,992
<b>TOTAL</b>	<b>55,203</b>

\* Excludes Rehired Retirees.

### BENEFITS PROVIDED

A stipend funded by OP&F via the HCSF is available to eligible members through a Health Reimbursement Arrangement and can be used to reimburse retirees for qualified health care expenses. This stipend model allows eligible members the option of choosing an appropriate health care plan on the insurance exchange. Implementation of the stipend model has helped OP&F meet the funding goal of a 15-year future solvency projection in the HCSF.

### CONTRIBUTIONS

OP&F's health care plan is financed through a combination of employer contributions and investment returns. A portion of OP&F's investment gain (loss) is allocated to the HCSF. In 2023, OP&F's investment portfolio had a favorable gross return of 9.52%. During 2023, the Board of Trustees allocated employer contributions equal to 0.5% of annual covered payroll to the HCSF.

### INVESTMENT POLICY

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

### DISCOUNT RATE

The discount rate used to measure the total OPEB liability at Jan. 1, 2023 and rolled forward to Dec. 31, 2023 was 4.07% (using Dec. 31, 2023's S&P Municipal Bond 20-Year High Grade Rate Index of 3.38%). The discount rate used to measure the total OPEB liability as of Jan. 1, 2022 and rolled forward to Dec. 31, 2022 was 4.27% (using Dec. 31, 2022's S&P Municipal Bond 20-Year High Grade Rate Index of 3.65%). The projection of cash flows used to determine the discount rate assumed that OP&F will contribute at a rate equal to 0.50% of payroll. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive employees until 2038. After that time, the funding of benefit payments is uncertain. The discount rate is the single equivalent rate which results in the same present value as discounting future benefit payments made from assets at the long term expected rate of return and discounting future benefit payments funded on a pay-as-you-go basis on the municipal bond 20-year index rate.

### RATE OF RETURN

The long-term expected rate of return on plan assets is reviewed as part of the actuarial five-year experience study. The most recent study covered fiscal years 2017 through 2021. Several factors are considered in evaluating the long-term rate of return assumption including long-term historical data, estimates inherent in current market data, each major investment asset class and expected inflation. The long-term expected rate of return is 7.50% which was changed from 8.00% in 2022.

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 Investment Policy and Guidelines statement. A forecasted rate of inflation serves as the baseline for the return expected. Various real return premiums over the baseline inflation rate have been established for each asset class. The long-term expected nominal rate of return has been determined by calculating a weighted average of the expected real return premiums for each asset class, adding the projected inflation rate and adding the expected return from rebalancing uncorrelated asset classes.

### PERIODS OF PROJECTED BENEFIT PAYMENTS

Future benefit payments for all current plan members were projected through 2123.



**ASSUMED ASSET ALLOCATION**

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

**TARGET ALLOCATIONS (SOURCE: WILSHIRE)**

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return**
Domestic Equity	18.6%	4.1%
International Equity	12.4%	4.9%
Private Markets	10.0%	7.3%
Core Fixed Income*	25.0%	2.4%
High Yield Fixed Income	7.0%	4.1%
Private Credit	5.0%	6.8%
U.S. Inflation Linked Bonds*	15.0%	2.1%
Midstream Energy Infrastructure	5.0%	5.8%
Real Assets	8.0%	6.0%
Gold	5.0%	3.5%
Private Real Estate	12.0%	5.4%
Commodities	2.0%	3.5%
<b>TOTAL</b>	<b>125.0%</b>	

Note: Assumptions are geometric.

\* Levered 2.0x.

\*\* Net of expected inflation.

OP&F's Board of Trustees has incorporated the risk parity concept into OP&F's asset liability valuation and its overall asset allocation. Risk parity has a 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 1.25 times due to the application of leverage in core fixed income and U.S. inflation linked bonds and the implementation approach of gold.

**NET OPEB LIABILITY OF OP&F**

The total OPEB liability as of Dec. 31, 2023 was determined based on a no gain (loss) roll-forward of the Jan. 1, 2023 valuation. The components of the net OPEB liability of OP&F at Dec. 31, 2023, were as follows:

<b>Net OPEB Liability of OP&amp;F</b>	
Total OPEB Liability	\$1,517,537,904
Plan Fiduciary Net Position	787,407,072
<b>OP&amp;F'S NET OPEB LIABILITY</b>	<b>\$730,130,832</b>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	51.89%
Net OPEB Liability as a Percentage of Covered Payroll	25.86%

## ACTUARIAL ASSUMPTIONS

The actuarial assumptions used in the valuation were adopted as of Jan. 1, 2023 and were based on the results from the most recent actuarial experience review covering the period 2017 through 2021. The total OPEB liability as of Dec. 31, 2023, is based on the results of an actuarial valuation dated Jan. 1, 2023 and rolled-forward using generally accepted actuarial procedures.

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

Actuarial Assumptions	
Valuation Date	Jan. 1, 2023
Long-Term Return on Plan Assets	7.50%
Dec. 31, 2023 Discount Rate	4.07%
Dec. 31, 2023 Municipal Bond Index	3.38%
Actuarial Cost Method	Entry age normal cost.
Payroll Growth Rate	3.25% per annum
Stipend Increase Rate	The stipend is not assumed to increase over the projection period.
Projected Depletion Year of OPEB Assets	2038 (per GASB Statement No. 74 Report)
Health Care Cost Trend Rate	N/A* - based on a medical benefit that is a flat dollar amount; therefore, it is unaffected by a health care cost trend rate.
Service Retiree and Vested Former Member Mortality	Mortality for service retirees is based on the Pub-2010 Below-Median Safety Amount-Weighted Healthy Retiree mortality table with rates adjusted by 96.2% for males and 98.7% for females. All rates are projected using the MP-2021 Improvement Scale.
Disabled Mortality	Mortality for disabled retirees is based on the Pub-2010 Safety Amount-Weighted Disabled Retiree mortality table with rates adjusted by 135% for males and 97.9% for females. All rates are projected using the MP-2021 Improvement Scale.
Contingent Annuitant Mortality	Mortality for contingent annuitants is based on the Pub-2010 Below-Median Safety Amount-Weighted Contingent Annuitant Retiree mortality table with rates adjusted by 108.9% for males and 131% for females. All rates are projected using the MP-2021 Improvement Scale.
Pre-Retirement Mortality	Mortality for active members is based on the Pub-2010 Below-Median Safety Amount-Weighted Employee mortality table. All rates are projected using the MP-2021 Improvement Scale.
Age of Spouse	Wives are assumed to be three years younger than their husbands.
Dependent Children	Each member is assumed to have two children, born when the member was age 26. Dependency is assumed to cease when the child is 22.

\* Not Applicable (N/A).

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

The following table presents the net OPEB liability of OP&F as of Dec. 31, 2023, calculated using the discount rate of 4.07%, as well as what OP&F's net OPEB liability would be if it were calculated using a discount rate that is 1.0% lower, 3.07%, or 1.0% higher, 5.07%, than the current discount rate:

### CHANGES TO DISCOUNT RATE

SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGES IN THE DISCOUNT RATE AT DEC. 31, 2023

	1.0% Decrease	Current Discount Rate	1.0% Increase
Discount Rate	3.07%	4.07%	5.07%
Total OPEB Liability	\$1,686,725,651	\$1,517,537,904	\$1,375,048,458
Fiduciary Net Position	787,407,072	787,407,072	787,407,072
<b>Net OPEB Liability</b>	<b>\$899,318,579</b>	<b>\$730,130,832</b>	<b>\$587,641,386</b>

### 13. PENSION PLANS FOR EMPLOYEES OF OP&F

All OP&F employees are required to participate in a contributory retirement plan administered by OPERS. OPERS is a cost-sharing, multi-employer public employee retirement system that administers three pension plans that include a defined benefit plan, a defined contribution plan and a combined plan. Participation in these plans is a choice members make at the time their employment commences.

The member and employer contribution rates are 10.0% and 14.0% of covered payroll, respectively. The required employer contributions for the current year and the two preceding years are shown in the table below.

OP&F's Required Employer Contributions to OPERS:

Year Ended Dec. 31	Annual Required Contributions	Percent Contributed
2023	\$1,375,025	100%
2022	\$1,267,313	100%
2021	\$1,357,430	100%

GASB Statement No. 68, Accounting and Financial Reporting for Pensions, requires OP&F to record a net pension liability based on its proportionate share of OPERS' total net pension liability. Likewise, OP&F's proportionate share of OPERS' deferred outflows and deferred inflows of resources related to pensions and pension expense are recorded in the Statements of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position for the fiscal year ending Dec. 31, 2023.

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of OPERS and additions to/deductions from OPERS' fiduciary net position have been determined on the same basis as they are reported by OPERS. For this purpose, benefits and refunds are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

OPERS also provides post-employment health care coverage which is considered an OPEB as described in GASB Statement No. 75. OPERS has the discretion to direct a portion of employer contributions to fund retiree health care. The employer rate allocated to post employment health care in the defined benefit plan and combined plan was 0.0% in calendar year 2022. The portion of the employer rated allocation to post employment health care in the defined contribution plan was 4.0% in calendar year 2022.

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the OPEB fiduciary net position of OPERS and additions to/deductions from OPEB fiduciary net position of OPERS have been determined on the same basis as they are reported by OPERS. For this purpose, health care benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Historical trend information showing the progress of OPERS in accumulating sufficient assets to pay pension and OPEB benefits when due is presented in the OPERS ACFR. OPERS' ACFR is available on their website at [www.OPERS.org](http://www.OPERS.org).

## REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

### REQUIRED SUPPLEMENTARY PENSION INFORMATION

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

Total Pension Liability	Year Ending Dec. 31, 2023	Year Ending Dec. 31, 2022	Year Ending Dec. 31, 2021	Year Ending Dec. 31, 2020	Year Ending Dec. 31, 2019
Service Cost	\$428,771,868	\$432,828,079	\$360,427,328	\$357,200,509	\$343,991,701
Interest	1,892,722,255	1,851,865,191	1,826,859,097	1,763,487,122	1,741,126,879
Plan Changes	-	-	-	-	-
Differences Between Expected and Actual Experience	264,036,415	80,765,641	(168,232,265)	134,816,300	(421,664,871)
Changes in Assumptions	-	(223,737,455)	1,312,414,800	-	-
Benefit Payments, Including Refunds of Member Contributions	(1,627,583,986)	(1,559,456,438)	(1,535,344,021)	(1,400,413,884)	(1,394,027,927)
NET CHANGE IN TOTAL PENSION LIABILITY	957,946,552	582,265,018	1,796,124,939	855,090,047	269,425,782
TOTAL PENSION LIABILITY - BEGINNING	25,606,604,961	25,024,339,943	23,228,215,004	22,373,124,957	22,103,699,175
<b>TOTAL PENSION LIABILITY - ENDING (a)</b>	<b>\$26,564,551,513</b>	<b>\$25,606,604,961</b>	<b>\$25,024,339,943</b>	<b>\$23,228,215,004</b>	<b>\$22,373,124,957</b>
<b>Plan Fiduciary Net Position:</b>					
Contributions - Employer	\$606,606,416	\$575,675,549	\$539,335,665	\$518,430,203	\$502,303,770
Contributions - Member	373,663,497	352,964,203	337,025,068	312,628,926	303,413,682
Net Investment Income (Loss)	1,465,085,965	(2,025,855,021)	3,034,386,114	1,362,818,981	2,305,254,776
Benefit Payments, Including Refunds of Member Contributions	(1,627,583,986)	(1,559,456,438)	(1,535,344,021)	(1,400,413,884)	(1,394,027,927)
Administrative Expense	(22,174,839)	(12,672,374)	(9,609,702)	(18,929,776)	(21,410,301)
Other Changes	-	-	-	-	-
NET CHANGES IN PLAN FIDUCIARY NET POSITION	795,597,053	(2,669,344,081)	2,365,793,124	774,534,450	1,695,534,000
PLAN FIDUCIARY NET POSITION - BEGINNING	16,107,574,300	18,776,918,381	16,411,125,257	15,636,590,807	13,941,056,807
<b>PLAN FIDUCIARY NET POSITION - ENDING (b)</b>	<b>\$16,903,171,353</b>	<b>\$16,107,574,300</b>	<b>\$18,776,918,381</b>	<b>\$16,411,125,257</b>	<b>\$15,636,590,807</b>
<b>NET PENSION LIABILITY (SURPLUS) - ENDING (a)-(b)</b>	<b>\$9,661,380,160</b>	<b>\$9,499,030,661</b>	<b>\$6,247,421,562</b>	<b>\$6,817,089,747</b>	<b>\$6,736,534,150</b>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	63.63%	62.90%	75.03%	70.65%	69.89%
Covered Payroll	\$2,823,066,800	\$2,654,917,807	\$2,526,179,170	\$2,475,784,283	\$2,373,429,623
Net Pension Liability as a Percentage of Covered Payroll	342.23%	357.79%	247.31%	275.35%	283.83%



## SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY (CONTINUED)

<b>Total Pension Liability</b>	<b>Year Ending Dec. 31, 2018</b>	<b>Year Ending Dec. 31, 2017</b>	<b>Year Ending Dec. 31, 2016</b>	<b>Year Ending Dec. 31, 2015</b>	<b>Year Ending Dec. 31, 2014</b>
Service Cost	\$331,600,261	\$289,911,106	\$273,592,476	\$267,624,727	\$262,846,976
Interest	1,663,040,537	1,623,441,004	1,570,560,385	1,519,848,287	1,472,778,463
Plan Changes	-	-	-	-	-
Differences Between Expected and Actual Experience	322,601,323	109,199,474	2,143,161	(21,544,278)	-
Changes in Assumptions	-	318,479,524	-	-	-
Benefit Payments, Including Refunds of Member Contributions	(1,314,608,496)	(1,256,254,446)	(1,187,020,466)	(1,170,476,866)	(1,126,154,321)
<b>NET CHANGE IN TOTAL PENSION LIABILITY</b>	<b>1,002,633,625</b>	<b>1,084,776,662</b>	<b>659,275,556</b>	<b>595,451,870</b>	<b>609,471,118</b>
<b>TOTAL PENSION LIABILITY - BEGINNING</b>	<b>21,101,065,550</b>	<b>20,016,288,888</b>	<b>19,357,013,332</b>	<b>18,761,561,462</b>	<b>18,152,090,344</b>
<b>TOTAL PENSION LIABILITY - ENDING (a)</b>	<b>\$22,103,699,175</b>	<b>\$21,101,065,550</b>	<b>\$20,016,288,888</b>	<b>\$19,357,013,332</b>	<b>\$18,761,561,462</b>
<b>Plan Fiduciary Net Position:</b>					
Contributions - Employer	\$478,595,785	\$462,394,203	\$455,143,532	\$428,972,949	\$418,493,468
Contributions - Member	295,472,374	282,006,793	268,594,295	245,834,623	223,989,055
Net Investment Income (Loss)	(458,734,784)	1,812,565,572	1,240,580,488	(11,259,198)	786,522,451
Benefit Payments, Including Refunds of Member Contributions	(1,314,608,496)	(1,256,254,446)	(1,187,020,466)	(1,170,476,866)	(1,126,154,321)
Administrative Expense	(16,234,396)	(19,487,358)	(18,851,765)	(15,635,762)	(15,480,687)
Other Changes	(7,047,680)	-	-	(6,940,426)	-
<b>NET CHANGES IN PLAN FIDUCIARY NET POSITION</b>	<b>(1,022,557,197)</b>	<b>1,281,224,764</b>	<b>758,446,084</b>	<b>(529,504,680)</b>	<b>287,369,966</b>
<b>PLAN FIDUCIARY NET POSITION - BEGINNING</b>	<b>14,963,614,004</b>	<b>13,682,389,240</b>	<b>12,923,943,156</b>	<b>13,453,447,836</b>	<b>13,166,077,870</b>
<b>PLAN FIDUCIARY NET POSITION - ENDING (b)</b>	<b>\$13,941,056,807</b>	<b>\$14,963,614,004</b>	<b>\$13,682,389,240</b>	<b>\$12,923,943,156</b>	<b>\$13,453,447,836</b>
<b>NET PENSION LIABILITY (SURPLUS) - ENDING (a)-(b)</b>					
	<b>\$8,162,642,368</b>	<b>\$6,137,451,546</b>	<b>\$6,333,899,648</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	63.07%	70.91%	68.36%	66.77%	71.71%
Covered Payroll	\$2,302,436,015	\$2,224,675,422	\$2,094,550,962	\$2,046,601,668	\$1,998,631,412
Net Pension Liability as a Percentage of Covered Payroll	354.52%	275.88%	302.40%	314.33%	265.59%

## 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 Payroll	(c) / (d) Net Pension Liability (Surplus) as a Percentage of Covered Payroll
2023	\$26,564,551,513	\$16,903,171,353	\$9,661,380,160	63.63%	\$2,823,066,800	342.23%
2022	25,606,604,961	16,107,574,300	9,499,030,661	62.90%	2,654,917,807	357.79%
2021	25,024,339,943	18,776,918,381	6,247,421,562	75.03%	2,526,179,170	247.31%
2020	23,228,215,004	16,411,125,257	6,817,089,747	70.65%	2,475,784,283	275.35%
2019	22,373,124,957	15,636,590,807	6,736,534,150	69.89%	2,373,429,623	283.83%
2018	22,103,699,175	13,941,056,807	8,162,642,368	63.07%	2,302,436,015	354.52%
2017	21,101,065,550	14,963,614,004	6,137,451,546	70.91%	2,224,675,422	275.88%
2016	20,016,288,888	13,682,389,240	6,333,899,648	68.36%	2,094,550,962	302.40%
2015	19,357,013,332	12,923,943,156	6,433,070,176	66.77%	2,046,601,668	314.33%
2014	18,761,561,462	13,453,447,836	5,308,113,626	71.71%	1,998,631,412	265.59%

## SCHEDULE OF EMPLOYER CONTRIBUTIONS - PENSION TRUST FUND

Year Ended Dec. 31	(a) Statutorily Due Employer Contributions	(b) Actual Employer Contributions	(a)-(b)=(c) Contribution Deficiency (Excess)	(d) Covered Payroll*	(a) / (d) Contributions as a Percentage of Covered Payroll
2023	\$606,451,277	\$606,451,277	\$-	\$2,596,223,885	23.36%
2022	575,492,871	575,492,871	-	2,443,620,260	23.55%
2021	539,130,428	539,130,428	-	2,381,764,788	22.64%
2020	518,204,527	518,204,527	-	2,313,631,090	22.40%
2019	502,043,282	502,043,282	-	2,218,017,387	22.63%
2018	478,294,974	478,294,974	-	2,209,258,449	21.65%
2017	462,047,728	462,047,728	-	2,180,910,604	21.19%
2016	454,745,371	454,745,371	-	2,060,850,564	22.07%
2015	428,526,214	428,526,214	-	1,986,568,535	21.57%
2014	417,993,316	417,993,316	-	1,942,269,436	21.52%

\* Actuarial Estimate

## SCHEDULE OF INVESTMENT RETURNS

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual Money Weighted Rate of Return, Net of Investment Expenses	9.650%	(10.703)%	19.230%	9.212%	17.279%	(2.854)%	13.867%	10.048%	0.187%	6.540%

## NOTES TO REQUIRED SUPPLEMENTARY PENSION INFORMATION

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

The total pension liability contained in this schedule was provided by OP&F's actuary, Cavanaugh Macdonald Consulting, 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 the schedule of employer contributions.

### 3. ACTUARIAL ASSUMPTIONS

The actuarial assumptions, aside from the discount rate, were adopted as of Jan. 1, 2022, based on a five-year experience review covering the period of 2017 through 2021. The discount rate of 7.50% was adopted by the Board of Trustees in February 2022. The next review of actuarial assumptions is to be completed for adoption with the Jan. 1, 2027 valuation.

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

### DEFINED BENEFIT PLAN – PENSION TRUST FUND

#### Actuarial Assumptions

Valuation date	Jan. 1, 2023
Actuarial cost method	Entry age
Amortization method	Level percent of payroll, open
Amortization period	26.71 years
Asset valuation method	Four-year adjusted fair value with a corridor of 20% of the fair value.
Investment rate of return	7.50%
Projected salary increases	3.75% - 10.50%
Payroll increases	3.25%
Inflation assumptions	2.75%
Cost-of-living adjustments	2.20% simple

## REQUIRED SUPPLEMENTARY OPEB INFORMATION

## SCHEDULE OF CHANGES IN NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS\*

Total OPEB Liability	Year Ending Dec. 31, 2023	Year Ending Dec. 31, 2022	Year Ending Dec. 31, 2021	Year Ending Dec. 31, 2020
Service Cost	\$38,270,177	\$64,434,939	\$63,158,602	\$56,072,373
Interest	63,942,266	59,164,352	58,048,633	66,955,703
Changes of Benefit Terms	-	-	-	-
Differences Between Expected and Actual Experience	(31,021,751)	(29,034,862)	57,238,179	(98,438,400)
Changes in Assumptions	30,441,835	(567,177,221)	30,190,286	134,298,234
Net Benefit Payments	(85,706,913)	(88,563,565)	(86,947,802)	(84,249,181)
NET CHANGE IN TOTAL OPEB LIABILITY	15,925,614	(561,176,357)	121,687,898	74,638,729
TOTAL OPEB LIABILITY - BEGINNING	1,501,612,290	2,062,788,647	1,941,100,749	1,866,462,020
<b>TOTAL OPEB LIABILITY - ENDING (a)</b>	<b>\$1,517,537,904</b>	<b>\$1,501,612,290</b>	<b>\$2,062,788,647</b>	<b>\$1,941,100,749</b>
<b>Plan Fiduciary Net Position</b>				
Contributions - Employer	\$14,118,199	\$13,381,154	\$12,758,046	\$12,166,558
Net Investment Income (Loss)	69,771,317	(101,643,506)	159,553,600	75,292,783
Benefit Payments	(85,706,913)	(88,563,565)	(86,947,802)	(84,249,181)
Administrative Expenses	(416,709)	(235,504)	(245,662)	(314,740)
NET CHANGE IN PLAN FIDUCIARY NET POSITION	(2,234,106)	(177,061,421)	85,118,182	2,895,420
PLAN FIDUCIARY NET POSITION - BEGINNING	789,641,178	966,702,599	881,584,417	878,688,997
<b>PLAN FIDUCIARY NET POSITION - ENDING (b)</b>	<b>\$787,407,072</b>	<b>\$789,641,178</b>	<b>\$966,702,599</b>	<b>\$881,584,417</b>
<b>NET OPEB LIABILITY (SURPLUS) - ENDING (a)-(b)</b>	<b>\$730,130,832</b>	<b>\$711,971,112</b>	<b>\$1,096,086,048</b>	<b>\$1,059,516,332</b>
Plan Fiduciary Net Position as a Percentage of the total OPEB Liability	51.89%	52.59%	46.86%	45.42%
Covered Payroll	\$2,823,066,800	\$2,654,917,807	\$2,526,179,170	\$2,475,784,283
Net OPEB Liability as a Percentage of Covered Payroll	25.86%	26.82%	43.39%	42.80%

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

## SCHEDULE OF CHANGES IN NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS\* (CONTINUED)

<b>Total OPEB Liability</b>	<b>Year Ending Dec. 31, 2019</b>	<b>Year Ending Dec. 31, 2018</b>	<b>Year Ending Dec. 31, 2017</b>
Service Cost	\$43,042,991	\$269,913,915	\$230,753,065
Interest	79,675,059	220,193,164	220,886,126
Changes of Benefit Terms	-	(4,945,194,650)	-
Differences Between Expected and Actual Experience	(99,155,482)	-	(32,754,010)
Changes in Assumptions	214,763,191	(293,714,580)	633,696,010
Net Benefit Payments	(76,303,134)	(144,706,189)	(103,062,283)
NET CHANGE IN TOTAL OPEB LIABILITY	162,022,625	(4,893,508,340)	949,518,908
TOTAL OPEB LIABILITY - BEGINNING	1,704,439,395	6,597,947,735	5,648,428,827
<b>TOTAL OPEB LIABILITY - ENDING (a)</b>	<b>\$1,866,462,020</b>	<b>\$1,704,439,395</b>	<b>\$6,597,947,735</b>
<b>Plan Fiduciary Net Position</b>			
Contributions - Employer	\$11,973,144	\$11,337,852	\$18,894,974
Net Investment Income (Loss)	149,595,598	(4,191,504)	115,417,360
Benefit Payments	(76,303,134)	(144,706,189)	(103,062,283)
Administrative Expenses	(362,607)	(741,952)	(815,977)
NET CHANGE IN PLAN FIDUCIARY NET POSITION	84,903,001	(138,301,793)	30,434,074
PLAN FIDUCIARY NET POSITION - BEGINNING	793,785,996	932,087,789	901,653,715
<b>PLAN FIDUCIARY NET POSITION - ENDING (b)</b>	<b>\$878,688,997</b>	<b>\$793,785,996</b>	<b>\$932,087,789</b>
<b>NET OPEB LIABILITY (SURPLUS) - ENDING (a)-(b)</b>	<b>\$987,773,023</b>	<b>\$910,653,399</b>	<b>\$5,665,859,946</b>
Plan Fiduciary Net Position as a Percentage of the total OPEB Liability	47.08%	46.57%	14.13%
Covered Payroll	\$2,373,429,623	\$2,302,436,015	\$2,180,910,604
Net OPEB Liability as a Percentage of Covered Payroll	41.62%	39.55%	259.79%

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

## SCHEDULE OF NET OPEB LIABILITY (ASSET)\*

<b>Year Ending Dec. 31</b>	<b>(a) Total OPEB Liability</b>	<b>(b) Plan Fiduciary Net Position</b>	<b>(a)-(b)=(c) Net OPEB Liability (Surplus)</b>	<b>(b) / (a) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability</b>	<b>(d) Covered Payroll</b>	<b>(c) / (d) Net OPEB Liability (Surplus) as a Percentage of Covered Payroll</b>
2023	\$1,517,537,904	\$787,407,072	\$730,130,832	51.89%	\$2,823,066,800	25.86%
2022	1,501,612,290	789,641,178	711,971,112	52.59%	2,654,917,807	26.82%
2021	2,062,788,647	966,702,599	1,096,086,048	46.86%	2,526,179,170	43.39%
2020	1,941,100,749	881,584,417	1,059,516,332	45.42%	2,475,784,283	42.80%
2019	1,866,462,020	878,688,997	987,773,023	47.08%	2,373,429,623	41.62%
2018	1,704,439,395	793,785,996	910,653,399	46.57%	2,302,436,015	39.55%
2017	6,597,947,735	932,087,789	5,665,859,946	14.13%	2,180,910,604	259.79%

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

## SCHEDULE OF EMPLOYER CONTRIBUTIONS - RETIREE HEALTH CARE TRUST FUND

Year Ended Dec. 31	(a) Statutorily Due Employer Contributions	(b) Actual Employer Contributions	(a)-(b)=(c) Contribution Deficiency (Excess)	(d) Covered Payroll*	(a) / (d) Contributions as a Percentage of Covered Payroll
2023	\$14,118,199	\$14,118,199	\$-	\$2,596,223,885	0.54%
2022	13,381,154	13,381,154	-	2,443,620,260	0.55%
2021	12,758,046	12,758,046	-	2,381,764,788	0.54%
2020	12,166,558	12,166,558	-	2,313,631,090	0.53%
2019	11,973,144	11,973,144	-	2,218,017,387	0.54%
2018	11,337,852	11,337,852	-	2,209,258,449	0.51%
2017	10,871,479	10,871,479	-	2,180,910,604	0.50%
2016	10,708,739	10,708,739	-	2,060,850,584	0.52%
2015	10,211,723	10,211,723	-	1,986,568,535	0.51%
2014	9,895,274	9,895,274	-	1,942,269,436	0.51%

\* Actuarial Estimate.

## SCHEDULE OF INVESTMENT RETURNS

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual Money Weighted Rate of Return, Net of Investment Expenses	9.650%	(10.703)%	19.230%	9.212%	17.279%	(2.854)%	13.867%	10.048%	0.187%	6.540%



## NOTES TO REQUIRED SUPPLEMENTARY OPEB INFORMATION

### 1. SCHEDULE OF CHANGES IN THE EMPLOYERS' NET OPEB LIABILITY

The total OPEB liability contained in this schedule was provided by OP&F's actuary, Cavanaugh Macdonald Consulting, LLC. The net OPEB liability is measured as the total OPEB 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 the schedule of employer contributions.

### 3. ACTUARIAL ASSUMPTIONS

The actuarial assumptions, aside from the discount rate, were adopted as of Jan. 1, 2022, based on a five-year experience review covering the period of 2017 through 2021. The discount rate of 7.50% was adopted by the Board of Trustees in February 2022. The next review of actuarial assumptions is to be completed for adoption with the Jan. 1, 2027 valuation.

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

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

#### Actuarial Assumptions

Valuation date	Jan. 1, 2023
Actuarial cost method	Entry age
Amortization method	Level percent of payroll, open
Amortization period	26.71 years
Asset valuation method	Fair value
Investment rate of return	7.50%
Projected salary increases	3.75% - 10.50%
Payroll increases	3.25%
Inflation assumptions	2.75%

## OPERS RELATED REQUIRED SUPPLEMENTARY PENSION INFORMATION

### SCHEDULE OF OHIO POLICE & FIRE PENSION FUND'S (OP&F) PROPORTIONATE SHARE OF THE NET PENSION LIABILITY OF OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS) PLAN

#### TRADITIONAL PENSION PLAN LAST 9 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017	2016	2015
OP&F's proportion of the net pension liability (asset)	\$17,536,447	\$5,780,636	\$9,451,241	\$12,222,305	\$17,148,431	\$9,597,642	\$13,874,911	\$10,779,540	\$7,534,305
OP&F's proportionate share of the net pension liability (asset)	0.059%	0.066%	0.064%	0.062%	0.063%	0.061%	0.061%	0.062%	0.062%
OP&F's covered payroll	\$9,202,193	\$9,642,643	\$8,989,514	\$8,700,257	\$8,457,043	\$7,507,300	\$7,290,938	\$7,745,508	\$7,649,967
OP&F's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	190.57%	59.95%	105.14%	140.48%	202.77%	127.84%	190.30%	139.17%	98.49%
Plan fiduciary net position as a percentage of the total pension liability	75.74%	92.62%	86.88%	82.17%	74.70%	84.66%	77.25%	81.08%	86.45%

#### COMBINED PENSION PLAN LAST 9 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017	2016	2015
OP&F's proportion of the net pension liability (asset)	\$(339,424)	\$(559,554)	\$(427,358)	\$(312,234)	\$(139,322)	\$(175,453)	\$(69,235)	\$(63,275)	\$(52,363)
OP&F's proportionate share of the net pension liability (asset)	0.144%	0.142%	0.148%	0.150%	0.125%	0.129%	0.124%	0.130%	0.136%
OP&F's covered payroll	\$620,471	\$647,450	\$652,443	\$666,550	\$532,871	\$490,143	\$446,969	\$473,208	\$478,275
OP&F's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	(54.70)%	(86.42)%	(65.50)%	(46.84)%	(26.15)%	(35.80)%	(15.49)%	(13.37)%	(10.95)%
Plan fiduciary net position as a percentage of the total pension liability	137.14%	169.88%	157.67%	145.28%	126.64%	137.28%	116.55%	116.90%	114.83%

#### MEMBER DIRECTED PLAN LAST 9 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017	2016	2015
OP&F's proportion of the net pension liability (asset)	\$(14,411)	\$(35,074)	\$(37,311)	\$(9,296)	\$(5,909)	\$(8,942)	\$(1,011)	\$(837)	\$(1,441)
OP&F's proportionate share of the net pension liability (asset)	0.184%	0.193%	0.205%	0.246%	0.259%	0.256%	0.243%	0.219%	0.245%
OP&F's covered payroll	\$928,521	\$865,093	\$878,064	\$1,044,186	\$1,058,871	\$1,002,986	\$900,093	\$1,045,000	\$1,076,864
OP&F's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	(1.55)%	(4.05)%	(4.25)%	(0.89)%	(0.56)%	(0.89)%	(0.11)%	(0.08)%	(0.13)%
Plan fiduciary net position as a percentage of the total pension liability	126.74%	171.84%	188.21%	118.84%	113.42%	124.46%	103.40%	103.91%	N/A

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

## SCHEDULE OF CONTRIBUTIONS OPERS PLAN

### TRADITIONAL PENSION PLAN

#### LAST 9 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017	2016	2015
Contractually required contributions	\$1,288,307	\$1,349,970	\$1,258,532	\$1,218,036	\$1,183,986	\$1,051,022	\$947,822	\$929,461	\$917,996
Contributions in relation to the contractually required contributions	\$1,288,307	\$1,349,970	\$1,258,532	\$1,218,036	\$1,183,986	\$1,051,022	\$947,822	\$929,461	\$917,996
Contribution deficiency (excess)	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
OP&F's covered payroll	\$9,202,193	\$9,642,643	\$8,989,514	\$8,700,257	\$8,457,043	\$7,507,300	\$7,290,938	\$7,745,508	\$7,649,967
Contributions as a percentage of covered payroll	14%	14%	14%	14%	14%	14%	13%	12%	12%

### COMBINED PENSION PLAN

#### LAST 9 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017	2016	2015
Contractually required contributions	\$86,866	\$90,643	\$91,342	\$93,317	\$74,602	\$68,620	\$58,106	\$56,785	\$57,393
Contributions in relation to the contractually required contributions	\$86,866	\$90,643	\$91,342	\$93,317	\$74,602	\$68,620	\$58,106	\$56,785	\$57,393
Contribution deficiency (excess)	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
OP&F's covered payroll	\$620,471	\$647,450	\$652,443	\$666,550	\$532,871	\$490,143	\$446,969	\$473,208	\$478,275
Contributions as a percentage of covered payroll	14%	14%	14%	14%	14%	14%	13%	12%	12%

### MEMBER DIRECTED PLAN

#### LAST 9 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017	2016	2015
Contractually required contributions	\$129,993	\$121,113	\$122,929	\$146,186	\$148,242	\$140,418	\$126,013	\$146,300	\$150,761
Contributions in relation to the contractually required contributions	\$129,993	\$121,113	\$122,929	\$146,186	\$148,242	\$140,418	\$126,013	\$146,300	\$150,761
Contribution deficiency (excess)	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
OP&F's covered payroll	\$928,521	\$865,093	\$878,064	\$1,044,186	\$1,058,871	\$1,002,986	\$900,093	\$1,045,000	\$1,076,864
Contributions as a percentage of covered payroll	14%	14%	14%	14%	14%	14%	14%	14%	14%

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

## OPERS RELATED REQUIRED SUPPLEMENTARY OPEB INFORMATION

SCHEDULE OF OP&F'S PROPORTIONATE SHARE OF THE NET OPEB LIABILITY OPERS PLAN  
LAST 7 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017
OP&F's proportion of the net OPEB liability (asset)	\$421,370	\$(2,310,088)	\$(1,280,653)	\$9,900,318	\$9,413,176	\$7,679,441	\$7,047,680
OP&F's proportionate share of the net OPEB liability (asset)	0.067%	0.074%	0.072%	0.072%	0.072%	0.071%	0.070%
OP&F's covered payroll**	\$9,822,664	\$10,290,093	\$9,641,957	\$9,366,807	\$8,989,914	\$7,997,443	\$7,737,907
OP&F's proportionate share of the net OPEB liability (asset) as a percentage of its covered payroll**	4.29%	(22.45)%	(13.28)%	105.70%	104.71%	96.02%	91.08%
Plan fiduciary net position as a percentage of the total OPEB liability	94.79%	128.23%	115.57%	47.80%	46.33%	54.14%	54.05%

SCHEDULE OF OPEB CONTRIBUTIONS OPERS PLAN  
LAST 7 FISCAL YEARS\*

	2023	2022	2021	2020	2019	2018	2017
Contractually required contributions**	\$-	\$-	\$-	\$-	\$-	\$-	\$77,379
Contributions in relation to the contractually required contributions**	\$-	\$-	\$-	\$-	\$-	\$-	\$77,379
Contribution deficiency (excess)	\$-	\$-	\$-	\$-	\$-	\$-	\$-
OP&F's covered payroll**	\$9,822,664	\$10,290,093	\$9,641,957	\$9,366,807	\$8,989,914	\$7,997,443	\$7,737,907
Contributions as a percentage of covered payroll	-%	-%	-%	-%	-%	-%	1.00%

\* The amounts presented were determined as of Dec. 31 of the prior calendar year. GASB 75 was implemented in 2018. This schedule is intended to show information for 10-years. Additional years will be displayed as they become available.

\*\* Excludes contributions and covered payroll related to OPERS - Member Directed Plan.

## ADDITIONAL INFORMATION

### SCHEDULE OF ADMINISTRATIVE EXPENSES\*

For the year ended Dec. 31, 2023

<b>Personnel Services</b>	Salaries and Wages	\$12,028,548
	OPERS Contributions	3,341,232
	Insurance	3,241,971
	Fringe Benefits/Employee Recognition	4,605
	Tuition Reimbursement	14,736
	<b>TOTAL PERSONNEL SERVICES</b>	<b>18,631,092</b>
<b>Professional Services</b>	Actuarial	314,434
	Audit	168,388
	Custodial Banking Fees	430,249
	Investment Fees and Consulting	52,112,560
	Other Consulting (Disability, Software, Legal and Health Care)	1,488,182
	Banking Expense	12,299
	<b>TOTAL PROFESSIONAL SERVICES</b>	<b>54,526,112</b>
<b>Communications Expense</b>	Printing and Postage	305,650
	Telephone	76,824
	Member/Employer Education	8,832
	Other Communications	87,000
	<b>TOTAL COMMUNICATIONS EXPENSE</b>	<b>478,306</b>
<b>Other Operating Expense</b>	Conferences and Education	47,150
	Travel	65,097
	Computer Technology	1,272,386
	Other Operating	538,634
	Warrant Clearing	260
	ORSC Expense	55,790
	Depreciation Expense - Capital	3,166,372
	<b>TOTAL OTHER OPERATING EXPENSES</b>	<b>5,145,689</b>
<b>NET BUILDING EXPENSES (includes rent)</b>		<b>1,313,218</b>
<b>TOTAL OPERATING EXPENSES</b>		<b>80,094,417</b>
<b>INVESTMENT EXPENSES</b>		<b>(57,646,723)</b>
<b>NET ADMINISTRATIVE EXPENSES</b>		<b>\$22,447,694</b>

\* Includes investment related administrative expenses.

### SCHEDULE OF INVESTMENT EXPENSES\*\*

Category	2023
Investment Manager Services	\$49,805,071
Custodial Banking Fees	430,249
Investment Consulting Services	2,307,489
Other Direct Investment Expenses	2,742,422
Allocation of Other Administrative Expenses	2,361,492
<b>INVESTMENT EXPENSES</b>	<b>\$57,646,723</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&amp;F staff.

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# INVESTMENTS

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT



**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**

**SCHEDULE OF BROKERS' FEES PAID**

**INVESTMENT POLICY AND GUIDELINES**

# 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. 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 2023

Upon adoption of a new asset allocation policy in 2022, OP&F turned its attention to analyzing the investment structure of the U.S. equity asset class in 2023. After asset allocation, investment structure decisions are considered to be the second most important because those decisions account for 5.0-7.0% of return variation, provide a platform for diversifying risk exposures within asset classes, address factors related to style (value or growth) and size (large, mid and small capitalization stocks), address active versus passive investment management issues and establish structure targets for controlling risk and capturing market opportunity. After analysis and discussion, the new investment structure for U.S. equity adopted by OP&F maintained similar excess return and risk targets but did so in a slightly more efficient manner by shifting 2.5% from passive small capitalization exposure to passive large capitalization exposure. There was no change in the allocation split between traditional investment management strategies and the portable alpha program. Other significant noteworthy investment endeavors and issues addressed last year include the following:

- Amended OP&F's Investment Policy and Guidelines statement
- Amended OP&F's U.S. Proxy Voting Policy and OP&F's International Proxy Voting Policy
- Amended OP&F's Private Credit Investment Policy
- Reviewed OP&F's Real Estate Investment Policy for possible revisions
- Amended OP&F's Real Assets Investment Policy
- Reviewed OP&F's Private Markets Investment Policy for possible revisions
- Adopted a total fund benchmark transition plan for the period Q1 2023 through Q1 2024
- Hired Parametric Portfolio Associates LLC (Parametric) to manage a commodities mandate
- Approved investment manager guidelines for Parametric
- Amended the investment manager guidelines for the Western Asset Management Company U.S. Enhanced Cash Strategy
- Continued to work toward target allocation to private markets
  - Approved commitments to Altaris Health Partners VI, Cortec VIII, PSOO, The Resolute Fund VI, TA XV and Trinity Hunt Partners VII
- Approved the 2024 private markets investment plan
- Approved the 2023-2024 private credit investment plan
- Continued to work toward target allocation to private credit
  - Approved commitments to Barings North America Private Loan Fund III, H.I.G Whitehorse Middle Market Lending Fund and Putnam Hill Private Credit Fund
- Approved the amended co-investment proposal for private credit co-investments
- Changed the target weight components of the real assets benchmark
- Approved the 2023 real assets investment plan
- Continued to work toward target allocation to real assets
  - Approved commitments to Brookfield Infrastructure Fund V and EnCap Energy Transition Fund II
- Approved the 2023 real estate investment plan
- Continued to work toward target allocation to real estate
  - Approved commitments to Alterra IOS Venture III and Blackstone Property Partners and purchased a secondary interest in Morgan Stanley PRIME Property Fund
- Approved the 2023 real estate open-end fund rebalancing recommendations
  - Submitted a partial redemption to Prudential PRISA



## ECONOMIC ENVIRONMENT

Although the consensus was for a recession to occur in 2023 due to tighter financial conditions, aggressive fiscal stimulus through deficit spending accompanied by a strong labor market kept the economy afloat. For perspective on the magnitude of fiscal stimulus, the U.S. budget deficit increased by \$800 billion in 2023. As a result, U.S. real gross domestic product (GDP) rose by 3.1% in 2023. Unlike 2022, the economy grew in all four quarters. The strong labor market helped consumers maintain strong balance sheets, which, in turn, continued to support solid consumer spending.

The U.S. economy continued to add new jobs in 2023, driven mostly by gains in public employment. As such, the nation's unemployment rate ended the year at 3.7%. Although job vacancies declined and the labor market continued to come into better balance, labor demand still exceeded the supply of workers. As such, although easing, nominal wage growth remained elevated. Given the continued tightness in the labor market along with elevated wage growth, inflation remained above the Federal Open Market Committee's (FOMC) objective of 2.0%. As measured by the U.S. Consumer Price Index (CPI), inflation rose by 3.4% in 2023. This was down from the 6.5% pace in 2022. Furthermore, the FOMC's preferred inflation measure, the U.S. Personal Consumption Expenditure Core Price Index, rose by 2.9% last year, down from 4.9% in 2022. But like the CPI, was well above the FOMC's target. Besides wage growth, the cost of buying and renting homes remained high along with the costs of services.

Given the elevated level of inflation in early 2023, the FOMC continued to embark on one of its fastest hiking cycles in decades. The FOMC raised the target range for the federal funds rate by 100 bps during the first seven months of the year, accomplished through four 25 basis points (bps) hikes. By the end of July, the target range stood at 5.25% to 5.50%, the expected peak for this tightening cycle. Additionally, the Federal Reserve (FED) continued to reduce its holdings of Treasury securities and agency debt and agency mortgage-backed securities, contributing to the tighter financial conditions. Given the high level of interest rates, interest rate sensitive sectors such as housing continued to experience weakness in terms of demand.

As for the rest of the world, growth rebounded early in 2023 but was muted as the year progressed. Eurozone Real GDP in 2023 came in at 0.40%, down from an annual growth rate in 2022 of 3.40%. Much like the U.S., tighter financial conditions and elevated inflation weighted on economic activity. Furthermore, the region continued to experience high energy prices. China registered a 5.2% annual growth rate in real GDP in 2023, up from 3.0% in 2022. Although growth rebounded, China experienced challenges due to problems in their

property sector along with weak domestic demand. As one may recall, growth in China in 2022 was significantly impacted by COVID-19 related lockdowns in the early part of the year. Japan's real GDP grew by 1.9% in 2023 compared to 1.0% in 2022.

As 2024 began, there was growing optimism that the FOMC would in fact be able to pilot the economy to a soft landing rather than evoke a recession. Optimism abounded due to the fact that economic activity remained solid, job gains continued to be strong resulting in the unemployment rate remaining low. As for inflation, although it had continued to cool, it still remained elevated and its declines had slowed off the pace from late 2023. This was no more evident by the stronger than expected inflation readings in January, February and March. Despite these readings, the FOMC still projects that economic conditions will warrant policy rate cuts in 2024.

Although consensus has shifted from recession to soft landing, a recession should not be ruled out completely in the near term. One such reliable recession signal is an inverted yield curve, whereby shorter dated bonds yield more than longer dated bonds. The U.S. yield curve still remains in this state. During the past sixty plus years, there is really only one instance, in 1966 that such conditions did not precede a recession. Also, based on history, inflation tends to come in waves and typically ends only when there is a recession. Current factors that may contribute inflation remaining sticky are the continued trend of de-globalization, increased deficit spending, continued elevated shipping costs, more stringent environmental policies and continued wage pressure. As an aside, it should be noted that 3.0% inflation is more typical than 2.0% as the mean U.S. CPI inflation rate over the past 40 years is 2.8%. Also, from a geopolitical standpoint, nearly half of the world's population has an election year in 2024 which poses additional risks beyond economic.

## TOTAL FUND

The total portfolio, on a trade date basis, was valued at \$17.64 billion at the end of 2023, up from \$16.76 billion at the end of 2022. Within OP&F's portfolio, strong absolute returns in U.S. equity, non-U.S. equity, high yield, private credit and midstream energy infrastructure were offset by weak returns in U.S. TIPS and real estate. Given the magnitude of the strong returns in the aforementioned asset classes, along with their weights within the total portfolio, combined to deliver a positive total portfolio return in 2023. For calendar year 2023, the total portfolio's investment return was 9.52% gross of fees, and 9.04% net, compared to a policy index return of 10.30%. This represents an underperformance of the total portfolio's policy index return by 78 bps gross and 126 bps net. OP&F's investments in U.S. equity, high yield, core fixed income, U.S. TIPS and real assets were the asset class composites to

underperform their respective asset class benchmarks over the course of 2023. Also, the derivatives overlay strategy managed by Russell Investments subtracted 125 bps from the total fund performance.

Despite last year's positive absolute performance, OP&F experienced poor relative peer group performance. The total portfolio's 2023 results ranked in the 89th percentile of Wilshire's All Public Plans – Total Fund Universe. Long-term peer group performance still remains attractive with the three-year, five-year and 10-year results ranked in the 8th, 38th and 14th percentiles, respectively, of that same peer universe. With 2023's result, OP&F's three-year annualized gross of fees return now stands at 6.39%, and 5.73% net, while the five-year annualized gross of fees return is 9.05%, and 8.40% net. OP&F's 10-year gross of fees return is 7.54%, and 6.92% net. Despite the weak underperformance versus the policy index in 2023, OP&F's three-year relative return is still above the policy index return of 4.68% for the same period, while OP&F's five-year return also beat the policy index return of 8.05%. The 10-year return also bested the policy index return of 6.45%.

The total portfolio value stood at approximately \$18.13 billion as of March 31, 2024, which equates to an unaudited, estimated return of 3.72% for the first quarter of 2024, compared to a policy index return of 3.07%. U.S. equity, real estate, U.S. TIPS, and midstream energy infrastructure contributed to the outperformance in the first quarter.

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 risk parity at the asset allocation level and their ongoing reaffirmation and implementation of that approach demonstrate that OP&F is committed to creating and maintaining a well-diversified portfolio. Staff and consultants are constantly evaluating the environment and different approaches to maintain a risk-balanced portfolio within the risk parity construct. As in the past, OP&F has and will continue to evaluate non-correlated, non-traditional strategies and asset classes in its search for optimal risk-adjusted returns.

## EQUITIES – U.S. AND NON-U.S.

Equity prices in the U.S. and international markets rebounded in 2023 after declining sharply in 2022. In 2022, the U.S. stock market had its worst year since 2008. In 2023, stock market returns for the calendar year were positive 26.10% as measured by the Financial Times (FT) Wilshire 5000 Total Market Total Return (TR) Index and positive 26.29% for the S&P 500 TR Index. The Russell 2000 TR Index, an index that tracks smaller capitalization companies, gained 16.93%. In 2023, large cap growth stocks significantly outperformed large cap value stocks, and small cap growth stocks outperformed small

cap value stocks. The large cap growth vs. value spread was 31.2% as measured by the Russell 1000 Growth and Value Indices while small cap growth stocks outperformed value by approximately 4.0% as measured by the Russell 2000 Growth and Value Indices. The large cap growth spread benefitted from strong performance from technology and communications stocks, and a decline in energy stocks while small cap growth stocks benefitted from gains in technology and healthcare stocks.

Non-U.S. equity returns underperformed those of U.S. stocks. The Morgan Stanley Capital International (MSCI) All Country World Index (ACWI) ex-U.S. Net TR Index, which includes both developed and emerging market companies, gained 15.62% (in U.S. dollar terms), underperforming the S&P 500 TR Index by 10.67%. Emerging markets, as measured by the MSCI Emerging Markets Net TR Index, gained 9.83% (in U.S. dollar terms). In the U.S. stocks of high growth companies significantly outperformed however, in non-U.S. markets, value stocks outperformed due to strong performance from the financial sector. The MSCI ACWI ex-U.S. Growth Net TR Index (in U.S. dollar terms) underperformed the equivalent Value Index by approximately 3.27%. For calendar 2023, major developed country currencies gained against the U.S. dollar, which was a modest positive factor for U.S. based investors in overseas markets, depending on the region or country.

Following negative stock returns in 2022, the U.S. stock market rebounded in 2023 and continued its advance into early 2024. The positive equity market returns in 2023 that continued into 2024 were driven by easing inflation, a strong economy and the prospect for interest rate cuts by the FED.

As mentioned previously, growth stocks far outperformed value stocks domestically while value stocks outperformed abroad. In the U.S., growth-oriented indices and managers outperformed in 2023 as they are often more heavily weighted in technology stocks, and have less exposure to value-focused areas like energy and some consumer companies. The primary driver of this growth outperformance in the U.S. was the big rebound in high-growth technology stocks and stocks tied to artificial intelligence, while non-U.S. markets benefitted from strong performance in the financial sector.

In calendar year 2023, OP&F's U.S. equity composite gained 22.58% (net of fees). This compared unfavorably to the policy index, which gained 26.10% and the S&P 500 TR Index which gained 26.29%.

The OP&F total international equity composite gained 19.31% (net of fees) in 2023 which outperformed the policy index, which gained 15.62%, by 3.69%.

## MIDSTREAM ENERGY INFRASTRUCTURE

For the third consecutive year, midstream energy infrastructure performed well, with the asset class policy index returning 14.02% in 2023. OP&F's midstream energy infrastructure managers' blended composite outperformed the policy index in 2023 with a return of 18.38%.

Despite rising interest rates, generally declining energy prices and geopolitical tensions, midstream energy infrastructure's stable and inflation-protected revenue, high yield and strong free cash flow generation continued to drive strong returns.

Over the last few years, management teams of midstream energy infrastructure companies have become much more disciplined in reducing capital spending and increasing free cash flow generation. The improved free cash flow has been used to increase dividends, buy back stock and reduce leverage. This has resulted in healthier balance sheets and improved financial flexibility. Additionally, the midstream energy infrastructure opportunity set has continued to improve with significant Liquefied Natural Gas (LNG) export opportunities, as well as opportunities related to the energy transition.

As stated in prior OP&F ACFRs, there has been a structural shift in the midstream energy infrastructure space, with a gradual reduction of publicly traded MLPs, to the point where MLP's make up less than half of the public midstream energy infrastructure market.

Midstream energy infrastructure companies often supply services under long-term contracts with annual inflation adjustments. These contracts usually obligate their upstream exploration and production customers and downstream utilities to pay regardless of volume that goes through their pipelines. This results in a stable revenue stream with inflation protection. Importantly, midstream energy infrastructure securities' prices have become less correlated with crude oil and natural gas prices over the last few years as investors recognize the fundamental attributes and stability of the asset class.

The revised asset allocation approved by the Board of Trustees in August of 2022 maintained the target weight to midstream energy infrastructure at 5.0%. OP&F's actual weight to the asset class was 5.7% as of Dec. 31, 2023.

## COMMODITIES AND GOLD

As previously mentioned, OP&F adopted a new asset allocation policy in 2022, which added a new target allocation of 2.0% to commodities. Commodities were added to provide further portfolio diversification and additional inflation protection. After evaluating several investment managers as

part of a search, OP&F hired Parametric in 2023 to manage a commodities mandate. OP&F made its initial funding to Parametric on Oct. 2, 2023, representing 0.5% of the total portfolio at the time of funding.

From the performance start date, Oct. 3, 2023 through Dec. 31, 2023, the OP&F commodity composite delivered a negative 1.93% gross of fees return, and negative 1.98% net, compared to the policy index return of negative 4.92%. Commodities fell in the quarter, led by crude oil down 21.1% and natural gas prices falling 14.2%.

Separate from the 2.0% allocation to commodities, OP&F has a target allocation of 5.0% to gold. Gold was added to the total portfolio in 2020 to further improve risk and economic factor balance and is a substitute for additional fixed income exposure. Gold has historically been a strong diversifier to growth-oriented investments, providing downside protection in notable equity sell-offs given its zero or negative correlation.

For the year ended Dec. 31, 2023, OP&F's gold composite returned 7.34% on both a gross and net of fees basis, outperforming the policy index return of 7.25%. Gold prices were supported in 2023 due to rising geopolitical tensions and strong buying by central banks.

## FIXED INCOME – CORE AND INFLATION PROTECTED BONDS

The economic rebound that started in 2020 continued into 2023 due to the continuation of global COVID-19 pandemic stimulus programs and strong consumer spending. This provided upward pressure on the 10-year U.S. Treasury yield during 2022 and into 2023. The 10-year U.S. Treasury yield climbed to 3.88% by year-end 2022 and peaked at approximately 4.99% in the fourth quarter of 2023 before falling back to 3.88% by year-end 2023. Interest rate volatility continued as the yield increased to 4.20% by March 31, 2024. The bond market focused on the prospects for higher interest rates, the job market and inflation in 2022 and through July 2023 as the FED continued to raise the discount rate. In late 2023 and into early 2024, the focus changed to FOMC interest rate cuts.

The yield curve, as displayed by the difference between 10-year U.S. Treasury yields and 2-year U.S. Treasury yields, steepened by 0.14% from March 31, 2023 to March 31, 2024 as longer maturities increased as the market began pricing higher for longer inflation.

Longer term inflation expectations held steady at 2.32% over the one year period.

The OP&F core fixed income composite returned a

positive 4.56% (2 times levered, net of fees) for the year, underperforming its policy index return of positive 5.25% (2 times levered Bloomberg U.S. Aggregate Index, less financing cost) by 0.69%.

The OP&F U.S. TIPS composite declined in 2023 by negative 1.02% (net of fees) underperforming the policy index return of positive 2.14%.

## HIGH YIELD

The multi-year rally in the U.S. high yield bond market paused in 2022 as the asset class policy index fell 11.24% for the year. High yield spreads increased by 186 basis points as the FED hiked short-term interest rates aggressively and the yield curve inverted, signaling growing chances of a recession. In 2023, the high yield bond market rallied, with the asset class policy index finishing the year up 13.47% as credit spreads declined by 128 basis points, interest rates declined and inflation eased.

Unlike in 2022, the lower quality end of the credit spectrum outperformed higher quality bonds. In 2023, lower quality, more leveraged company bonds such as CCCs significantly outperformed higher quality ones such as BBs. The retail sector was the best performer in 2023 followed by leisure and financial services, while the transportation, telecommunications and banking sectors were the worst performers.

The OP&F high yield portfolio returned 11.88% (net of fees) in 2023, underperforming the policy index return of 13.47% by 1.59%.

## REAL ESTATE

For the year ended Dec. 31, 2023, OP&F's total real estate portfolio delivered a negative 11.00% return (net of fees). OP&F's net return outperformed the Open-End Diversified Core Equity (ODCE) index net of fees by 1.88% during the year.

The portfolio is designed to exceed the ODCE index by 50 bps per year on a net basis over full market cycles. It has accomplished that goal over most long-term measurement periods. Over the trailing 10-year period, OP&F's portfolio exceeded its goal by approximately 164 bps per year (net of fees).

As the Board of Trustees have been discussing, private market values tend to lag public markets. This lag can be particularly pronounced during periods of rapid market change, as occurred during 2023. Reported values and returns are becoming more meaningful as that lag diminishes.

OP&F's real estate program is divided into a lower-risk, lower-return strategic portfolio and a higher-risk, higher-return tactical

portfolio. At Dec. 31, 2023, based on manager submissions, OP&F's exposure to the strategic portfolio stood at 44.8% of the total real estate program, which was well within the permitted range. The lower-risk strategic portfolio is designed to deliver performance similar to the ODCE index.

In contrast, the tactical portfolio provides OP&F greater flexibility to deviate from the benchmark and to take calculated risk in pursuit of higher returns. The tactical portfolio is expected to deliver long-term performance that exceeds the ODCE index, while also introducing higher risk levels and short-term volatility. Within the higher-risk tactical portfolio, OP&F has sought to temper its overall level of downside exposure by blending in some moderate-risk core plus funds, by seeking funds with more durable capital structures, and through strategy and manager selection.

OP&F has maintained, and seeks to continue, an overweight to the industrial sector. OP&F has also maintained or added exposure to some non-traditional property-types such as self-storage, medical office, industrial outdoor storage, and the life science space.

OP&F's real estate portfolio is U.S.-focused (approximately 95% as of Dec. 31, 2023 based on manager submissions), with select investments in other parts of the world.

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 expected ability to advance these other goals.

At the end of 2023, OP&F's market exposure to real estate was 10.9%. Exposure was below the 12% target allocation, but within the targeted range for real estate. OP&F is maintaining its philosophy of investing patiently and prioritizing attractive risk-adjusted returns.

## REAL ASSETS

OP&F established an allocation to real assets in 2016. The allocation currently covers timberland, agriculture, and infrastructure, and is distinct from the separate allocations that OP&F has established for real estate and for midstream energy infrastructure. The program is designed to provide diversification, to hedge against inflation, to preserve capital, and to generate attractive risk-adjusted returns through a combination of income and appreciation.

During 2023, OP&F's policy was revised to (1) widen the permitted range for infrastructure and (2) widen and lower the permitted range for timberland. Corresponding changes were made to the benchmark for the real assets asset class.



For the year ended Dec. 31, 2023, the portfolio delivered a 5.03% time-weighted return net of fees. For the trailing five-year period, the net return was 5.63%.

The real assets portfolio is designed to deliver a return that exceeds a custom benchmark, which is constructed by blending a private-market timberland index, a private-market farmland index, and a public market infrastructure index. The program does not yet have a sufficient history to measure a full market cycle. Based on the trailing five-year return, the real assets portfolio is outperforming the benchmark by 63 bps per year.

The real assets program, while still in development, is beginning to mature. At the end of the year, the program represented 6.0% of OP&F's total portfolio relative to a long-term target of 8.0%. Unfunded commitments represented another 1.5% of OP&F's total portfolio. The portfolio is tilted toward lower risk (and lower expected return) strategic investments, and away from higher risk (and higher expected return) tactical investments.

Ongoing portfolio construction objectives include building total exposure gradually; calibrating the appropriate balance between lower risk strategic and higher-risk tactical investments; maintaining a focus on developed markets; and building long-term returns while controlling risk.

## PRIVATE MARKETS

For the year ending Dec. 31, 2023 (private market returns are lagged by one quarter), OP&F's private markets portfolio provided a net return, on a time-weighted basis, of 7.68%. To note, evaluating private markets performance over short-time periods can be misleading. With that said, for the ten-year period ending Dec. 31, 2023, the portfolio provided an annualized net return of 15.52%.

In 2014, OP&F adopted changes to how it evaluates the performance of the private markets portfolio. The methodology evaluates the performance of the private markets program by developing a Public Markets Equivalent (PME) comparison. A PME comparison utilizes an Internal Rate of Return (IRR) calculation of all historical cash flows and compares the resulting performance to a public market proxy index, by assuming that all of the same cash flows are invested in the public market index. This methodology allows for the purest comparison of the private markets program performance to that of a public market alternative. Secondly, the performance of the private markets program is evaluated relative to the Refinitiv Thompson ONE Private Equity Pooled Horizon IRR: Net to Limited Partners peer universe, or equivalent. The 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 ending Sept. 30, 2023,

OP&F's private markets program provided a net IRR of 16.3%, outperforming the benchmark's PME by 3.5% annualized. In addition, OP&F's private markets program has outperformed the benchmark PME on a net of fee basis since inception. Relative to the Refinitiv Thompson ONE Private Equity Pooled Horizon IRR: Net to Limited Partners peer universe, as of Sept. 30, 2023, OP&F's private markets program's net of fee IRR ranks second quartile for the three-year, 10-year and since inception basis, first quartile for the five year basis.

The market slowdown that occurred in the second half of 2022 persisted throughout all of 2023. Private markets faced a range of continued and growing macroeconomic and geopolitical headwinds, resulting in a more challenging investment environment. Fundraising continued to fall in 2023 relative to the all-time high achieved in 2021. The "denominator effect" persisted in part due to a less active deal market. Higher financing cost and lower purchase price multiples limited the ability or willingness of general partners to exit positions; fewer exits, coupled with continuing capital calls, resulted in many limited partners remaining overexposed to private markets relative to their target allocations. Similar to last year, limited partners continued to concentrate commitments among larger funds as many investors chose to re-up with known, tested names while forgoing commitments to smaller, newer managers. Venture capital and growth equity strategies had the lowest level of cumulative capital raised since 2015; however, buyout strategies had their best fundraising year. Deal volume declined sharply in 2023 due to increased cost of capital. Rising borrowing costs continued to impact manager's ability to finance large transactions. Contracting valuation multiples provided challenges to the mergers and acquisitions landscape, and economic and operational challenges contributed to longer hold periods and slowed exits during 2023.

In 2020, OP&F began implementation of a co-investment strategy that allows OP&F to opportunistically pursue co-investments alongside private markets funds. The strategy will allow OP&F to average down overall program costs, provide greater control over vintage year, geographical, and industry exposure and enhance program returns through proper deal selection.

In 2022, OP&F completed a secondary sale of a large portion of the underlying partnerships within the private markets program. Partnerships included in the sale were mainly tail-end and non-core partnerships. The current long-term target allocation to private markets is 10%. On an invested basis, private markets comprised approximately 8.2% of OP&F's total assets as of year-end. Although the year-end allocation is below the long-term target, the private markets program is well within the policy range of 7.6% to 12.4%. OP&F will continue to manage the private markets allocation to OP&F's long-term target by adopting annual private markets investment plans

that allow OP&F the flexibility to manage the private markets portfolio based on suitable investment opportunities while also taking into consideration current market conditions. In addition, the annual private markets investment plans will seek to maintain appropriate vintage year diversification for the private markets portfolio. OP&F will mainly target commitments to primary partnerships, and on an opportunistic basis, co-investments and secondary partnerships. As always, OP&F and its dedicated private markets investment consultant will prudently recommend commitments that seek for the private markets portfolio to remain compliant with applicable policies and guidelines.

## PRIVATE CREDIT

Since the adoption of the private credit asset class, OP&F has focused on senior secured lending in the corporate middle market space, also known as direct lending. As has been the case for the prior couple of years, the private credit allocation will increase going forward as OP&F reduces its high yield bond allocation. Research has demonstrated that historically the relatively higher quality end of the direct lending market (direct loans to mostly private, corporate small and mid-sized companies) has provided better yields and returns, better loan covenant protections, lower default rates and higher recoveries than the public high yield bond market. Private lending has become more competitive and has grown to an equivalent size of the other two leveraged financed markets in recent years, so it will be interesting to see if these dynamics unfold similarly to past recessions during the next economic slowdown.

As public high yield bond spreads are correlated to direct lending spreads, the plateau in short-term interest rates and tightening of credit spreads in 2023 seemed to indicate that private companies may be adjusting to a higher interest rate environment as the economy has remained strong. As mentioned, some private credit managers relaxed covenant requirements and other terms in prior years to stay competitive, then lending standards tightened and credit spreads increased in 2022 due to fears of a recession and a pull-back in lending by banks. In 2023 lending standards were relaxed as the economy remained strong and loan yields declined due to tighter credit spreads. OP&F works to reduce some of these risks by committing to strategies that are mostly senior secured, first lien loans and by investing with experienced managers with a history of operating in difficult environments while generating good overall returns through the cycle.

As described above in the private markets section, OP&F has also adopted a PME approach to evaluating the performance of its private credit portfolio. Since the initial investment in April of 2014 through Sept. 30, 2023, the net IRR for OP&F's private credit program was 6.4%. This compares very favorably to its benchmark's PME annualized return of 3.8%. As of Dec. 31 2023, OP&F had 17 private credit strategies consisting

of 16 limited partnership funds managed by 13 different investment firms. One of the private credit strategies is a common stock holding of an investment company that manages private credit strategies. In addition, in 2024 to date, three commitments have been approved.

## 2024 DEVELOPMENTS AND CHALLENGES AHEAD

As previously mentioned, in 2023, OP&F approved a new investment structure for U.S. equity. The new structure maintains a 60% target to the portable alpha program within U.S. equity. At the time of approval in 2023, no changes to the underlying allocations within the portable alpha program were recommended to allow time for further analysis and discussions. In early 2024, OP&F approved changing the targets of the two components within the portable alpha program to improve portfolio efficiency and diversification. For the remainder of 2024, OP&F anticipates spending much time and attention on shifting the portfolio toward the benchmark targets throughout the implementation period while intensely focusing on liquidity needs within the broader economic and capital markets environment. Additionally, OP&F will be comparing OP&F's current investment procedures to other approaches or best practice for areas of improvement or better efficiencies. As always, OP&F will continue to look for ways to reduce the costs of OP&F's operations. Below are some of the other items already addressed in 2024 and a number that still lie ahead:

- Amended OP&F's Investment Policy and Guidelines statement
- Reviewed OP&F's U.S. Proxy Voting Policy for possible revisions
- Amended OP&F's International Proxy Voting Policy
- Amended OP&F's Private Credit Investment Policy
- Adopted a total fund benchmark transition plan for the period Q2 2024 through Q2 2025
- Approved the 2024 real assets investment plan
- Closed on a portion of the commitment to Blackstone Property Partners via purchasing a secondary interest
- Began implementation of the 2024 private markets investment plan
  - Approved commitments to Clearlake Capital Partners VIII, PSOO, Spark Capital VIII, Spark Capital Growth Fund V and Tenex Capital Management IV
- Approved the 2024 real estate investment plan
- Began implementation of the 2024 real estate investment plan

- 
- Approved commitments to AEW Partners Real Estate Fund X and Oaktree Real Estate Opportunities Fund IX
  - Continued to work toward target allocation to private credit
    - Approved commitments to Cerberus Levered Loan Opportunities Fund V, Crescent European Specialty Lending Fund III and MC Credit Fund IV Levered
  - Rescinded the commitment to Barings North America Private Loan Fund III
  - Implement the 2024 real assets investment plan
  - Complete implementation of the 2024 real estate investment plan
  - Complete implementation of the 2024 private markets investment plan
  - Complete implementation of the 2023-2024 private credit investment plan
  - Begin implementation of the private credit co-investment program
  - Approve the 2024-2025 private credit investment plan
  - Begin implementation of the 2024-2025 private credit investment plan
  - Approve the 2024 real estate open-end fund review
  - Approve the 2025 private markets investment plan
  - Review OP&F's Real Estate Investment Policy for possible revisions
  - Review OP&F's Real Assets Investment Policy for possible revisions
  - Review OP&F's Private Markets Investment Policy for possible revisions

## INVESTMENT PORTFOLIO SUMMARY

### INVESTMENT PORTFOLIO SUMMARY - AS OF DEC. 31, 2023

Investment Type	Percent of Net Investment Value	Fair Value
Cash and Cash Equivalents*	10.53%	\$1,857,005,542
Corporate Bond and Obligations	10.72%	1,890,767,954
Domestic and International Derivatives	(0.03)%	(5,853,850)
Domestic Commingled Bonds	5.27%	929,664,935
Domestic Equities	15.79%	2,786,778,201
Domestic Pooled Equities	7.27%	1,282,438,863
International Bonds	-%	47,500
International Equities	13.73%	2,423,460,466
Master Limited Partnerships	2.39%	421,937,115
Municipal Bond Obligations	0.02%	3,289,310
Non-Agency Mortgage and Asset-Backed Securities	2.57%	453,887,500
Private Debt	2.59%	456,228,678
Private Equity	8.26%	1,456,854,651
Real Assets	6.12%	1,079,980,335
Real Estate	10.27%	1,811,679,773
U.S. Agency Mortgage and Asset-Backed Securities	2.43%	428,325,620
U.S. Government Treasury Obligations	1.33%	234,537,342
U.S. Government Treasury STRIPS	0.05%	8,987,360
<b>TOTAL FAIR VALUE - CASH AND SECURITIES</b>	<b>99.31%</b>	<b>\$17,520,017,295</b>
Accrued Income	0.27%	47,610,498
Sales Receivable	0.67%	118,407,839
Purchases Payable	(0.25)%	(44,495,105)
<b>NET INVESTMENT VALUE (TRADE DATE BASIS)</b>	<b>100.00%</b>	<b>\$17,641,540,527</b>

\* Cash and cash equivalents are included in cash and short-term investments on the Statement of Fiduciary Net Position.

## TEN LARGEST COMMON STOCKS

(BY FAIR VALUE)

Stocks	Shares	Fair Value
Cheniere Energy Inc	753,081	\$128,558,458
Targa Resources Corp	1,338,321	116,259,945
Blue Owl Capital Corp	4,891,679	72,201,182
Williams Companies	1,746,711	60,837,944
Oneok Inc	800,578	56,216,587
Western Midstream Partners	1,694,227	49,573,082
Pembina Pipeline Corporation	1,006,506	34,643,937
Allianz AG	104,281	27,871,190
Samsung Electronics	18,527	27,753,446
Taiwan Semiconductor	263,868	27,442,272

## TEN LARGEST BONDS AND OBLIGATIONS

(BY FAIR VALUE)

Description	Coupon	Maturity Date	Par Value	Fair Value
U.S. Treasury Note	3.625	May 31, 2028	\$30,485,000	\$30,188,486
U.S. Treasury Bond	2.000	Nov. 15, 2041	30,980,000	22,500,435
Freddie Mac Pool	2.500	Apr. 01, 2052	25,834,411	22,004,519
U.S. Treasury Note	4.375	Nov. 30, 2028	18,175,000	18,616,596
U.S. Treasury Bond	2.250	May 15, 2041	20,810,000	15,913,147
Fannie Mae Pool	3.000	July 01, 2052	15,726,747	13,931,715
U.S. Treasury Note	4.375	Aug. 31, 2028	11,235,000	11,486,032
U.S. Treasury Bond	4.750	Nov 15, 2043	9,485,000	10,209,713
U.S. Treasury Bond	3.625	May 15, 2053	10,330,000	9,597,216
CCO Holdings LLC/CAP Corp	4.250	Jan. 15, 2034	11,845,000	9,594,450

## TEN LARGEST REAL ESTATE HOLDINGS

(BY FAIR VALUE)

Description	Fair Value
Prudential PRISA	\$198,085,301
Lion Industrial Trust	140,431,489
Morgan Stanley Prime Property Fund	135,121,520
JP Morgan Strategic Property Fund	122,990,984
Prologis Targeted US Logistics Fund	113,357,531
Exeter Industrial Value Fund V	88,384,157
LaSalle Property Fund	80,769,394
Heitman Core Property Fund	74,152,551
Asana Partners Fund I	66,254,422
Cortland Growth and Income Fund	59,052,237

A complete listing of portfolio holdings is available upon request.

# SCHEDULE OF INVESTMENT RESULTS

(Gross of fees) (FOR THE YEAR ENDED DEC. 31, 2023)

	Annualized Rates of Return		
	1-Year	3-Year	5-Year
<b>U.S. Equity</b>			
<b>OP&amp;F</b>	<b>23.13%</b>	<b>9.87%</b>	<b>16.51%</b>
FT Wilshire 5000 Total Market TR Index	26.10%	8.95%	15.40%
<b>International Equity</b>			
<b>OP&amp;F</b>	<b>19.82%</b>	<b>4.11%</b>	<b>9.37%</b>
MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index (\$N)	15.62%	1.53%	7.19%
<b>Private Markets**</b>			
<b>OP&amp;F</b>	<b>7.68%</b>	<b>14.44%</b>	<b>15.81%</b>
Actual Private Markets Composite (NOF)	7.68%	14.44%	15.81%
<b>High Yield</b>			
<b>OP&amp;F</b>	<b>12.24%</b>	<b>2.27%</b>	<b>5.31%</b>
ICE BofA Merrill Lynch U.S. High Yield Master II Constrained Index	13.47%	2.01%	5.19%
<b>Private Credit**</b>			
<b>OP&amp;F</b>	<b>17.38%</b>	<b>12.54%</b>	<b>9.17%</b>
Morningstar LSTA U.S. Leveraged Loan Index + 2%	15.31%	8.20%	6.55%
<b>Treasury Inflation Protected Securities (TIPS)</b>			
<b>OP&amp;F</b>	<b>(0.05)%</b>	<b>(3.10)%</b>	<b>4.80%</b>
Custom Index	2.14%	(5.34)%	3.77%
<b>Real Estate**</b>			
<b>OP&amp;F</b>	<b>(10.80)%</b>	<b>11.17%</b>	<b>8.39%</b>
NCREIF ODCE Index	(12.88)%	6.19%	4.72%
<b>Real Assets* **</b>			
<b>OP&amp;F</b>	<b>6.20%</b>	<b>8.96%</b>	<b>6.98%</b>
Custom Index	5.12%	6.07%	5.00%
<b>Commodities*</b>			
<b>OP&amp;F</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Bloomberg Commodity Index	N/A	N/A	N/A
<b>Gold</b>			
<b>OP&amp;F</b>	<b>7.34%</b>	<b>0.30%</b>	<b>N/A</b>
S&P GSCI Gold Index Total Return (-) Cost of Financing	7.25%	(0.17)%	N/A
<b>Midstream Energy Infrastructure*</b>			
<b>OP&amp;F</b>	<b>19.03%</b>	<b>29.87%</b>	<b>12.93%</b>
Alerian Midstream Energy Index	14.02%	24.25%	11.49%
<b>Fixed Income</b>			
<b>OP&amp;F - Core</b>	<b>4.72%</b>	<b>(9.43)%</b>	<b>(2.92)%</b>
Custom Index	5.25%	(9.36)%	(2.62)%
<b>Total Portfolio</b>			
<b>OP&amp;F</b>	<b>9.52%</b>	<b>6.39%</b>	<b>9.05%</b>
Policy Index***	10.30%	4.68%	8.05%

\* a) Midstream Energy Infrastructure benchmark is a blend of the Alerian MLP Index from July 1, 2013 through June 30, 2019, and the Alerian Midstream Energy Index from July 1, 2019 forward. b) Real Assets benchmark updated in 2020 and made retroactive - blend of 45% FTSE Dev. Core 50/50 Infrastructure Index, 35% NCREIF Timberland Index, and 20% NCREIF Farmland Index. c) Commodities first funded in the 4Q 2023.

\*\* One quarter in arrears.

\*\*\* Interim Policy Index: 20.55% FT Wilshire 5000 Total Market TR Index, 13% MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index (\$N), 25% Bloomberg U.S. Aggregate 2x (-) Cost of Financing, 8.0% ICE BofA Merrill Lynch U.S. High Yield Master II Constrained Index, 5.0% Morningstar LSTA U.S. Leveraged Loan Index + 2.0% Lagged, 15% Bloomberg U.S. Gov't Inflation Linked Bond Index X2 (-) Libor, 12% NCREIF ODCE Index (Net) Lagged, 8.5% Actual Private Markets Composite (NOF) Lagged, 6.25% Blend of 45% FTSE Dev. Core 50/50 Infrastructure Index, 35% NCREIF Timberland Index, and 20% NCREIF Farmland Index Lagged, 5.0% Alerian Midstream Energy Index, 5.7% S&P GSCI Gold Index Total Return (-) Cost of Financing, 2.0% Bloomberg Commodity Index.

Long-Term Policy: 18.6% FT Wilshire 5000 Total Market TR Index, 12.4% MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index (\$N), 25% Bloomberg U.S. Aggregate X2 (-) Cost of Financing, 7.0% ICE BofA Merrill Lynch U.S. High Yield Master II Constrained Index, 5.0% Morningstar LSTA U.S. Leveraged Loan Index + 2.0% Lagged, 15% Bloomberg U.S. Gov't Inflation Linked Bond Index X2 (-) Libor, 12% NCREIF ODCE Index (Net) Lagged, 10% Actual Private Markets Composite (NOF) Lagged, 8.0% Blend of 45% FTSE Dev. Core 50/50 Infrastructure Index, 35% NCREIF Timberland Index, and 20% NCREIF Farmland Index Lagged, 5.0% Alerian Midstream Energy Index, 5.0% S&P GSCI Gold Index Total Return (-) Cost of Financing, 2.0% Bloomberg Commodity Index. (adds to 125% as "Risk Parity" approach uses 2x levered U.S. Gov't Inflation-Protected Securities and 2x levered Core Fixed Income).

Acronyms and abbreviations used in this chart are explained at the end of the Statistical Section, in the [List of Professional Acronyms, Symbols and Abbreviations](#).



## INVESTMENT CONSULTANTS AND MONEY MANAGERS

(FOR THE YEAR ENDED DEC. 31, 2023)

### INVESTMENT CONSULTANTS

Aksia CA, LLC  
(The) Townsend Group  
Wilshire Advisors, LLC

### INVESTMENT MANAGERS – U.S. EQUITY

Bridgewater Associates, LP  
Grosvenor Capital Management, LP  
Macquarie Investment Management  
N.A. Investcorp, LLC  
State Street Global Advisors

### INVESTMENT MANAGERS – INTERNATIONAL EQUITY

Arrowstreet Capital, LP  
Barings, LLC  
Causeway Capital Management, LLC  
Dimensional Fund Advisors  
Harding Loevner, LP

### INVESTMENT MANAGERS – REAL ESTATE

AEW Capital Management  
Affinius Capital Advisors, LLC  
Almanac Realty Investors  
Aermont Capital, LLP  
Alterra IOS Manager, LLC  
Ares Management, LLC  
Asana Partners  
(The) Blackstone Group  
Brookfield Asset Management, Inc.  
Clarion Partners  
Cortland Partners  
DigitalBridge  
EQT Exeter  
Fairfield Realty Advisors, LLC  
Fortress Japan Opportunity Management, LLC  
(The) Gerrity Group  
Greystar Investment Group, LLC  
Heitman Capital Management, LLC  
Jamestown Premier GP, LP  
JP Morgan Investment Management, Inc.  
LaSalle Investment Management  
Lone Star Funds  
Manulife Investment Management  
Morgan Stanley Real Estate Advisors, Inc.  
Oaktree Capital Management

Prologis Inc.  
Prudential Real Estate Investors  
Savanna Investment Management, LLC  
Starwood Capital Group  
Stockbridge Real Estate Fund  
Tricon Capital Group, Inc.  
TriGate Capital  
UBS Realty Investors, LLC  
VBI Real Estate  
Ventas Inc.  
Walton Street Capital, LLC  
Waterton Associates, LP  
Westbrook Partners, LLC

### INVESTMENT MANAGERS – MIDSTREAM ENERGY INFRASTRUCTURE

Harvest Fund Advisors, LLC  
Tortoise Capital Advisors, LLC  
Westwood Management Corp.

### INVESTMENT MANAGERS – REAL ASSETS

ACM Management Company, LLC  
Axiom Infrastructure, Inc.  
Brookfield Asset Management, Inc.  
Brookfield Timberlands Management  
EnCap Investments, LP  
Forest Investment Associates  
Global Forest Partners  
iCon Infrastructure Inc, LLP  
IFM Investors  
Kohlberg, Kravis Roberts & Co., LP  
Manulife Investment Management Timberland and Agriculture, Inc.  
Meridiam Infrastructure North America Corporation

### INVESTMENT MANAGERS – FIXED INCOME

Bridgewater Associates, LP  
Loomis Sayles & Company, LP  
MacKay Shields, LLC  
Neuberger Berman  
Pacific Investment Management Company, LLC  
PGIM, Inc.  
Western Asset Management

**INVESTMENT MANAGERS –  
PRIVATE CREDIT**

ArrowMark Partners  
 BlackRock, Inc.  
 CapitalSpring Direct Lending Partners  
 Comvest Credit Advisors, LLC  
 Crayhill Capital Management, LLC  
 GSO Capital Partners, LP  
 H.I.G. Whitehorse Middle Market Unlevered Loan Advisors, LP  
 HPS Investment Partners, LLC  
 Kohlberg Kravis Roberts & Co., LP  
 MC Credit Partners, LP  
 Proterra Investment Partners, LP  
 Raven Capital Management, LLC  
 Tennenbaum Capital Partners, LLC

**INVESTMENT MANAGERS –  
PRIVATE EQUITY**

Advent International  
 Aksia CA, LLC  
 Altaris Capital Partners, LLC  
 Apollo Management, LP  
 Blackstone Capital Partners  
 Blue Point Capital Partners, LP  
 Cinven  
 Clearlake Capital Group  
 Cortec  
 EQT  
 Francisco Partners  
 GTCR, LLC  
 HarbourVest Partners, LLC  
 Harvest Partners  
 (The) Jordan Company  
 Kohlberg Kravis Roberts & Co., LP  
 Littlejohn & Co., LLC  
 Marlin Equity Partners  
 MBK Partners  
 Morgenthaler Venture Partners  
 NGP Energy Capital Management  
 Odyssey Investment Partners  
 Primus Venture Partners  
 Rhône Capital, LLC  
 Riverstone Investment Group, LLC  
 RRJ Capital  
 Stonepoint Capital  
 Summit Partners  
 TA Associates, LP  
 Tenex Capital Management, LP  
 Veritas Capital

**INVESTMENT MANAGERS-  
COMMODITIES**

Parametric Portfolio Associates, LLC

**INVESTMENT MANAGERS-  
IMPLEMENTATION SERVICES**

Russell Investments Implementation Services, LLC

**SECURITIES LENDING AGENTS**

Northern Trust

**OTHER PROFESSIONAL CONSULTANTS**

(See Page vii)

## SCHEDULE OF BROKERS' FEES PAID

(FOR THE YEAR ENDED DEC. 31, 2023)

Broker Name	Fees Paid	Units Traded	Average Cost Per Unit
Goldman Sachs	\$1,027,040	4,232,328	\$0.2427
FBR Capital Markets	157,121	5,261,621	0.0299
Northern Trust Company	146,847	7,711,193	0.0190
UBS Securities	97,433	8,122,183	0.0120
Bank of America Securities LLC	61,266	6,145,240	0.0100
Citigroup Global Markets	60,680	20,745,967	0.0029
JP Morgan	54,420	11,328,856	0.0048
Credit Lyonnais Securities	52,562	16,413,591	0.0032
Morgan Stanley & Co, Inc	49,622	13,304,954	0.0037
Jefferies & Co, Inc	49,490	6,283,713	0.0079
RBC Capital Markets	48,669	11,506,267	0.0042
Redburn Partners LLP	47,579	4,993,200	0.0095
Macquarie Securities Inc	36,644	23,775,953	0.0015
Sanford C. Bernstein	35,366	3,641,266	0.0097
HSBC Securities Inc.	31,161	28,782,802	0.0011
Instinet	31,121	6,512,916	0.0048
Barclays Securities Inc	22,059	1,815,074	0.0122
Brokers Less than \$20,000	151,593	19,362,121	0.0078
<b>TOTAL</b>	<b>\$2,160,673</b>	<b>199,939,245</b>	<b>\$0.0108</b>

# INVESTMENT POLICY AND GUIDELINES

*Minor formatting edits have been made to the Board of Trustees approved investment policy and guidelines in order to provide style consistency throughout the Annual Comprehensive Financial Report.*

## 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 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 Board may delegate these duties to an Investment Committee.

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 and without materially altering the contributions to risk by asset class relative to the expectations for same as outlined in the strategic investment policy (Asset Allocation Policy). 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. BOARD OF TRUSTEES/INVESTMENT COMMITTEE

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 Board of Trustees/Investment Committee 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 Board of Trustees/Investment Committee pursuant to this Policy include the following:

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

The Board of Trustees/Investment Committee 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 Board of Trustees/Investment Committee and the Investment Consultant(s), the Investment Manager(s), and the custodial bank(s). The Chief Investment Officer, Deputy Chief Investment Officer, Sr. Investment Officer or Sr. Investment Officer – Public Markets are authorized in between meetings of the Board to take such actions as necessary in the best interests of the Total Portfolio and the Plan in keeping with the policies, strictures and guidelines which apply to the Board of Trustees. Staff's transactional authority is limited to 10% of the Total Portfolio. 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.

## C. INVESTMENT CONSULTANT(S)

The Board of Trustees/Investment Committee 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, in recognition of its role as a fiduciary of the Plan, will assume specific duties. These duties shall generally include the following:

- Provide independent and unbiased information.
- Assist in the development of this Policy and other policies that govern the Plan investments.
- Assist in monitoring compliance with this Policy.
- Assist in the development and recommendation of strategic asset allocation targets, investment structure, and rebalancing procedures for the Total Portfolio or for a specified asset class.

- Assist in the 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 Board of Trustees/Investment Committee 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 Board of Trustees/Investment Committee 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 and intended 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 designated to vote shall keep detailed records of said voting of proxies and related actions and will comply with all regulatory obligations related thereto.
- Provide reporting to the Board or staff or Investment Consultant(s) quarterly regarding the status of the portion of the Total Portfolio managed by the

Investment Manager(s) and its performance for various time periods. Meet or participate via teleconference or webcast with the Board or staff or Investment Consultant(s) annually or as needed to report on their performance and compliance with goals and objectives.

- Acknowledge and agree in writing to their fiduciary responsibility to fully comply with this Policy set forth herein, and as modified in the future.

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

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

### 3. ASSET ALLOCATION AND REBALANCING

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

The procedure for determining the allocation will consider the relevant characteristics of the liabilities and potential assets of OP&F. The liability considerations shall include, but not be limited to, current and expected future values of the benefits, and future contributions. These factors are important for identifying the investment horizon of OP&F and its cash flow requirements. The asset characteristics considered shall include, but not be limited to, current asset value, the potential return relative to the potential risk, and diversification characteristics. The objectives and constraints contained within this Policy are also considered. It should also be noted that a multi-dimensional view of risk is integrated into the process where organizational (i.e. behavioral and shortfall) and investment (drawdown, inflation, liquidity, and active) risks are taken into account for determining the appropriate Asset Allocation Policy.

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. On an interim basis, an asset-only allocation study may be conducted. OP&F recognizes the importance in understanding the critical asset class return, risk and correlation assumptions (i.e. the capital market assumptions) used in either an asset liability valuation study or asset-only allocation study given these assumptions are a critical input within the Asset Allocation Policy decision. For the assumptions used to determine the current Asset Allocation Policy, please see Appendix 1 and 2. Furthermore, OP&F understands that the Asset Allocation Policy decision is the most important investment decision the Plan undertakes, driving approximately 90% of the Plan's variation in returns. The goal of each study shall be to formulate an Asset Allocation Policy that improves the probabilities of funding OP&F's benefits over the long-term, while maximizing the safety of promised benefits and minimizing the cost of funding these benefits through the most efficient combination of acceptable asset classes under the prudent person standard. Given that short-term volatility is also important, OP&F evaluates the impact of the Asset Allocation Policy decision on funded ratios, annual contribution requirements and other relevant metrics over both short- and long-term time periods.

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

Asset Class	Long-Term Target Allocation - Notional Exposure	
	Range	
Domestic Equity	18.6%	± 5.6%
Non-U.S. Equity	12.4%	± 3.7%
Private Markets	10.0%	± 3.0%
<b>TOTAL GROWTH ASSETS</b>	<b>41.0%</b>	<b>± 8.2%</b>
High Yield	7.0%	± 2.1%
Private Credit	5.0%	± 1.5%
<b>TOTAL DEFENSIVE GROWTH ASSETS</b>	<b>12.0%</b>	<b>± 2.4%</b>
Core Fixed Income	25.0%	± 5.0%
Cash	-%	+ 6.3%
<b>TOTAL DEFENSIVE ASSETS</b>	<b>25.0%</b>	<b>- 5.0% / + 11.3%</b>
U.S. Inflation Linked Bonds	15.0%	± 3.0%
Real Estate	12.0%	± 3.6%
Real Assets	8.0%	± 2.4%
Midstream Energy Infrastructure	5.0%	± 1.5%
Commodities	2.0%	+ 0.6%
Gold	5.0%	± 1.5%
<b>TOTAL INFLATION-ORIENTED ASSETS</b>	<b>47.0%</b>	<b>± 9.4%</b>
<b>TOTAL</b>	<b>125.0%</b>	<b>± 5.0%</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 allocation with the goal of balancing economic factor risk exposures. The Total Portfolio has long-term target allocations that total 125% due to the application of leverage in core fixed income and U.S. inflation linked bonds and the implementation approach for gold.

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. Please see Appendix 3 for the expected returns, risk, contribution to asset volatility, and other relevant metrics for the current Asset Allocation Policy.

Short term market shifts may cause the asset mix to drift from the allocation targets. Should the actual 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. In determining where to reallocate assets within asset classes, where applicable, actual percentages are compared to target weightings for each individual mandate. These rebalancing transactions are accomplished through the coordination of staff with the written directive executed by one or more of the

Executive Director, Chief Investment Officer, General Counsel, Chief Financial Officer. This rebalancing discipline is intended to encourage “buying low” and “selling high” and to keep the Total Portfolio invested at an appropriate overall risk level. Except when there is a perceived extraordinary downside risk in a particular asset class, movement outside the normal ranges should be avoided.

Investments in private markets, private credit, private real estate and private real assets 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. Similarly, resulting deviations to those public market asset classes shall not be considered in violation of the Asset Allocation Policy. However, broad economic factor bucket ranges of Growth, Defensive Growth, Defensive, and Inflation-Oriented Assets shall remain within their targeted ranges.

To assist in rebalancing, OP&F has retained a derivative overlay Investment Manager(s) which provides several benefits including: (1) reduce OP&F’s tracking error relative to target allocations; (2) improve Total Portfolio returns; (3) enhance liquidity, and (4) reduce the administrative burden associated with management of monthly cash flows.

The Board may adopt interim Asset Allocation Policy target allocations to reflect the transition from previous policy target allocations to new policy target allocations. The interim target allocations will reflect dollar cost averaging and/or opportunistic implementation to most prudently reach the new policy target allocations over time. Please see Appendix 4 for interim Asset Allocation Policy target allocations, if applicable.

## 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 or asset-only allocation 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. Furthermore, please see Appendix 5 for alpha expectations for the applicable asset classes.

### A. GROWTH ASSETS

#### 1. DOMESTIC EQUITY

##### *Investment Objectives*

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

##### *Investment Characteristics*

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

##### *Investment Structure*

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

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

The passive large capitalization core component has a target allocation of 32.5% of the domestic equity

composite portfolio. This passive portfolio is intended to provide broad market exposure for and diversification to OP&F's domestic equity composite portfolio through holdings in large-and mid-capitalization equities or futures.

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

The active large capitalization portable alpha component has a target allocation of 60% of the domestic equity composite portfolio. The implementation of this portable alpha component will not be considered leverage in relation to the long-term target allocations for the Total Portfolio. The overall objective is to provide risk-adjusted returns greater than the return of the Standard & Poor's (S&P) 500 Index. S&P 500 market exposure, obtained through the use of derivatives and/or physicals, will be combined with strategies that represent diversified sources of alpha with a broad range of risk characteristics. For a complete description of the appropriate use of derivatives, please see OP&F's Derivatives Policy Statement.

### *3. Active Small Capitalization Core Exposure*

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

## **2. NON-U.S. EQUITY**

### *Investment Objectives*

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

### *Investment Characteristics*

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

### *Investment Structure*

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

### *1. Active ACWI ex-U.S. Large and Mid Capitalization Exposure*

The Active ACWI ex-U.S. Large and Mid Capitalization component has a target allocation of 85% 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 15% of the Non-U.S. equity composite portfolio.

## **3. PRIVATE MARKETS**

### *Investment Objectives*

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

### *Investment Characteristics*

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

### *Investment Structure*

The target allocation of Total Portfolio assets to private markets will be established by OP&F's long-term Asset Allocation Policy, including a range around the target allocation to allow flexibility as the underlying private markets investments are funded over time. In order to meet this allocation target, the Board of Trustees/Investment Committee approves a private markets investment plan setting forth the proposed investment activity for a specified period of time. The private markets investment plan shall be reviewed at least annually, and more frequently if necessary or appropriate, to reflect market conditions.

## **B. DEFENSIVE GROWTH ASSETS**

### **1. HIGH YIELD**

#### *Investment Objectives*

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

*Investment Characteristics*

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

*Investment Structure*

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

**2. PRIVATE CREDIT***Investment Objectives*

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

*Investment Characteristics*

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

*Investment Structure*

The target allocation of Total Portfolio assets to private credit will be established by OP&F's long-term Asset Allocation Policy, including a range around the target allocation to allow flexibility as the underlying private credit investments are funded over time. In order to meet this allocation target, the Board of Trustees/Investment Committee approves a private credit investment plan setting forth the proposed investment activity for a specified period of time. The private credit investment plan shall be reviewed at least annually, and more frequently if necessary or appropriate, to reflect market conditions.

**C. DEFENSIVE ASSETS****1. CORE FIXED INCOME***Investment Objectives*

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

*Investment Characteristics*

The main focus of investing will be a diversified mix of traditional fixed income securities. The core fixed income composite portfolio shall have similar portfolio characteristics as that of the Bloomberg U.S. Aggregate Index.

*Investment Structure*

Given the core fixed income allocation target set forth in the Asset Allocation Policy above, the core fixed income composite portfolio will be levered approximately 2.0x. The structure of the core fixed income composite portfolio shall be diversified among active investment strategies and synthetic overlays as follows:

**1. Active Core Fixed Income Exposure**

The active core fixed income component has a target allocation of 50% of the core fixed income composite portfolio on a notional basis. The overall objective is to provide risk-adjusted returns greater than the return of the Bloomberg U.S. Aggregate Index.

**2. Synthetic Core Fixed Income Exposure**

The synthetic core fixed income component has a target allocation of 50% of the core fixed income composite portfolio on a notional basis. The synthetic core fixed income component shall be implemented to provide either U.S. Treasury exposure or Bloomberg U.S. Aggregate exposure or some combination of both.

**2. CASH***Investment Objectives*

Total return of the cash composite should exceed the return of the 90 Day U.S. Treasury Bill over a full market cycle on an annualized basis. Total return of each Investment Manager's portfolio should rank above the median when compared to their peer group, if applicable, over a full market cycle on an annualized basis and exceed their benchmark return as specified in each Investment Manager's guidelines or applicable documentation.

*Investment Characteristics*

Cash is managed with a focus on capital preservation and providing a high degree of liquidity to meet ongoing cash flow needs of the Plan. For the uninvested cash that is swept at OP&F custodial banks, the designated money market funds are government money market funds that invest within the limitations or guidelines prescribed for the funds. For externally managed cash, the portfolios are expected to be invested consistent with the Investment Manager's guidelines.



*Investment Structure*

For any available uninvested cash at OP&F's custodial banks, cash is swept into designated money market funds. For externally managed cash, the portfolios will be actively managed consistent with the individual Investment Manager's guidelines.

**D. INFLATION-ORIENTED ASSETS****1. U.S. INFLATION LINKED BONDS (TIPS)***Investment Objectives*

Total return of the TIPS composite portfolio should exceed two times the Bloomberg U.S. Government Inflation-Linked Bond Index minus the cost of financing over a full market cycle on an annualized basis. Total return of each Investment Manager's portfolio should exceed their benchmark return as specified in each Investment Manager's guidelines or applicable documentation. In addition, there is a portable alpha component to the TIPS composite portfolio whereas the overall objective is to provide risk-adjusted returns greater than two times the return of the Bloomberg U.S. Government Inflation-Linked Bond Index minus the cost of financing. The implementation of this portable alpha component will not be considered leverage in relation to the long-term target allocations for the Total Portfolio.

*Investment Characteristics*

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

*Investment Structure*

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

**2. REAL ESTATE***Investment Objectives*

The performance objectives for the real estate composite portfolio are set forth in OP&F's Real Estate Investment Policy. Both the returns for the real estate composite portfolio and respective benchmark(s) are lagged one quarter.

*Investment Characteristics*

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

*Investment Structure*

The target allocation of Total Portfolio assets to real estate will be established by OP&F's long-term Asset Allocation Policy, including a range around the target allocation to allow flexibility as the underlying private real estate investments are funded over time. In order to meet this allocation target, the Board of Trustees/Investment Committee approves a real estate investment plan setting forth the proposed investment activity for a specified period of time. The real estate investment plan shall be reviewed at least annually, and more frequently if necessary or appropriate, to reflect market conditions.

**3. REAL ASSETS***Investment Objectives*

The performance objectives for the real assets composite portfolio are set forth in OP&F's Real Assets Investment Policy. Both the returns for the real assets composite portfolio and respective benchmark are lagged one quarter.

*Investment Characteristics*

Real assets investments will be diversified by certain criteria as set forth in OP&F's Real Assets Investment Policy.

*Investment Structure*

The target allocation of Total Portfolio assets to real assets will be established by OP&F's long-term Asset Allocation Policy, including a range around the target allocation to allow flexibility as the underlying real assets investments are funded over time. In order to meet this allocation target, the Board of Trustees/Investment Committee approves a real assets investment plan setting forth the proposed investment activity for a specified period of time. The real assets investment plan shall be reviewed at least annually, and more frequently if necessary or appropriate, to reflect market conditions.

**4. MIDSTREAM ENERGY INFRASTRUCTURE***Investment Objectives*

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

*Investment Characteristics*

The main focus of investing will be on publicly traded midstream energy infrastructure opportunities. Investments

may consist of MLPs and securities of energy related C-corporations. The midstream energy infrastructure composite portfolio as well as each Investment Manager's portfolio shall have similar portfolio characteristics as that of the Alerian Midstream Energy Index.

#### *Investment Structure*

Midstream energy infrastructure assets will be managed solely on an active basis in order to exploit the perceived inefficiencies in the publicly traded midstream energy infrastructure markets.

## **5. GOLD**

#### *Investment Objectives*

Total return of the gold composite portfolio should match the return of the S&P GSCI Gold Index Total Return minus the cost of financing over a full market cycle on an annualized basis.

#### *Investment Characteristics*

The gold allocation will be implemented through the derivatives markets and will be unfunded with the exception of necessary cash collateral and where gold is used to address deviations in certain private market asset classes with similar risk/return characteristics. Gold has been identified as one of the asset classes to hold an underweight for the asset class of real assets. In these cases, the gold allocation will be fully funded with cash collateral so as not to increase the Total Portfolio leverage from this purpose.

#### *Investment Structure*

The gold allocation will be managed on a passive basis. Given the gold allocation target set forth in the Asset Allocation Policy above, the gold composite portfolio should be considered as leverage, except where gold is used to address deviations in certain private market asset classes with similar risk/return characteristics. Implementation of the gold 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.

## **6. COMMODITIES**

#### *Investment Objectives*

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

#### *Investment Characteristics*

The commodities allocation will be implemented through the derivatives markets and/or with commodity-linked equities. For a complete description of the appropriate use of derivatives, please see OP&F's Derivatives Policy Statement.

#### *Investment Structure*

The commodities allocation will be managed primarily on an active basis in order to exploit the perceived inefficiencies in the commodities markets; however, on an interim basis, a passive approach may be employed. Given the commodities allocation target set forth in the Asset Allocation Policy above, the commodities allocation will be fully funded with cash collateral and therefore the commodities composite portfolio will not be considered as leverage in relation to the long-term target allocations for the Total Portfolio.

## **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 and International Proxy Voting Policy. Common stock proxies may be executed by the Sr. Investment Officer – Public Markets 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 and International Proxy Voting Policy. Staff shall provide a semi-annual summary report of proxy voting actions to the Board of Trustees/Investment Committee.

## **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 Board of Trustees/Investment Committee.



## 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 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 is expected to meet or participate via teleconference or webcast with OP&F's Board or staff or Investment Consultant(s) annually or as needed.

## 10. INVESTMENT MANAGER SEARCH POLICY

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

## 11. SECURITIES LITIGATION POLICY

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

## 12. IRAN AND SUDAN DIVESTMENT POLICY

As required by uncoded 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 and Iran and Sudan Divestment Processes.

## 13. DERIVATIVES POLICY STATEMENT

The Derivatives Policy Statement is intended to supplement this Statement and serves as the overall guideline on the use of derivatives within OP&F and its related investment manager guidelines. The Derivatives Policy Statement sets forth controls and risk management procedures for traditional investment strategies that may employ derivatives but are primarily invested in equity or fixed income securities, and separately for investment strategies which OP&F determines to be implemented primarily through the use of derivative securities.

## 14. BROKER POLICY AND OHIO-QUALIFIED BROKER POLICY

The Broker Policy sets forth the general and specific directions toward trading activities of all assets of OP&F. The Ohio-Qualified Broker Policy sets forth the specific criteria regarding OP&F's goal to increase the utilization of Ohio-qualified agents (brokers) for the execution of domestic equity and domestic fixed income trades.

## 15. OHIO-QUALIFIED INVESTMENT MANAGER POLICY

The Ohio-Qualified Investment Manager Policy sets forth the specific criteria regarding OP&F's goal to increase the utilization of Ohio-qualified investment managers.

## 16. HEALTH CARE

A stipend funded by OP&F via the health care stabilization fund is available to eligible members through a health reimbursement arrangement and can be used to reimburse retirees for qualified health care expenses. A portion of employer contributions and a portion of investment income (and losses) are allocated to operate OP&F's health care stipend program. The health care stipend program follows the same investment policy and guidelines as the pension plan. For a more complete description, please see the annual comprehensive financial reports or other OP&F documentation.

## APPENDIX 1

### WILSHIRE'S JUNE 30, 2022 CAPITAL MARKET ASSUMPTIONS

The following capital market assumptions were used to determine the current Asset Allocation Policy adopted in August 2022 via a comprehensive asset liability study.

ASSET CLASSES	EXPECTED RETURN 10-YEARS	EXPECTED RETURN 20-YEARS	EXPECTED RETURN 30-YEARS	RISK	CASH YIELD	FACTOR EXPOSURE GROWTH	FACTOR EXPOSURE INFLATION	LIQUIDITY MARKET LEVEL	LIQUIDITY STRESSED METRIC
Domestic Equity	6.00%	6.50%	6.95%	17.00%	1.65%	8.00	(3.00)	100	-
Non-U.S. Equity	7.25%	7.50%	7.70%	19.10%	3.10%	8.00	1.50	90	-
Private Markets	10.05%	10.20%	10.35%	28.00%	-	13.50	(3.80)	-	-
High Yield	6.25%	6.45%	6.65%	10.00%	9.10%	4.00	(1.00)	80	-
Private Credit	8.25%	8.05%	7.85%	12.10%	11.80%	6.00	-	90	40
Core Fixed Income	4.05%	4.25%	4.45%	4.25%	4.55%	(0.85)	(2.50)	100	85
Cash	3.15%	3.20%	3.20%	0.75%	3.15%	-	-	100	100
U.S. TIPS	3.15%	3.60%	4.00%	6.00%	3.80%	(3.00)	2.50	90	85
Real Estate	7.20%	7.55%	7.85%	15.65%	1.90%	3.50	1.00	-	-
Real Assets	7.05%	7.65%	8.30%	16.95%	1.85%	4.60	5.60	-	-
Midstream Energy Infrastructure	7.80%	8.05%	8.30%	19.00%	6.05%	5.00	5.80	90	-
Commodities	5.50%	5.55%	5.65%	16.00%	3.15%	-	12.00	90	50
Gold	5.50%	5.55%	5.65%	18.00%	-	(5.00)	7.00	90	45
Leverage	3.40%	3.45%	3.45%	0.75%	3.40%	-	-	N/A	N/A

## APPENDIX 1(CONTINUED)

ASSET CLASSES	DOMESTIC EQUITY	NON-U.S. EQUITY	PRIVATE MARKETS	HIGH YIELD	PRIVATE CREDIT	CORE FIXED INCOME	CASH	U.S. TIPS	REAL ESTATE	REAL ASSETS	MIDSTREAM ENERGY INFRASTRUCTURE	COMMODITIES	GOLD	LEVERAGE
Domestic Equity	1.00													
Non-U.S. Equity	0.83	1.00												
Private Markets	0.74	0.67	1.00											
High Yield	0.54	0.45	0.34	1.00										
Private Credit	0.50	0.46	0.22	0.64	1.00									
Core Fixed Income	0.28	0.09	0.31	0.25	0.04	1.00								
Cash	(0.05)	(0.08)	-	(0.10)	(0.13)	0.19	1.00							
U.S. TIPS	(0.05)	0.05	(0.03)	0.05	(0.01)	0.59	0.20	1.00						
Real Estate	0.53	0.47	0.51	0.57	0.56	0.19	(0.05)	0.07	1.00					
Real Assets	0.59	0.71	0.55	0.53	0.52	0.11	(0.06)	0.16	0.46	1.00				
Midstream Energy Infrastructure	0.40	0.39	0.44	0.50	0.45	0.13	-	0.20	0.45	0.56	1.00			
Commodities	0.25	0.38	0.27	0.29	0.30	(0.02)	-	0.25	0.24	0.49	0.35	1.00		
Gold	(0.05)	0.16	(0.02)	0.05	-	0.21	(0.05)	0.30	0.11	0.15	0.05	0.30	1.00	
Leverage	(0.05)	(0.08)	-	(0.10)	(0.13)	0.19	1.00	0.20	(0.05)	(0.06)	-	-	(0.05)	1.00

- Wilshire's asset class return, risk and correlation assumptions are developed on multi-year forward looking expected rates of return and historical risk and correlation, adjusted to incorporate recent trends.
- Public market return expectations represent a passive investment in the asset class (beta). They do not reflect value added from active management (alpha).

## APPENDIX 2

Following actuarial assumptions were used in the adoption of the Asset Allocation Policy in August 2022.

### ACTUARIAL ASSUMPTIONS

Valuation Date	Jan. 1, 2021
Actuarial Cost Method	Entry age
Investment Rate of Return	7.50%
Projected Salary Increases	3.75% - 10.50%
Payroll Increases	3.25%
Inflation Assumptions	2.75%
Cost-of-living Assumptions	2.20% simple
Amortization Method	Level percent of payroll, open
Amortization Period	25-years
Asset Valuation Method	Four-years adjusted fair value with a corridor of 20% of the fair value.
Healthy Mortality	Mortality for non-disability participants is based on the RP-2014 Total Employee and Healthy Annuitant Mortality Tables rolled back to 2006, adjusted accordingly and projected with the Buck Modified 2016 Improvement Scale. Rates for surviving beneficiaries are adjusted by 120%.
Disability Mortality	Mortality for disabled participants is based on the RP-2014 Disabled Mortality Tables rolled back to 2006, adjusted accordingly and projected with the Buck Modified 2016 Improvement Scale.

## APPENDIX 3

METRIC	CURRENT ASSET ALLOCATION POLICY
<b>RETURNS AND RISK (%)</b>	
Expected Return – 10-Years	7.38%
Expected Return – 20-Years	7.74%
Expected Return – 30-Years	7.96%
Standard Deviation of Return	11.75%
<b>CONTRIBUTION TO ASSET VOLATILITY (%)</b>	
Growth	60.5%
Defensive Growth	6.8%
Defensive/Rate Sensitive	3.5%
RA/Inflation Sensitive	29.2%
<b>ACTUARIAL ACCRUED LIABILITIES (AAL) MARKET VALUE OF ASSETS (MVA) FUNDED RATIO (%)</b>	
Median (Expected) – 1-Year	71.13%
Median (Expected) – 3-Years	71.36%
Median (Expected) – 5-Years	72.25%
Median (Expected) – 10-Years	74.65%
<b>ACTUARIAL ACCRUED LIABILITIES (AAL) ACTUARIAL VALUE OF ASSETS (AVA) FUNDED RATIO (%)</b>	
Median (Expected) – 1-Year	73.36%
Median (Expected) – 3-Years	74.23%
Median (Expected) – 5-Years	72.53%
Median (Expected) – 10-Years	74.54%

- Figures were derived using the assumptions as of June 30, 2022 which are included in Appendix 1.

## APPENDIX 4

ASSET CLASS	BENCHMARK PERIOD START DATE					LONG-TERM TARGET ALLOCATION
	APRIL 1, 2024	JULY 1, 2024	OCT. 1, 2024	JAN. 1, 2025	APRIL 1, 2025	
Domestic Equity	20.40%	20.30%	20.20%	20.20%	20.10%	18.60%
Non-U.S. Equity	13.00%	13.00%	13.00%	13.00%	13.00%	12.40%
Private Markets	8.50%	8.50%	8.50%	8.50%	8.50%	10.00%
<b>TOTAL GROWTH ASSETS</b>	<b>41.90%</b>	<b>41.80%</b>	<b>41.70%</b>	<b>41.70%</b>	<b>41.60%</b>	<b>41.00%</b>
High Yield	8.00%	8.00%	8.00%	8.00%	8.00%	7.00%
Private Credit	4.00%	4.00%	4.00%	4.00%	4.00%	5.00%
<b>TOTAL DEFENSIVE GROWTH ASSETS</b>	<b>12.00%</b>	<b>12.00%</b>	<b>12.00%</b>	<b>12.00%</b>	<b>12.00%</b>	<b>12.00%</b>
Core Fixed Income	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
Cash	-%	-%	-%	-%	-%	-%
<b>TOTAL DEFENSIVE ASSETS</b>	<b>25.00%</b>	<b>25.00%</b>	<b>25.00%</b>	<b>25.00%</b>	<b>25.00%</b>	<b>25.00%</b>
U.S. TIPS	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Real Estate	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%
Real Assets	6.60%	6.70%	6.80%	6.90%	7.00%	8.00%
Midstream Energy Infrastructure	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Commodities	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Gold	5.50%	5.50%	5.50%	5.40%	5.40%	5.00%
<b>TOTAL INFLATION-ORIENTED ASSETS</b>	<b>46.10%</b>	<b>46.20%</b>	<b>46.30%</b>	<b>46.30%</b>	<b>46.40%</b>	<b>47.00%</b>
<b>TOTAL NOTIONAL EXPOSURE</b>	<b>125.00%</b>	<b>125.00%</b>	<b>125.00%</b>	<b>125.00%</b>	<b>125.00%</b>	<b>125.00%</b>



## APPENDIX 5

ASSET CLASS	ALPHA EXPECTATION
Domestic Equity	1.00%
Non-U.S. Equity	1.00%
Private Markets	1.00%
High Yield	0.50%
Private Credit	0.50%
Core Fixed Income	0.40%
U.S. TIPS	1.00%
Midstream Energy Infrastructure	1.00%
Real Estate	1.00%
Real Assets	-%
Commodities	0.75%
Gold	-%



# ACTUARIAL

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT



**REPORT OF ACTUARY**

**DESCRIPTION OF ACTUARIAL ASSUMPTIONS  
AND METHODS**

**PLAN SUMMARY**

**ANALYSIS OF FINANCIAL EXPERIENCE – PENSION  
TRUST FUND**

**SHORT-TERM SOLVENCY TEST – PENSION TRUST FUND**

**ACTIVE MEMBER VALUATION DATA – PENSION  
TRUST FUND**

**RETIREES AND BENEFICIARIES ADDED TO AND  
REMOVED FROM ROLLS – PENSION TRUST FUND**

**CALCULATION OF ACTUARIAL VALUE ASSETS –  
PENSION TRUST FUND**

**SCHEDULE OF FUNDING PROGRESS – PENSION  
TRUST FUND**

**EMPLOYER CONTRIBUTION RATES**

**MEMBER CONTRIBUTION RATES**

## REPORT OF ACTUARY

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Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

November 1, 2023

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

Members of the Board:

Cavanaugh Macdonald (CMC) is pleased to present this report on the results of the actuarial valuation of the Ohio Police & Fire Pension Fund (OP&F). This report presents the results of the annual actuarial valuation of the assets and liabilities of OP&F as of January 1, 2023, prepared in accordance with Chapter 742 of the Ohio Revised Code (ORC), as amended by Senate Bill No. 340. The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits.

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

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

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



Board of Trustees  
November 1, 2023  
Page 2

This report does not include accounting disclosure information under Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. CMC will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2023 year-end. CMC also prepares a separate valuation of OP&F retiree health care benefits.

The valuation was based on the actuarial assumptions and methods that have been adopted by the Board of Trustees, including a valuation interest rate of 7.50 percent per annum compounded annually. The assumptions were effective January 1, 2022 and recommended by the actuary based on a quinquennial experience review covering the period 2017-2021. The next experience review will cover the five-year period 2022-2026. Actuarial Standards of Practice require that the likelihood and extent of future mortality improvements be considered.

#### ***Assets and Membership Data***

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

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

#### ***Funding Objectives and Progress***

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

The actuary determines how many years are required by OP&F to completely amortize the UAAL (the funding period), using the member and employer contributions reduced by the amount allocated to health care and the amount of normal cost for the year. For 2003-2012, the funding period was infinite years, meaning the annual contribution toward the unfunded when compared to the unfunded amount was not sufficient to pay it off. As a result of benefit and member contribution changes under Senate Bill No. 340, changes to the DROP program, and a reduction in the contribution allocation to the Health Care Stabilization Fund by the Board of Trustees, and favorable asset investment gains, the pension funding period has decreased from 47 years as of January 1, 2013 to 28.07 years as of January 1, 2022. As of January 1, 2023, the funding period decreased to 26.71 years primarily due to deferred investment experience and payroll growth that was higher than anticipated.



Board of Trustees  
November 1, 2023  
Page 3

Section 742.16 of the ORC, as adopted by Senate Bill No. 82, sets forth an objective that the funding period is no more than 30 years. If the funding period exceeds 30 years, a plan shall be developed and presented by the Board of Trustees to the ORSC to reduce the funding period to not more than 30 years. Section 742.14 of the ORC, as amended by Senate Bill No. 340, sets forth that the 30-year funding analysis be performed every three years and the 30-year funding plan, if necessary, be developed and presented not later than 90 days after the Board of Trustees' receipt of the actuarial valuation and 30-year funding analysis. The most recent triennial analysis is based on the January 1, 2022 actuarial valuation, and shows the funding period is 28.07 years, so no 30-year funding plan is required. The next analysis will be performed based on the January 1, 2025 actuarial valuation.

The funded ratio (i.e., the ratio of actuarial assets to the AAL) determined as of January 1, 2023 is 70.0 percent, compared to 69.7 percent as of January 1, 2022. If measured using the market value of assets, the funded ratio would be lower at 63.5 percent on account of net investment gains not yet reflected in the actuarial assets. Taking into account the AAL for Medicare Part B premium reimbursements, the funded ratio would be 69.4 percent using the actuarial assets and 62.9 percent using the market value of assets. The funded ratio is not intended to measure the adequacy of funding in any analysis of a possible settlement of plan liabilities.

#### *Supporting Schedules and Certification*

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

The valuation assumptions were chosen by the Board of Trustees with the advice of the actuary and first used in the January 1, 2022 valuation. The assumptions used to develop the January 1, 2023 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, CMC performed no analysis of the potential range of such future differences.

During 2018 OP&F retained Cavanaugh Macdonald as their actuary. The January 1, 2019 valuation was the first valuation completed by Cavanaugh Macdonald. All results presented in this report for years prior to the December 31, 2018 were performed by the prior actuary(s).





Board of Trustees  
November 1, 2023  
Page 4

The consultants who worked on this assignment are pension actuaries. CMC's advice is not intended to be a substitute for qualified legal or accounting counsel.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries, have experience in performing valuations for public retirement plans, and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board and the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement plan and on actuarial assumptions that are internally consistent and reasonable based on the actual experience of the Fund and future expectations. However, the Board of Trustees has the final decision regarding the selection of the assumptions and adopted them as indicated in Appendix C.

Respectfully submitted,

A stylized signature in blue ink, appearing to read 'LL'.

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

A handwritten signature in black ink, reading 'Wendy Ludbrook'.

Wendy T. Ludbrook, FSA, EA, FCA, MAAA  
Consulting Actuary

A handwritten signature in black ink, reading 'Ryan Gundersen'.

Ryan Gundersen  
Senior Consultant



## DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions were adopted as of January 1, 2022, based on a quinquennial experience review covering the period 2017 through 2021. The next review of the actuarial assumptions is to be completed for adoption with the January 1, 2027 valuation.

### INTEREST RATE

7.50% per annum, compounded annually.

### SALARY INCREASE RATES

Assumed annual salary increases are as follows:

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

### PAYROLL GROWTH

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

### DROP INTEREST CREDITING RATE

3.75% per annum, compounded annually.

### CPI-BASED COLA

2.2% simple for increases based on the lesser of the increase in CPI and 3.0%.

### WITHDRAWAL RATES

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

Years of Service	Firefighters	Police
0	5.00%	14.00%
5	1.00%	2.00%
10	0.75%	1.50%
15	0.50%	1.00%
20	0.20%	0.65%
24	0.20%	0.25%

**RATES OF DISABILITY**

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

<b>Age</b>	<b>Firefighters</b>	<b>Police</b>
20	0.0004%	0.0005%
25	0.0020%	0.0032%
30	0.0088%	0.0401%
35	0.0364%	0.0693%
40	0.0816%	0.1814%
45	0.1388%	0.2399%
50	0.5348%	0.6080%
55	0.8100%	0.5036%
60	1.2240%	0.9351%
64	2.8760%	1.3946%

<b>Type of Disability</b>	
On duty permanent and total	17%
On duty partial	58%
Off duty partial	25%

**RETIREMENT RATES**

The following rates apply to members who are not currently in DROP, but either have reached DROP eligibility or may become eligible for DROP in the future. Upon first eligibility for retirement, the rate is 15% for Firefighters and 20% for Police. After first eligibility the rates are as follows:

Years of Service	Firefighters	Police
25	15%	20%
26	5%	8%
27	5%	8%
28	5%	8%
29	5%	8%
30	5%	8%
31	5%	15%
32	5%	15%
33	5%	15%
34	5%	15%
35+	100%	100%

The following rates apply to members who will not reach retirement eligibility prior to age 62:

FIREFIGHTERS			POLICE		
YEARS OF SERVICE			YEARS OF SERVICE		
Age	15-23	24	Age	15-23	24
62	25%	15%	62	25%	20%
63	25%	15%	63	25%	20%
64	25%	15%	64	25%	20%
65	100%	100%	65	100%	100%

**DEFERRED RETIREMENT OPTION PLAN ELECTIONS**

80% 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 as of the valuation date:

<b>YEARS OF SERVICE</b>	<b>FIREFIGHTERS</b>	<b>POLICE</b>
25	4.75%	7.25%
26	4.75%	6.00%
27	4.75%	6.25%
28	6.00%	6.00%
29	9.00%	8.50%
30	15.75%	16.75%
31	11.00%	16.25%
32	44.00%	50.00%
33+	100.00%	100.00%

**RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS**

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

### SERVICE RETIREE AND VESTED FORMER MEMBER MORTALITY

Mortality for service retirees is based on the Pub-2010 Below-Median Safety Amount-Weighted Healthy Retiree mortality table with rates adjusted by 96.2% for males and 98.7% for females. All rates are projected using the MP-2021 Improvement Scale.

### DISABLED MORTALITY

Mortality for disabled retirees is based on the Pub-2010 Safety Amount-Weighted Disabled Retiree mortality table with rates adjusted by 135% for males and 97.9% for females. All rates are projected using the MP-2021 Improvement Scale.

### CONTINGENT ANNUITANT MORTALITY

Mortality for contingent annuitants is based on the Pub-2010 Below-Median Safety Amount-Weighted Contingent Annuitant Retiree mortality table with rates adjusted by 108.9% for males and 131% for females. All rates are projected using the MP-2021 Improvement Scale.

### PRE-RETIREMENT MORTALITY

Mortality for active members is based on the Pub-2010 Below-Median Safety Amount-Weighted Employee mortality table. All rates are projected using the MP-2021 Improvement Scale.

### 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 Internal Revenue Code (IRC) Section 415, assumed to increase 2.75% per annum.

### FUTURE EXPENSES

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

### UNKNOWN DATA FOR MEMBERS

Same as those exhibited by members with similar known characteristics. Deferred benefits are estimated at termination until OP&F has determined the actual amount at retirement. Reported salaries that are less than \$10,000 when annualized are assumed to be anomalous and are reset to \$60,000. The adjustment for late reported salaries is not applied in this case.

### LATE REPORTED SALARIES

A 1.090% load is added to the 2022 reported salaries to account for salaries accrued but not reported for the valuation. This adjustment is based on an average of plan experience from the prior three years. The raw adjustment rates for each year are as follows:

Pay for Calendar Year	Raw Adjustment
2022	1.032%
2021	1.418%
2020	0.820%

This adjustment will be reviewed annually for future late reported salaries.

### PERCENT MARRIED

80% 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

40% of service retirees and 15% of disability retirees are assumed to elect a 45% Joint and Survivor pension at retirement. If the joint annuitant predeceases the retiree, the increase, or pop-up, in the retiree's benefit associated with the 45% Joint and Survivor pension is assumed to be 14.36% for disability retirees and 10.50% for all other retirees.

### DROP ACCOUNT DISTRIBUTIONS

For currently retired members who have an outstanding DROP balance we assume they will take their balance in installments over 10 years. For members who terminate DROP before the required three or five years, distribution of the account balance is assumed to be made in a lump sum payment at the end of the three- or five-year period. Distributions for active members are assumed to be made in a lump sum or installments at retirement in a pattern equivalent to 25% receiving lump sums, 30% receiving installments over two years, and 45% receiving installments over 10 years.

### DEPENDENT PARENTS

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

**DEPENDENT CHILDREN**

Each 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 REIMBURSEMENT**

For service and disability retirements, as well as survivors, Ohio Police & Fire reimburses the standard Medicare Part B premium (\$107.00 per month for 2022) provided the retiree is not eligible for reimbursement from any other sources.

It is assumed that 70% of members are eligible for reimbursement once they reach age 65.

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

**CHANGES IN ACTUARIAL ASSUMPTIONS SINCE THE JANUARY 1, 2022 VALUATION:**

The assumptions used for the January 1, 2023 actuarial valuation are based on the quinquennial experience review prepared as of December 31, 2021 and adopted by the Board of Trustees on October 26, 2022.

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

Projected benefit method with individual level percentage entry age normal cost and actuarial accrued liability. Gains and losses are reflected in the actuarial accrued liability. Prior to January 1, 2015, to be consistent with the asset methodology employed by OP&F, DROP balances were netted out of the liabilities.

**ADJUSTMENT FOR RE-EMPLOYED RETIREES**

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

**ADJUSTMENT FOR EMPLOYER ACCRUED LIABILITY**

The actuarial accrued liability is reduced by the present value of special employer contributions - referred to as "Local Funds." Local governments are required by state statute to pay the unfunded portion of the actuarially-determined liability of the local police and firefighter's relief and pension funds that were merged to form OP&F in 1967. The ORC designates this obligation of the local governments to the Employers' Accrued Liability. Interest on the outstanding balance is being accrued

at the rate of 4.25%, compounded semiannually. Local governments began repayment in 1969 and payments are required to be made until 2035. The present value of the remaining payments on the valuation date is determined using the valuation interest rate.

**ASSET VALUATION METHOD**

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

**DATA****CENSUS AND ASSETS**

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



## PLAN SUMMARY

### SUMMARY OF MAIN BENEFIT 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 or 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% of salary; employers of firefighters pay 24% of salary. The member contribution rate equaled 12.25% in 2023.

### EMPLOYER CONTRIBUTION RATES – PERCENTAGE OF ACTIVE MEMBER PAYROLL:

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

### MEMBER CONTRIBUTION RATES – PERCENTAGE OF ACTIVE MEMBER PAYROLL:

Time Frame of Rates	Police	Fire
July 2, 2015 through Present	12.25%	12.25%

## BENEFITS

### SERVICE RETIREMENT

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

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

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

### NORMAL SERVICE RETIREMENT

#### ELIGIBILITY

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

#### BENEFIT

An annual pension equal to a percentage of the allowable average annual salary. The percentage equals 2.5% for each of the first 20 years of service, 2.0% for each of the next five years of service, and 1.5% for each year of service in excess of 25 years. The maximum pension of 72% 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% of the allowable average annual salary multiplied by the number of full years of service credit (up to 25 years of service credit).

**AGE/SERVICE COMMUTED RETIREMENT****ELIGIBILITY**

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

**BENEFIT**

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

**ACTUARIALLY REDUCED****ELIGIBILITY**

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

**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 required for any of the service retirement pensions 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. Acceptance of a refund of employee contributions cancels the member's rights, benefits and total service with OP&F. Employer contributions to OP&F are not refundable.

**TERMINATION BEFORE RETIREMENT WITH 25 YEARS OF SERVICE CREDIT****BENEFIT**

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

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

**TERMINATION BEFORE RETIREMENT WITH 15 YEARS OF SERVICE CREDIT****BENEFIT**

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

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

**TERMINATION BEFORE RETIREMENT WITH LESS THAN 15 YEARS OF SERVICE CREDIT**

**BENEFIT**

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

**DEFERRED RETIREMENT OPTION PLAN**

**ELIGIBILITY**

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

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

**BENEFIT**

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

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

The DROP interest rate is set by administrative rule and is subject to change at any time. OP&F credits interest to all DROP balances each month at a rate equal to the 10-year United States (U.S.) Treasury Note Business Day Series, as published by the U.S. Department of the Treasury, with a cap of 5.0% and a floor of 2.5%. This variable interest rate is compounded annually and 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 3.0% 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% of member's contributions
Years 4-5	75% of member's contribution
Years 6-8	100% 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 electing to participate in 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% of member's contributions
Year 3	75% of member's contribution
Years 4-8	100% of member's contributions

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

- If a member terminates employment within the first three years of electing to participate in 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 their date of retirement when eligible. These members will also receive the DROP account balance as a lump sum or monthly distribution.

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. Also, the member's surviving spouse or contingent dependent beneficiary will receive either a 50% joint and survivor annuity or the annuity plan selected by the member, whichever is greater. All other statutory death benefits will apply.

If the member becomes disabled while in DROP, and has not terminated employment, the member must choose either to receive a disability benefit or a service retirement

with DROP. If the member chooses the disability benefit, the member forfeits all DROP benefits and receives the disability benefit, with service credit during the DROP period included.

## DISABILITY BENEFITS

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

### PERMANENT AND TOTAL DISABILITY (ON-DUTY)

#### ELIGIBILITY

No age or service requirement.

#### BENEFIT

An annual benefit equal to 72% 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 at least five years of service credit.

#### BENEFIT

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

**PRE-RETIREMENT SURVIVOR ANNUITY****ELIGIBILITY**

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

**BENEFIT**

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

July 1, beginning July 1, 2000. The benefit is paid to the surviving spouse for life.

*Surviving Child Benefit*

An annual amount equal to \$1,800 (\$150 monthly), payable until such child attains age 22 or marries, whichever occurs first. A dependent disabled child, regardless of age at time of member's death, is entitled to a benefit until death or recovery from disability. A COLA of 3.0% of the original base benefit is payable each July 1.

**STATUTORY SURVIVOR BENEFITS****ELIGIBILITY**

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

**BENEFIT***Surviving Spouse Benefit*

An annual amount equal to \$6,600 (\$550 monthly), plus an annual COLA of 3.0% of the original base benefit, paid each

*Dependent Parent 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 3.0% of the original base benefit is payable each July 1.

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

Benefit Type	Base Monthly Benefit Amount	Base Monthly Benefit Amount Plus Increases Through July 1, 2022	Monthly Increases Effective July 1, 2023
Spouse	\$550	\$925.10*	\$16.50
Child	150	252.30**	4.50
One Parent	200	336.40***	6.00
Two Parents	100	168.20	3.00

\* 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 3.0%. Every year after 2000, the monthly increase was \$16.50 or 3.0% of the base benefit.

\*\* On July 1, 2000 the Statutory Child Benefit increased by \$3.30 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of 3.0%. Every year after 2000, the monthly increase was \$4.50 or 3.0% 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 3.0%. Every year after 2000, the monthly increase was \$6.00 or 3.0% of base benefit.



## LUMP SUM DEATH BENEFIT

### ELIGIBILITY

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

### BENEFIT

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

entitled to receive and, upon the member's death, none of the pension or benefit is continued to any beneficiary.

## 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% 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% 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% 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. Also, this plan may be cancelled upon divorce or dissolution of marriage with the consent of the member's spouse or a specific court order, at which point the annuity reverts to the single life annuity to the member. An 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 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% 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% of the member's reduced pension continues to the beneficiary for the guarantee period selected. An 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% JSA payable to the spouse.

## STATE OF OHIO PUBLIC SAFETY OFFICERS DEATH BENEFIT FUND (DBF)

### BENEFIT

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 received by the public safety officer prior to his or her death in the line of duty, plus any increases in salary that would have been granted to the deceased public safety officer. The benefit is paid to the public safety officer's eligible survivors as a group until the public safety officer's maximum pension eligibility date. This is the date on which the deceased public safety officer would have become eligible for the maximum annual retirement allowance or pension that may be paid to a member from the member's retirement system (OP&F, OPERS, State Highway Patrol Retirement System or the Cincinnati Retirement System) had the member continued to accrue service credit from that system, which will be reduced at the member's maximum pension eligibility date. These death benefit payments are in addition to the statutory survivor benefit and any optional payment plan benefits elected by the member.

## 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

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. This plan pays the maximum retirement allowance that the member is



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

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

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

The COLA amount for members who have 15 or more years of service credit as of July 1, 2013 and members who are receiving a pension benefit that became effective before July 1, 2013, will be equal to 3.0% of the member's base pension benefit.

The COLA amount for members who have less than 15 years of service credit as of July 1, 2013, and members whose pension benefit became effective on or after July 1, 2013, will be equal to a percentage of the member's base pension benefit where the percentage is the lesser of 3.0% or the percentage increase in the consumer price index, if any, over the twelve-month period that ends on the thirtieth day of September of the immediately preceding year, rounded to the nearest one-tenth of one percent.

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

### **RE-EMPLOYED RETIREE'S DEFINED CONTRIBUTION PLAN BENEFIT**

Effective June 30, 1991, every person who is retired under an Ohio public pension plan and who is re-employed in an OP&F covered position must contribute to OP&F at the same rate as other police officers or firefighters. The employer pays the normal rate as well. If the re-employed member terminates employment before age 60, Ohio law allows the member to receive a lump sum payment of postretirement 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.

### **HEALTH CARE STIPEND AND MEDICARE**

Although support for retiree health care is not a vested right and is a discretionary benefit from OP&F subject to change at any time, the Board of Trustees has elected to subsidize health care.

Beginning in 1974, OP&F sponsored a group health care program for retirees and their dependents by covering all or part of the plan premiums, in addition to paying all claims.

Effective July 1992, retirees and survivors made monthly medical benefit contributions which were credited to the Health Care Stabilization Fund. These contributions were 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 then paid a percentage of the full cost of the benefit based on the year of retirement. Due to the rising cost of health care and the primary source requirements of pension reform legislation enacted in 2013, OP&F is no longer able to offer a plan as in the past. On December 31, 2018, the group health care plan ended.

On January 1, 2019, a stipend-based health care model replaced the self-insured group health care plan. OP&F contracted with a vendor who assists eligible retirees in choosing health care plans that are available where they live (both Medicare eligible and pre-65 populations). A stipend funded by OP&F is available to these members through a Health Reimbursement Arrangement and can be used to reimburse retirees for qualified health care expenses. As a result of this change, it is expected that the solvency of the HCSF will be extended allowing OP&F to provide stipends to eligible participants.

Regardless of a benefit recipient's participation in the health care program, OP&F is required by law to pay eligible recipients of a service pension, disability benefit and spousal survivor benefit for their Medicare Part B insurance premium, up to the statutory maximum provided the benefit recipient is not eligible to receive reimbursement from any other source. Once OP&F receives the necessary documentation, a monthly reimbursement is included as part of the recipient's next benefit payment.

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

## ANALYSIS OF FINANCIAL EXPERIENCE - PENSION TRUST FUND

### GAIN (LOSS) AS OF JAN. 1, 2023

Type of Activity	Experience Gain (Loss)
<b>Plan experience:</b>	
<b>Turnover</b>	<b>\$1,338,829</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.	
<b>Retirement</b>	<b>(7,484,302)</b>
If members retire at older ages than assumed, there is a gain. If younger, there is a loss.	
<b>Death among retired members and beneficiaries</b>	<b>(1,171,798)</b>
If more deaths occur than assumed, there is a gain. If fewer deaths than assumed, there is a loss.	
<b>Disability Retirements</b>	<b>(7,360,552)</b>
If disability claims are less than assumed, there is a gain. If more claims, there is a loss.	
<b>Salary increase (decrease)</b>	<b>(102,820,417)</b>
If there are smaller pay increases than assumed, there is a gain. If greater increases, there is a loss.	
<b>Return to work</b>	<b>(2,094,240)</b>
If participants return to work with previous service restored, there is a loss.	
<b>New Entrants</b>	<b>(13,985,764)</b>
If new entrants join OP&F, there is a loss.	
<b>Deaths among actives</b>	<b>1,047,129</b>
If claim costs are less than assumed, there is a gain. If more claim costs, there is a loss.	
<b>Other Experience and Payroll Growth</b>	<b>(86,390,573)</b>
If other experience, including less than expected payroll growth, increases the unfunded liability, there is a loss. Otherwise, there is a gain.	
<b>Adjustment for Late Reported Pays</b>	<b>(2,958,979)</b>
Change in liability due to the pay being loaded to reflect late reported pay.	
<b>Investment</b>	<b>47,741,205</b>
If there is a greater investment return than assumed, there is a gain. If less return, there is a loss.	
<b>NET GAIN (LOSS) DURING THE YEAR DUE TO PLAN EXPERIENCE</b>	<b>\$(174,139,462)</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 liability for future benefits to present retired lives; (3) The liability for service already rendered by active members. In a system that has been following the discipline of level percent of payroll financing, the liability 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 the liability 3 will increase over time. Liability 3 being fully funded is very rare.

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

	Valuation as of Jan. 1	(1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets		
						(1)	(2)	(3)
Police	2023	\$1,770,848	\$8,717,927	\$3,402,408	\$9,726,221	100%	91%	-%
Fire	2023	1,683,546	6,527,449	3,261,243	8,032,543	100%	97%	-%
Police	2022	1,733,321	8,320,429	3,396,237	9,378,524	100%	92%	-%
Fire	2022	1,613,606	6,252,725	3,201,259	7,717,306	100%	98%	-%
Police	2021	1,703,012	7,687,534	3,015,833	8,833,660	100%	93%	-%
Fire	2021	1,552,817	5,881,373	2,788,022	7,278,477	100%	97%	-%
Police	2020	1,650,362	7,361,618	3,077,379	8,423,682	100%	92%	-%
Fire	2020	1,489,023	5,589,542	2,876,359	6,936,411	100%	97%	-%
Police	2019	1,584,057	7,107,922	2,987,107	8,102,788	100%	92%	-%
Fire	2019	1,423,619	5,373,749	2,788,255	6,650,372	100%	97%	-%
Police	2018	1,515,993	6,870,423	3,138,109	8,052,548	100%	95%	-%
Fire	2018	1,345,237	5,150,080	2,867,386	6,542,014	100%	100%	2%
Police	2017	1,451,473	6,576,192	3,184,383	7,825,895	100%	97%	-%
Fire	2017	1,276,582	4,922,990	2,878,774	6,336,593	100%	100%	5%
Police	2016	1,386,649	6,085,896	3,002,889	7,473,979	100%	100%	-%
Fire	2016	1,213,330	4,614,250	2,832,862	6,179,025	100%	100%	12%
Police	2015	1,210,400	5,857,146	3,015,390	7,141,575	100%	100%	2%
Fire	2015	1,062,097	4,337,819	2,912,741	5,887,716	100%	100%	17%
Police	2014	1,171,496	5,368,637	2,583,711	6,088,816	100%	92%	-%
Fire	2014	1,028,465	3,924,388	2,501,058	4,974,383	100%	100%	1%

## 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	
2023	531	447	15,612	14,573	\$88,830	\$91,343	5.5%	3.0%	\$2,596.2
2022	531	437	15,579	14,039	84,233	88,652	3.6%	4.7%	2,443.6
2021	527	426	15,620	13,743	81,303	84,632	2.2%	3.4%	2,381.8
2020	525	419	15,840	13,711	79,568	81,845	2.6%	2.8%	2,313.6
2019	526	408	15,630	13,457	77,544	79,579	1.5%	2.2%	2,218.0
2018	528	398	15,214	13,194	76,397	77,870	0.8%	0.4%	2,209.3
2017	530	396	15,205	12,970	75,772	77,583	3.8%	4.5%	2,180.9
2016	527	388	14,846	12,778	72,976	74,229	4.2%	4.2%	2,060.9
2015	529	388	14,919	12,850	70,033	71,228	1.9%	1.6%	1,986.6
2014	532	386	14,841	12,764	68,724	70,087	0.8%	1.0%	1,942.3

\* 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			
2022	1,677	\$90,752	1,259	\$35,878	31,217	\$1,305,894	4.39%	\$41.83	1.36%
2021	1,755	91,332	1,328	39,601	30,799	1,251,020	4.31%	40.62	1.41%
2020	1,550	79,764	1,169	31,201	30,372	1,199,289	4.22%	39.49	1.27%
2019	1,552	73,909	1,127	29,045	29,991	1,150,725	4.06%	38.37	1.44%
2018	1,292	66,129	1,087	28,036	29,566	1,105,862	3.57%	37.40	0.70%
2017	1,458	50,476	1,010	24,321	29,361	1,067,769	4.53%	36.37	1.55%
2016	1,401	47,436	890	21,186	28,913	1,021,509	4.67%	35.33	1.80%
2015	1,450	48,864	1,011	22,141	28,402	975,929	4.81%	34.36	1.57%
2014	1,261	41,378	859	17,204	27,963	931,176	4.59%	33.30	1.46%
2013	1,362	44,842	1,044	23,851	27,561	890,288	4.42%	32.30	1.17%

## CALCULATION OF ACTUARIAL VALUE OF ASSETS - PENSION TRUST FUND

Item					Amount
1. Market Value of Assets as of Dec. 31, 2022					\$16,107,574,300
2. Determination of Deferred Gain (Loss)					
Return on Market Value of Assets					
Year	Actual	Expected	Gain (Loss)	Percentage Deferred	Deferred Amount
2022	\$(2,026,682,064)	\$1,384,604,734	\$(3,411,286,798)	75%	\$(2,558,465,099)
2021	3,033,463,876	1,286,183,190	1,747,280,686	50%	873,640,343
2020	1,361,969,084	1,227,428,820	134,540,264	25%	33,635,066
2019	2,304,356,918	1,090,925,194	1,213,431,724	-%	-
Total Deferred Gain (Loss)					(1,651,189,690)
Total Deferred Gain (Loss)					(1,651,189,690)
3. Adjustment for 20% corridor					-
4. Actuarial Value of Assets available for benefits (1) - (2) + (3)					\$17,758,763,990

## SCHEDULE OF FUNDING PROGRESS - PENSION TRUST FUND

FOR THE VALUATION YEAR ENDING JAN. 1, 2023  
(DOLLARS IN MILLIONS)\*

Valuation Year Jan. 1	Valuation Assets*	Actuarial Accrued Liabilities (AAL)	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2023	\$17,758.8	\$25,363.4	\$7,604.6	70.0%	\$2,596.1	292.9%
2022	17,095.8	24,517.6	7,421.8	69.7%	2,443.6	303.7%
2021	16,112.1	22,628.6	6,515.5	71.2%	2,381.8	273.6%
2020	15,360.1	22,044.3	6,684.2	69.7%	2,313.6	288.9%
2019	14,753.2	21,264.7	6,511.5	69.4%	2,218.0	293.6%
2018	14,594.6	20,887.2	6,292.6	69.9%	2,209.3	284.8%
2017	14,162.5	20,290.4	6,127.9	69.8%	2,180.9	281.0%
2016	13,653.0	19,135.9	5,482.9	71.3%	2,060.9	266.1%
2015	13,029.3	18,395.6	5,366.3	70.8%	1,986.6	270.1%
2014	11,063.2	16,577.8	5,514.6	66.7%	1,942.3	283.9%

\* The amounts reported in this schedule do not include assets or liabilities for post-employment health care benefits. In addition, see schedules in the Required Supplementary Information of the Financial Section showing the 10-year schedule of actuarially determined contributions and actual contributions paid.

**EMPLOYER CONTRIBUTION RATES**

(1967 - PRESENT)\*

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

**MEMBER CONTRIBUTION RATES**

(1967 - PRESENT)

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





# STATISTICAL

## 2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT



### 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  
Retirees and Beneficiaries Statistics  
Average Monthly Benefit Payments  
Member Health Care Information  
State of Ohio Subsidy Payments  
OP&F's Cost-of-Living Allowance (COLA) History  
Employer Contribution Rates  
Member Contribution Rates  
Health Care Allocation Rates from Employer Contributions  
Actuarial Interest Rates

DROP and Re-Employed Interest Rates

DROP Member Count Roll Forward

Actuarial Valuation Information – Pension Trust Fund

Historical Annual Investment Results

#### DEBT CAPACITY INFORMATION

#### DEMOGRAPHIC AND ECONOMIC INFORMATION

Number of Employer Units

#### OPERATING INFORMATION

Retired Membership by Type of Benefits and Average Annual Allowance

Schedule of Average Benefits

Principal Participating Employers

OP&F Employee Budgeted Position Counts

Personnel Salaries by Year

OP&F Budget

Other Operating Statistics

Death Benefit Fund

#### LIST OF PROFESSIONAL ACRONYMS, SYMBOLS AND ABBREVIATIONS

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

- Active Member and Total Payroll Base Statistics.
- Active Membership Data.
- Retired Membership by Type of Benefits.
- Retirees and Beneficiaries Statistics.
- Average Monthly Benefit Payments.
- Member Health Care Information.
- State of Ohio Subsidy Payments.
- OP&F's Cost-of-Living Allowance (COLA) History.
- Employer Contribution Rates.
- Member Contribution Rates.

- Health Care Allocation Rates from Employer Contributions.
- Actuarial Interest Rates.
- DROP and Re-Employed Interest Rates.
- DROP Member Count Roll Forward.
- Actuarial Valuation Information – Pension Trust Fund.
- Historical Annual Investment Results.
- Number of Employer Units.
- Retired Membership by Type of Benefits and Average Annual Allowance.
- Schedule of Average Benefits.
- Principal Participating Employers.
- OP&F Employee Budgeted Position Counts.
- Personnel Salaries by Year.
- OP&F Budget.
- Other Operating Statistics.
- Death Benefit Fund.

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

## FINANCIAL TRENDS

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

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Additions</b>										
Employer Contributions	\$620.7	\$589.1	\$552.1	\$530.6	\$514.3	\$489.9	\$473.2	\$465.4	\$438.7	\$427.8
Member Contributions and Purchases	373.7	352.9	337.0	312.6	303.4	295.5	282.0	268.6	245.8	224.0
Investment Income (Loss)	1,533.2	(2,128.5)	3,192.8	1,436.7	2,434.3	(487.9)	1,923.5	1,317.4	(10.0)	860.7
Health Care Contributions	-	-	-	-	0.5	73.2	74.5	73.2	71.2	70.0
Other Revenues	1.6	1.0	1.2	1.4	20.5	24.9	28.6	36.3	29.2	25.2
<b>TOTAL ADDITIONS</b>	<b>2,529.2</b>	<b>(1,185.5)</b>	<b>4,083.1</b>	<b>2,281.3</b>	<b>3,273.0</b>	<b>395.6</b>	<b>2,781.8</b>	<b>2,160.9</b>	<b>774.9</b>	<b>1,607.7</b>
<b>Deductions</b>										
Benefit Payments	1,687.9	1,621.4	1,598.2	1,467.2	1,457.1	1,514.1	1,429.2	1,396.4	1,369.9	1,310.5
Refund of Member Contributions	25.4	26.6	24.1	17.5	13.7	18.3	20.6	14.2	13.8	15.2
Administrative Expenses	22.5	12.9	9.9	19.2	21.8	17.0	20.3	19.6	16.3	16.2
<b>TOTAL DEDUCTIONS</b>	<b>1,735.8</b>	<b>1,660.9</b>	<b>1,632.2</b>	<b>1,503.9</b>	<b>1,492.6</b>	<b>1,549.4</b>	<b>1,470.1</b>	<b>1,430.2</b>	<b>1,400.0</b>	<b>1,341.9</b>
<b>CHANGES IN FIDUCIARY NET POSITION</b>	<b>793.4</b>	<b>(2,846.4)</b>	<b>2,450.9</b>	<b>777.4</b>	<b>1,780.4</b>	<b>(1,153.8)</b>	<b>1,311.7</b>	<b>730.7</b>	<b>(625.1)</b>	<b>265.8</b>
<b>FIDUCIARY NET POSITION - BEGINNING OF YEAR</b>	<b>\$16,897.2</b>	<b>\$19,743.6</b>	<b>\$17,292.7</b>	<b>\$16,515.3</b>	<b>\$14,734.9</b>	<b>\$15,888.7</b>	<b>\$14,577.0*</b>	<b>\$13,853.3</b>	<b>\$14,478.4 **</b>	<b>\$14,219.6</b>
<b>FIDUCIARY NET POSITION - END OF YEAR</b>	<b>\$17,690.6</b>	<b>\$16,897.2</b>	<b>\$19,743.6</b>	<b>\$17,292.7</b>	<b>\$16,515.3</b>	<b>\$14,734.9</b>	<b>\$15,881.7</b>	<b>\$14,584.0</b>	<b>\$13,853.3</b>	<b>\$14,485.4</b>
<b>Reserve Fund Balances:</b>										
Employers' Contribution Reserves	\$(1,343.8)	\$(1,309.7)	\$2,712.6	\$1,030.8	\$883.3	\$(291.5)	\$1,535.3	\$1,155.8	\$1,058.3	\$2,701.1
Members' Contribution Reserves	3,789.0	3,633.7	3,462.1	3,310.7	3,150.3	3,005.9	2,861.2	2,728.1	2,600.0	2,491.3
Health Care Contribution Reserves	787.4	789.6	966.7	881.6	878.7	793.8	932.1	901.6	929.4	1,031.9
Pension Reserves	14,458.0	13,783.6	12,602.2	12,069.6	11,603.0	11,226.7	10,560.1	9,798.5	9,265.6	8,261.1
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$17,690.6</b>	<b>\$16,897.2</b>	<b>\$19,743.6</b>	<b>\$17,292.7</b>	<b>\$16,515.3</b>	<b>\$14,734.9</b>	<b>\$15,881.7</b>	<b>\$14,584.0</b>	<b>\$13,853.3</b>	<b>\$14,485.4</b>

\* Net Position was restated due to the implementation of GASB 75 during 2018.

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

## CHANGES IN FIDUCIARY NET POSITION-PENSION TRUST FUND

(DOLLARS IN MILLIONS)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Additions</b>										
Employer Contributions	\$606.6	\$575.7	\$539.3	\$518.4	\$502.3	\$478.6	\$462.3	\$454.7	\$428.5	\$418.0
Member Contributions and Purchases	373.7	352.9	337.0	312.6	303.4	295.5	282.0	268.6	245.8	224.0
Investment Income (Loss)	1,463.5	(2,026.6)	3,033.5	1,362.0	2,304.3	(460.3)	1,808.1	1,232.6	(16.7)	779.8
Health Care Contributions	-	-	-	-	-	-	-	-	-	-
Other Revenues	1.5	0.8	1.0	0.8	0.9	1.5	4.5	8.4	5.9	7.2
<b>TOTAL ADDITIONS</b>	<b>2,445.3</b>	<b>(1,097.2)</b>	<b>3,910.8</b>	<b>2,193.8</b>	<b>3,110.9</b>	<b>315.3</b>	<b>2,556.9</b>	<b>1,964.3</b>	<b>663.5</b>	<b>1,429.0</b>
<b>Deductions</b>										
Benefit Payments	1,602.2	1,532.8	1,511.2	1,382.9	1,380.3	1,296.2	1,235.6	1,172.8	1,156.7	1,110.9
Refund of Member Contributions	25.4	26.6	24.1	17.5	13.7	18.3	20.6	14.2	13.8	15.2
Administrative Expenses	22.1	12.7	9.7	18.9	21.4	16.3	19.5	18.8	15.6	15.5
<b>TOTAL DEDUCTIONS</b>	<b>1,649.7</b>	<b>1,572.1</b>	<b>1,545.0</b>	<b>1,419.3</b>	<b>1,415.4</b>	<b>1,330.8</b>	<b>1,275.7</b>	<b>1,205.8</b>	<b>1,186.1</b>	<b>1,141.6</b>
<b>CHANGES IN FIDUCIARY NET POSITION</b>	<b>795.6</b>	<b>(2,669.3)</b>	<b>2,365.8</b>	<b>774.5</b>	<b>1,695.5</b>	<b>(1,015.5)</b>	<b>1,281.2</b>	<b>758.5</b>	<b>(522.6)</b>	<b>287.4</b>
<b>FIDUCIARY NET POSITION - BEGINNING OF YEAR</b>	<b>\$16,107.6</b>	<b>\$18,776.9</b>	<b>\$16,411.1</b>	<b>\$15,636.6</b>	<b>\$13,941.1</b>	<b>\$14,956.6</b>	<b>\$13,675.4*</b>	<b>\$12,923.9</b>	<b>\$13,446.5**</b>	<b>\$13,166.1</b>
<b>FIDUCIARY NET POSITION - END OF YEAR</b>	<b>\$16,903.2</b>	<b>\$16,107.6</b>	<b>\$18,776.9</b>	<b>\$16,411.1</b>	<b>\$15,636.6</b>	<b>\$13,941.1</b>	<b>\$14,956.6</b>	<b>\$13,682.4</b>	<b>\$12,923.9</b>	<b>\$13,453.5</b>
<b>Reserve Fund Balances:</b>										
Employers' Contribution Reserves	\$(1,343.8)	\$(1,309.7)	\$2,712.6	\$1,030.8	\$883.3	\$(291.5)	\$1,535.3	\$1,155.8	\$1,058.3	\$2,701.1
Members' Contribution Reserves	3,789.0	3,633.7	3,462.1	3,310.7	3,150.3	3,005.9	2,861.2	2,728.1	2,600.0	2,491.3
Pension Reserves	14,458.0	13,783.6	12,602.2	12,069.6	11,603.0	11,226.7	10,560.1	9,798.5	9,265.6	8,261.1
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$16,903.2</b>	<b>\$16,107.6</b>	<b>\$18,776.9</b>	<b>\$16,411.1</b>	<b>\$15,636.6</b>	<b>\$13,941.1</b>	<b>\$14,956.6</b>	<b>\$13,682.4</b>	<b>\$12,923.9</b>	<b>\$13,453.5</b>

\* Net Position was restated due to the implementation of GASB 75 during 2018.

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

## CHANGES IN FIDUCIARY NET POSITION-RETIREE HEALTH CARE TRUST FUND

(DOLLARS IN MILLIONS)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Additions</b>										
Employer Contributions	\$14.1	\$13.4	\$12.8	\$12.2	\$12.0	\$11.3	\$10.9	\$10.7	\$10.2	\$9.8
Member Contributions and Purchases	-	-	-	-	-	-	-	-	-	-
Investment Income (Loss)	69.7	(101.9)	159.3	74.7	130.0	(27.6)	115.4	84.8	6.7	80.9
Health Care Contributions	-	-	-	-	0.5	73.2	74.5	73.2	71.2	70.0
Other Revenues	0.1	0.2	0.2	0.6	19.6	23.4	24.1	27.9	23.3	18.0
<b>TOTAL ADDITIONS</b>	<b>83.9</b>	<b>(88.3)</b>	<b>172.3</b>	<b>87.5</b>	<b>162.1</b>	<b>80.3</b>	<b>224.9</b>	<b>196.6</b>	<b>111.4</b>	<b>178.7</b>
<b>Deductions</b>										
Benefit Payments	85.7	88.6	87.0	84.3	76.8	217.9	193.6	223.6	213.2	199.6
Refund of Member Contributions	-	-	-	-	-	-	-	-	-	-
Administrative Expenses	0.4	0.2	0.2	0.3	0.4	0.7	0.8	0.8	0.7	0.7
<b>TOTAL DEDUCTIONS</b>	<b>86.1</b>	<b>88.8</b>	<b>87.2</b>	<b>84.6</b>	<b>77.2</b>	<b>218.6</b>	<b>194.4</b>	<b>224.4</b>	<b>213.9</b>	<b>200.3</b>
<b>CHANGES IN FIDUCIARY NET POSITION</b>	<b>(2.2)</b>	<b>(177.1)</b>	<b>85.1</b>	<b>2.9</b>	<b>84.9</b>	<b>(138.3)</b>	<b>30.5</b>	<b>(27.8)</b>	<b>(102.5)</b>	<b>(21.6)</b>
<b>FIDUCIARY NET POSITION - BEGINNING OF YEAR</b>	<b>\$789.6</b>	<b>\$966.7</b>	<b>\$881.6</b>	<b>\$878.7</b>	<b>\$793.8</b>	<b>\$932.1</b>	<b>\$901.6</b>	<b>\$929.4</b>	<b>\$1,031.9</b>	<b>\$1,053.5</b>
<b>FIDUCIARY NET POSITION - END OF YEAR</b>	<b>\$787.4</b>	<b>\$789.6</b>	<b>\$966.7</b>	<b>\$881.6</b>	<b>\$878.7</b>	<b>\$793.8</b>	<b>\$932.1</b>	<b>\$901.6</b>	<b>\$929.4</b>	<b>\$1,031.9</b>
<b>Reserve Fund Balances:</b>										
Health Care Contribution Reserves	\$787.4	\$789.6	\$966.7	\$881.6	\$878.7	\$793.8	\$932.1	\$901.6	\$929.4	\$1,031.9
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$787.4</b>	<b>\$789.6</b>	<b>\$966.7</b>	<b>\$881.6</b>	<b>\$878.7</b>	<b>\$793.8</b>	<b>\$932.1</b>	<b>\$901.6</b>	<b>\$929.4</b>	<b>\$1,031.9</b>

## 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 (Loss)	Health Care Contributions	Other Revenues	Total Revenues
2023	\$620.7	\$373.7	23.9%	\$1,533.2	\$-	\$1.6	\$2,529.2
2022	589.1	352.9	24.1%	(2,128.5)	-	1.0	(1,185.5)
2021	552.1	337.0	23.2%	3,192.8	-	1.2	4,083.1
2020	530.6	312.6	22.9%	1,436.7	-	1.4	2,281.3
2019	514.3	303.4	23.2%	2,434.3	0.5	20.5	3,273.0
2018	489.9	295.5	22.2%	(487.9)	73.2	24.9	395.6
2017	473.2	282.0	21.7%	1,923.5	74.5	28.6	2,781.8
2016	465.4	268.6	22.6%	1,317.4	73.2	36.3	2,160.9
2015	438.7	245.8	22.1%	(10.0)	71.2	29.2	774.9
2014	427.8	224.0	22.0%	860.7	70.0	25.2	1,607.7

## EXPENSES BY TYPE

(DOLLARS IN MILLIONS)

Year	Benefit Payments	Refund of Member Contributions	Administrative and Other Expenses	Total Expenses
2023	\$1,687.9	\$25.4	\$22.5	\$1,735.8
2022	1,621.4	26.6	12.9	1,660.9
2021	1,598.2	24.1	9.9	1,632.2
2020	1,467.2	17.5	19.2	1,503.9
2019	1,457.1	13.7	21.8	1,492.6
2018	1,514.1	18.3	17.0	1,549.4
2017	1,429.2	20.6	20.3	1,470.1
2016	1,396.4	14.2	19.6	1,430.2
2015	1,369.9	13.8	16.3	1,400.0
2014	1,310.5	15.2	16.2	1,341.9

## BENEFIT EXPENSES BY TYPE

(DOLLARS IN MILLIONS)

Year	Service	Disability	Health Care	Survivor	DROP	Total Benefits
2023	\$987.5	\$263.0	\$85.7	\$104.8	\$246.9	\$1,687.9
2022	932.4	260.0	88.6	102.0	238.4	1,621.4
2021	878.7	259.6	87.0	97.9	275.0	1,598.2
2020	828.6	258.8	84.3	94.8	200.7	1,467.2
2019	789.1	257.4	76.8	92.5	241.3	1,457.1
2018	749.2	254.3	217.9	89.7	203.0	1,514.1
2017	710.3	252.0	193.6	86.9	186.4	1,429.2
2016	672.6	248.9	223.6	84.6	166.7	1,396.4
2015	631.6	245.7	213.2	82.1	197.3	1,369.9
2014	598.8	242.1	199.6	79.6	190.4	1,310.5



## DEFERRED RETIREMENT OPTION PLAN (DROP) PROGRAM BALANCES

(DOLLARS IN MILLIONS)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Police</b>										
DROP Program Beginning Balance	\$1,075.9	\$1,024.1	\$991.5	\$921.6	\$880.2	\$819.3	\$770.6	\$721.9	\$687.8	\$661.0
Accrued Pension and COLA	134.8	133.5	135.4	131.7	123.7	117.4	111.3	108.2	103.0	97.6
Accrued Member Share Contributions	16.9	20.1	19.8	19.1	18.1	17.3	16.8	18.7	15.2	12.3
Accrued Interest	40.6	28.3	23.1	22.5	18.8	22.4	18.2	13.8	14.6	15.1
Withdrawals	(126.1)	(130.1)	(145.7)	(103.4)	(119.2)	(96.2)	(97.6)	(92.0)	(98.7)	(98.2)
<b>DROP PROGRAM ENDING BALANCE - POLICE</b>	<b>1,142.1</b>	<b>1,075.9</b>	<b>1,024.1</b>	<b>991.5</b>	<b>921.6</b>	<b>880.2</b>	<b>819.3</b>	<b>770.6</b>	<b>721.9</b>	<b>687.8</b>
<b>Fire</b>										
DROP Program Beginning Balance	924.9	871.8	846.9	793.4	776.3	739.9	692.2	641.0	616.4	584.6
Accrued Pension and COLA	124.4	118.0	116.2	114.8	111.0	108.3	104.1	101.3	101.3	97.8
Accrued Member Share Contributions	16.1	18.6	18.2	17.3	16.4	16.2	15.9	17.2	14.9	12.9
Accrued Interest	35.7	25.0	20.1	19.2	16.5	20.2	16.5	12.2	13.1	13.3
Withdrawals	(120.0)	(108.5)	(129.6)	(97.8)	(126.8)	(108.3)	(88.8)	(79.5)	(104.7)	(92.2)
<b>DROP PROGRAM ENDING BALANCE - FIRE</b>	<b>981.1</b>	<b>924.9</b>	<b>871.8</b>	<b>846.9</b>	<b>793.4</b>	<b>776.3</b>	<b>739.9</b>	<b>692.2</b>	<b>641.0</b>	<b>616.4</b>
<b>Combined Police and Fire</b>										
DROP Program Beginning Balance	2,000.8	1,895.9	1,838.4	1,715.0	1,656.5	1,559.2	1,462.8	1,362.9	1,304.2	1,245.6
Accrued Pension and COLA	259.2	251.5	251.6	246.5	234.7	225.7	215.4	209.5	204.3	195.4
Accrued Member Share Contributions	33.0	38.7	38.0	36.4	34.5	33.5	32.7	35.9	30.1	25.2
Accrued Interest	76.3	53.3	43.2	41.7	35.3	42.6	34.7	26.0	27.7	28.4
Withdrawals	(246.1)	(238.6)	(275.3)	(201.2)	(246.0)	(204.5)	(186.4)	(171.5)	(203.4)	(190.4)
<b>DROP PROGRAM ENDING BALANCE - COMBINED</b>	<b>\$2,123.2</b>	<b>\$2,000.8</b>	<b>\$1,895.9</b>	<b>\$1,838.4</b>	<b>\$1,715.0</b>	<b>\$1,656.5</b>	<b>\$1,559.2</b>	<b>\$1,462.8</b>	<b>\$1,362.9</b>	<b>\$1,304.2</b>

## REVENUE CAPACITY INFORMATION

### ACTIVE MEMBER AND TOTAL PAYROLL BASE STATISTICS

(DOLLARS IN MILLIONS)

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

Year	Total Annual Payroll	Member Contributions	Number of Active Members*	Percentage Change in Payroll	Percentage Change in Member Contributions	Percentage Change in Members
2023	\$2,596.2	\$373.7	30,185	6.2%	5.9%	1.9%
2022	2,443.6	352.9	29,618	2.6%	4.7%	0.9%
2021	2,381.8	337.0	29,363	2.9%	7.8%	(0.6)%
2020	2,313.6	312.6	29,551	4.3%	3.0%	1.6%
2019	2,218.0	303.4	29,087	0.4%	2.7%	2.4%
2018	2,209.3	295.5	28,408	1.3%	4.8%	0.8%
2017	2,180.9	282.0	28,175	5.8%	5.0%	2.0%
2016	2,060.9	268.6	27,624	3.7%	9.3%	(0.5)%
2015	1,986.6	245.8	27,769	2.3%	9.7%	0.6%
2014	1,942.3	224.0	27,605	1.5%	6.0%	0.6%

\* Includes rehired retirees.

### ACTIVE MEMBERSHIP DATA

#### NUMBER AND ALLOWABLE AVERAGE ANNUAL SALARY AS OF JAN. 1, 2023\*

Age	Years of Service									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 25	1,560	3								1,563
	\$62,216	\$69,195								\$62,230
25-29	3,202	656								3,858
	\$69,353	\$86,275								\$72,230
30-34	2,088	2,297	343							4,728
	\$70,370	\$87,867	\$95,260							\$80,678
35-39	1,013	1,642	1,440	450	2					4,547
	\$70,171	\$88,780	\$96,285	\$104,045	\$97,585					\$88,525
40-44	369	659	958	1,421	565	3				3,975
	\$68,240	\$87,745	\$95,827	\$101,168	\$107,838	\$120,735				\$95,561
45-49	159	193	364	821	1,775	560	7			3,879
	\$64,957	\$82,999	\$91,188	\$99,483	\$106,353	\$111,102	\$120,314			\$101,328
50-54	88	80	142	487	1,296	1,829	524	3		4,449
	\$65,260	\$82,525	\$94,574	\$94,217	\$101,629	\$108,863	\$114,093	\$93,377		\$103,966
55-59	37	27	44	131	401	786	742	76	1	2,245
	\$63,500	\$85,166	\$83,346	\$91,620	\$97,818	\$105,922	\$108,657	\$113,821	\$113,200	\$103,423
60-64	6	10	18	45	100	201	201	19	5	605
	\$67,737	\$84,247	\$89,071	\$85,076	\$99,555	\$99,877	\$103,184	\$106,646	\$119,895	\$99,301
Over 64	2	2	6	8	9	32	16	3	4	82
	\$51,551	\$73,345	\$72,873	\$81,912	\$80,451	\$105,036	\$94,985	\$86,416	\$90,354	\$92,292
<b>TOTAL</b>	<b>8,524</b>	<b>5,569</b>	<b>3,315</b>	<b>3,363</b>	<b>4,148</b>	<b>3,411</b>	<b>1,490</b>	<b>101</b>	<b>10</b>	<b>29,931</b>
	<b>\$68,190</b>	<b>\$87,654</b>	<b>\$95,160</b>	<b>\$99,502</b>	<b>\$104,030</b>	<b>\$107,998</b>	<b>\$109,738</b>	<b>\$111,050</b>	<b>\$107,409</b>	<b>\$90,046</b>

\* Excludes rehired retirees.

## RETIRED MEMBERSHIP BY TYPE OF BENEFITS

(SOURCE: ACTUARIAL VALUATION)

AS OF JAN. 1, 2023

Year	Service		Survivors		Disability		Total Beneficiaries
	Police	Fire	Police	Fire	Police	Fire	
2023	9,982	7,666	4,588	3,266	3,351	2,364	31,217
2022	9,633	7,410	4,610	3,314	3,426	2,406	30,799
2021	9,270	7,162	3,515	2,449	4,624	3,352	30,372
2020	8,995	6,948	4,592	3,394	3,582	2,480	29,991
2019	8,729	6,759	4,560	3,398	3,634	2,486	29,566
2018	8,558	6,612	4,540	3,414	3,710	2,527	29,361
2017	8,307	6,406	4,484	3,433	3,732	2,551	28,913
2016	8,048	6,207	4,424	3,406	3,754	2,563	28,402
2015	7,842	5,972	4,403	3,386	3,784	2,576	27,963
2014	7,623	5,784	4,395	3,351	3,820	2,588	27,561

## RETIREES AND BENEFICIARIES STATISTICS

(DOLLARS IN MILLIONS)

Year	Benefit Payments*	Refunds	Total Payments*	Number of Benefit Recipients**	Percentage Change in Benefit Recipients	Percentage Change in Total Benefit Payments
2023	\$1,602.2	\$25.4	\$1,627.6	31,243	1.4%	4.4%
2022	1,532.8	26.6	1,559.4	30,817	1.3%	1.6%
2021	1,511.2	24.1	1,535.3	30,414	1.3%	9.6%
2020	1,382.9	17.5	1,400.4	30,014	0.7%	0.5%
2019	1,380.3	13.7	1,394.0	29,792	0.3%	6.0%
2018	1,296.2	18.3	1,314.5	29,707	2.0%	4.6%
2017	1,235.6	20.6	1,256.2	29,113	1.7%	5.8%
2016	1,172.8	14.2	1,187.0	28,638	1.8%	1.4%
2015	1,156.7	13.8	1,170.5	28,143	1.6%	3.9%
2014	1,110.9	15.2	1,126.1	27,703	1.2%	(0.1)%

\* 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
2023	\$4,359	\$1,570	-	\$3,382
2022	4,352	1,661	-	2,858
2021	4,148	1,804	-	3,173
2020	3,931	1,520	-	2,773
2019	3,948	1,688	-	3,166
2018	3,859	1,445	-	3,061
2017	3,797	1,268	-	2,569
2016	3,681	1,444	-	2,724
2015	3,651	1,522	-	2,707
2014	3,606	1,698	-	2,455

### DISABILITY RETIREMENT\*

Year	Permanent and Total	Permanent and Total Presumptive	Partial	Partial Presumptive	Off Duty
2023	\$5,024	\$5,158	\$3,891	\$3,428	\$3,489
2022	5,132	5,395	3,623	4,020	3,455
2021	4,222	4,608	3,559	4,019	3,269
2020	4,422	4,767	3,321	4,229	3,508
2019	4,614	4,313	3,100	5,172	2,368
2018	4,618	4,295	3,299	3,465	3,222
2017	4,466	3,998	2,970	2,696	2,809
2016	4,681	4,074	2,882	3,047	2,563
2015	3,864	3,602	2,757	3,239	2,647
2014	3,642	4,252	3,040	3,147	2,258

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

## MEMBER HEALTH CARE INFORMATION

(DOLLARS IN MILLIONS)

Year	Premium Contributions	Percentage Change in Premium Contributions Received	Number of Covered Lives	Health Care Benefit Payments	Percentage of Benefit Payments Covered by Premium Contributions	Net Benefit Payment Per Covered Life
2023	\$-	-%	24,992	\$85.7	-%	\$0.003
2022	-	-%	25,078	88.6	-%	0.004
2021	-	-%	24,680	87.0	-%	0.004
2020	-	(100)%	24,096	84.3	-%	0.003
2019	0.5	(99)%	24,969	76.8	1%	0.003
2018	73.2	(2)%	26,320	217.9	34%	0.005
2017	74.5	2%	26,587	193.6	38%	0.004
2016	73.2	3%	26,319	223.6	33%	0.006
2015	71.2	2%	26,822	213.2	33%	0.005
2014	70.0	5%	26,794	199.6	35%	0.005

## STATE OF OHIO SUBSIDY PAYMENTS

Year	Subsidy Amount	Percentage Change
2023	\$155,139	(15)%
2022	182,678	(11)%
2021	205,237	(9)%
2020	225,676	(13)%
2019	260,488	(13)%
2018	300,811	(13)%
2017	346,475	(13)%
2016	398,161	(11)%
2015	446,735	(11)%
2014	500,152	(6)%

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

COLA Payment Dates	55 years old with <15 years on July 1, 2013 and COLA Paid	55 years old with 15> years on July 1, 2013 and COLA Paid	EDOR* July 1, 2000 to June 30, 2012 COLA Paid	EDOR* July 1, 1999 to June 30, 2000 COLA Paid	EDOR* July 1, 1998 to June 30, 1999 COLA Paid	EDOR* July 1, 1997 to June 30, 1998 COLA Paid
Nov. 1, 2023 through Oct. 31, 2024	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2022 through Oct. 31, 2023	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2021 through Oct. 31, 2022	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2020 through Oct. 31, 2021	1.50%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2019 through Oct. 31, 2020	1.50%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2018 through Oct. 31, 2019	2.30%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2017 through Oct. 31, 2018	2.30%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2016 through Oct. 31, 2017	1.20%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2015 through Oct. 31, 2016	-%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2014 through Oct. 31, 2015	1.70%	3.00%	3.00%	3.00%	3.00%	3.00%
Nov. 1, 2013 through Oct. 31, 2014	1.20%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2013 through Oct. 31, 2013	2.00%	3.00%	3.00%	3.00%	3.00%	3.00%
July 1, 2012 through June 30, 2013			3.00%	3.00%	3.00%	3.00%
July 1, 2011 through June 30, 2012			3.00%	3.00%	3.00%	3.00%
July 1, 2010 through June 30, 2011			3.00%	3.00%	3.00%	3.00%
July 1, 2009 through June 30, 2010			3.00%	3.00%	3.00%	3.00%
July 1, 2008 through June 30, 2009			3.00%	3.00%	3.00%	3.00%
July 1, 2007 through June 30, 2008			3.00%	3.00%	3.00%	3.00%
July 1, 2006 through June 30, 2007			3.00%	3.00%	3.00%	3.00%
July 1, 2005 through June 30, 2006			3.00%	3.00%	3.00%	3.00%
July 1, 2004 through June 30, 2005			3.00%	3.00%	3.00%	3.00%
July 1, 2003 through June 30, 2004			3.00%	3.00%	3.00%	3.00%
July 1, 2002 through June 30, 2003			3.00%	3.00%	3.00%	3.00%
July 1, 2001 through June 30, 2002			3.00%	3.00%	3.00%	3.00%
July 1, 2000 through June 30, 2001				2.20%	2.20%	2.20%
July 1, 1999 through June 30, 2000					1.30%	1.30%
July 1, 1998 through June 30, 1999						2.30%
July 1, 1997 through June 30, 1998						
July 1, 1996 through June 30, 1997						
July 1, 1995 through June 30, 1996						
July 1, 1994 through June 30, 1995						
July 1, 1993 through June 30, 1994						
July 1, 1992 through June 30, 1993						
July 1, 1991 through June 30, 1992						
July 1, 1990 through June 30, 1991						
July 1, 1989 through June 30, 1990						
July 1, 1988 through June 30, 1989						

\* Effective Date of Retirement (EDOR).

Additional Notes:

1) First COLAs were paid July 1, 1988 through June 30, 1989.

2) July 1, 2002 COLAs were a flat 3.0% (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.



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

[illegible]

C) Members with less than 15 years of service credit on July 1, 2013, will receive a COLA equal to either 3.0% or the percent increase, if any, in the 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 3.0% of their base pension or disability benefit.

## EMPLOYER CONTRIBUTION RATES

(1967 - PRESENT)\*

Time Frame of Rates	Employer Rates	
	Police	Fire
Jan. 1, 1986 through Present	19.50%	24.00%
Jan. 1, 1985 through Dec. 31, 1985	20.03%	24.59%
Jan. 1, 1984 through Dec. 31, 1984	21.35%	24.59%
Jan. 1, 1983 through Dec. 31, 1983	18.45%	23.57%
Jan. 1, 1982 through Dec. 31, 1982	16.62%	22.39%
Jan. 1, 1981 through Dec. 31, 1981	15.60%	20.72%
Jan. 1, 1980 through Dec. 31, 1980	15.70%	19.87%
Jan. 1, 1979 through Dec. 31, 1979	18.40%	20.11%
Jan. 1, 1978 through Dec. 31, 1978	17.53%	18.90%
Jan. 1, 1977 through Dec. 31, 1977	15.34%	16.77%
Jan. 1, 1976 through Dec. 31, 1976	14.02%	15.57%
Jan. 1, 1975 through Dec. 31, 1975	12.49%	13.78%
Jan. 1, 1974 through Dec. 31, 1974	12.88%	13.60%
Jan. 1, 1973 through Dec. 31, 1973	12.85%	13.41%
Jan. 1, 1972 through Dec. 31, 1972	12.96%	13.26%
Jan. 1, 1971 through Dec. 31, 1971	12.81%	12.96%
Jan. 1, 1970 through Dec. 31, 1970	15.52%	15.52%
Jan. 1, 1969 through Dec. 31, 1969	14.68%	14.49%
Jan. 1, 1968 through Dec. 31, 1968	13.66%	13.50%
Jan. 1, 1967 through 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 through Present	12.25%	12.25%
July 2, 2014 through July 1, 2015	11.50%	11.50%
July 2, 2013 through July 1, 2014	10.75%	10.75%
Sept. 9, 1988 through July 1, 2013	10.00%	10.00%
Aug. 1, 1986 through Sept. 8, 1988	9.50%	9.50%
March 1, 1980 through July 31, 1986	8.50%	8.50%
Jan. 1, 1968 through Feb. 28, 1980	7.00%	7.00%
Jan. 1, 1967 through Dec. 31, 1967	6.00%	6.00%

## HEALTH CARE ALLOCATION RATES FROM EMPLOYER CONTRIBUTIONS

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

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## ACTUARIAL INTEREST RATES

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Time Frame of Rates	Actuarial Interest Rates	
	Police	Fire
Feb. 23, 2022 through Present	7.500%	7.500%
Jan. 1, 2017 through Feb. 22, 2022	8.000%	8.000%
Jan. 1, 1989 through Dec. 31, 2016	8.250%	8.250%
Jan. 1, 1986 through Dec. 31, 1988	7.750%	7.750%
Jan. 1, 1983 through Dec. 31, 1985	7.500%	7.500%
Jan. 1, 1980 through Dec. 31, 1982	6.375%	6.375%
Jan. 1, 1979 through Dec. 31, 1979	6.000%	6.000%
Jan. 1, 1974 through Dec. 31, 1978	5.000%	5.000%
Jan. 1, 1972 through Dec. 31, 1973	4.750%	4.750%
Jan. 1, 1970 through Dec. 31, 1971	4.625%	4.625%
Jan. 1, 1967 through Dec. 31, 1969	4.250%	4.250%

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## DROP AND RE-EMPLOYED INTEREST RATES

Member Rates			Member Rates		
Time Frame of Rates*	DROP	Re-Employed	Time Frame of Rates*	DROP	Re-Employed
April 1, 2024 through June 30, 2024	4.20%	4.20%	Jan. 1, 2018 through March 31, 2018	2.40%	2.40%
Jan. 1, 2024 through March 31, 2024	3.88%	3.88%	Oct. 1, 2017 through Dec. 31, 2017	2.33%	2.33%
Oct. 1, 2023 through Dec. 31, 2023	4.59%	4.59%	July 1, 2017 through Sept. 30, 2017	2.31%	2.31%
July 1, 2023 through Sept. 30, 2023	3.81%	3.81%	April 1, 2017 through June 30, 2017	2.40%	2.40%
April 1, 2023 through June 30, 2023	3.48%	3.48%	Jan. 1, 2017 through March 31, 2017	2.45%	2.45%
Jan. 1, 2023 through March 31, 2023	3.88%	3.88%	Oct. 1, 2016 through Dec. 31, 2016	1.60%	1.60%
Oct. 1, 2022 through Dec. 31, 2022	3.83%	3.83%	July 1, 2016 through Sept. 30, 2016	1.49%	1.49%
July 1, 2022 through Sept. 30, 2022	2.98%	2.98%	April 1, 2016 through June 30, 2016	1.78%	1.78%
April 1, 2022 through June 30, 2022	2.50%	2.32%	Jan. 1, 2016 through March 31, 2016	2.27%	2.27%
Jan. 1, 2022 through March 31, 2022	2.50%	1.52%	Oct. 1, 2015 through Dec. 31, 2015	2.06%	2.06%
Oct. 1, 2021 through Dec. 31, 2021	2.50%	1.52%	July 1, 2015 through Sept. 30, 2015	2.35%	2.35%
July 1, 2021 through Sept. 30, 2021	2.50%	1.45%	April 1, 2015 through June 30, 2015	1.94%	1.94%
April 1, 2021 through June 30, 2021	2.50%	1.74%	Jan. 1, 2015 through March 31, 2015	2.17%	2.17%
Jan. 1, 2021 through March 31, 2021	2.50%	0.93%	Oct. 1, 2014 through Dec. 31, 2014	2.52%	2.52%
Oct. 1, 2020 through Dec. 31, 2020	2.50%	0.69%	July 1, 2014 through Sept. 30, 2014	2.53%	2.53%
July 1, 2020 through Sept. 30, 2020	2.50%	0.66%	April 1, 2014 through June 30, 2014	2.73%	2.73%
April 1, 2020 through June 30, 2020	2.50%	0.70%	Jan. 1, 2014 through March 31, 2014	3.04%	3.04%
Jan. 1, 2020 through March 31, 2020	2.50%	1.92%	Oct. 1, 2013 through Dec. 31, 2013	2.64%	2.64%
Oct. 1, 2019 through Dec. 31, 2019	1.68%	1.68%	July 1, 2013 through Sept. 30, 2013	2.52%	2.52%
July 1, 2019 through Sept. 30, 2019	2.00%	2.00%	April 1, 2013 through June 30, 2013	1.87%	1.87%
April 1, 2019 through June 30, 2019	2.41%	2.41%	Jan. 1, 2013 through March 31, 2013	1.78%	1.78%
Jan. 1, 2019 through March 31, 2019	2.69%	2.69%	Oct. 1, 2012 through Dec. 31, 2012	1.65%	1.65%
Oct. 1, 2018 through Dec. 31, 2018	3.05%	3.05%	July 1, 2012 through Sept. 30, 2012	1.67%	1.67%
July 1, 2018 through Sept. 30, 2018	2.85%	2.85%	April 2, 2012 through June 30, 2012	2.23%	2.23%
April 1, 2018 through June 30, 2018	2.74%	2.74%	Jan. 19, 2003 through 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 U.S. Department of the Treasury, with a cap of 5.0%. Effective Jan. 1, 2020 the Board of Trustees approved a floor for the DROP interest rate equal to 2.5%.

## DROP MEMBER COUNT ROLL FORWARD

(AS OF DEC. 31)

POLICE		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Balance Beginning of Year		2,232	2,373	2,270	2,331	2,245	2,158	2,050	2,001	1,918	1,883
Number of members that entered into DROP	Increases	385	360	478	440	435	388	415	369	364	322
Number of members that terminated DROP	Decreases	(371)	(501)	(375)	(501)	(349)	(301)	(307)	(320)	(281)	(287)
<b>SUB-TOTAL AT YEAR END - POLICE</b>		<b>2,246</b>	<b>2,232</b>	<b>2,373</b>	<b>2,270</b>	<b>2,331</b>	<b>2,245</b>	<b>2,158</b>	<b>2,050</b>	<b>2,001</b>	<b>1,918</b>
FIRE											
Balance Beginning of Year		2,006	2,023	1,975	2,026	2,028	1,996	1,902	1,887	1,907	1,862
Number of members that entered into DROP	Increases	364	361	352	340	307	328	369	301	290	346
Number of members that terminated DROP	Decreases	(306)	(378)	(304)	(391)	(309)	(296)	(275)	(286)	(310)	(301)
<b>SUB-TOTAL AT YEAR END - FIRE</b>		<b>2,064</b>	<b>2,006</b>	<b>2,023</b>	<b>1,975</b>	<b>2,026</b>	<b>2,028</b>	<b>1,996</b>	<b>1,902</b>	<b>1,887</b>	<b>1,907</b>
COMBINED POLICE AND FIRE											
Balance Beginning of Year		4,238	4,396	4,245	4,357	4,273	4,154	3,952	3,888	3,825	3,745
Number of members that entered into DROP	Increases	749	721	830	780	742	716	784	670	654	668
Number of members that terminated DROP	Decreases	(677)	(879)	(679)	(892)	(658)	(597)	(582)	(606)	(591)	(588)
<b>TOTAL AT YEAR END - COMBINED</b>		<b>4,310</b>	<b>4,238</b>	<b>4,396</b>	<b>4,245</b>	<b>4,357</b>	<b>4,273</b>	<b>4,154</b>	<b>3,952</b>	<b>3,888</b>	<b>3,825</b>

## ACTUARIAL VALUATION INFORMATION - PENSION TRUST FUND

(DOLLARS IN MILLIONS)\*

As of Jan. 1	Valuation Assets*	Actuarial Accrued Liabilities (AAL)*	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2023	\$17,758.8	\$25,363.4	\$7,604.6	70.0%	\$2,596.2	292.9%
2022	17,095.8	24,517.6	7,421.8	69.7%	2,443.6	303.7%
2021	16,112.1	22,628.6	6,516.5	71.2%	2,381.8	273.6%
2020	15,360.1	22,044.3	6,684.2	69.7%	2,313.6	288.9%
2019	14,753.2	21,264.7	6,511.5	69.4%	2,218.0	293.6%
2018	14,594.6	20,887.2	6,292.6	69.9%	2,209.3	284.8%
2017	14,162.5	20,290.4	6,127.9	69.8%	2,180.9	281.1%
2016	13,653.0	19,135.9	5,482.9	71.3%	2,060.9	266.1%
2015	13,029.3	18,395.6	5,366.3	70.8%	1,986.6	270.1%
2014	11,063.2	16,577.8	5,514.6	66.7%	1,942.3	283.9%

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

## HISTORICAL ANNUAL INVESTMENT RESULTS (Gross of Fees)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Domestic Equity</b>										
OP&F	23.13%	(17.23)%	30.14%	22.80%	31.77%	(3.30)%	22.41%	15.60%	0.53%	11.27%
<b>International Equity*</b>										
OP&F	19.82%	(15.75)%	11.78%	12.42%	23.35%	(17.32)%	29.12%	2.75%	(0.77)%	(5.56)%
<b>Private Markets**</b>										
OP&F	7.68%	(9.91)%	54.51%	22.30%	13.65%	15.65%	21.80%	14.37%	12.06%	18.34%
<b>High Yield*</b>										
OP&F - High Yield	12.24%	(9.57)%	5.39%	6.71%	13.49%	(0.48)%	7.05%	12.80%	(0.95)%	2.81%
<b>Private Credit**</b>										
OP&F	17.38%	4.87%	15.80%	3.10%	11.62%	7.51%	N/A	N/A	N/A	N/A
<b>Treasury Inflation Protected Securities (TIPS)</b>										
OP&F - TIPS	(0.05)%	(21.16)%	15.47%	20.11%	15.70%	(0.26)%	2.89%	18.76%	0.26%	19.43%
<b>Real Estate**</b>										
OP&F	(10.80)%	23.99%	24.22%	0.11%	8.76%	13.69%	10.30%	13.14%	16.83%	18.57%
<b>Real Assets* **</b>										
OP&F	6.20%	11.37%	9.37%	1.15%	7.08%	11.81%	4.65%	2.99%	1.03%	8.99%
<b>Commodities*</b>										
OP&F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Gold</b>										
OP&F	7.34%	(2.45)%	(3.63)%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Midstream Energy Infrastructure*</b>										
OP&F	19.03%	30.50%	41.02%	(26.09)%	13.46%	(13.06)%	(4.08)%	20.42%	(29.31)%	16.91%
<b>Fixed Income</b>										
OP&F - Core	4.72%	(17.89)%	(2.97)%	7.35%	8.13%	1.24%	4.26%	4.14%	1.45%	4.07%
OP&F - Commercial Mortgage**	N/A	N/A	N/A	N/A	6.73%	5.29%	2.87%	5.63%	3.21%	8.56%
<b>Total Portfolio</b>										
OP&F	9.52%	(8.73)%	20.48%	9.21%	17.89%	(1.78)%	14.30%	11.51%	0.65%	6.79%
<b>Policy Index***</b>										
	10.30%	(10.79)%	16.27%	9.84%	16.32%	(2.67)%	12.41%	11.45%	(2.18)%	6.87%

\* a) High Yield benchmark is a blend of the CS First Boston Dev. Countries HY through Aug. 31, 2016, the CS First Boston High Yield from Sept. 1, 2016 through Nov. 30, 2016, and the ICE BofA Merrill Lynch U.S. High Yield Master II Constrained Index from Dec. 1, 2016 forward. b) Midstream Energy Infrastructure benchmark is a blend of the Alerian MLP Index from July 1, 2013 through June 30, 2019, and the Alerian Midstream Energy Index from July 1, 2019 forward. c) Real Assets benchmark updated in 2020 and made retroactive - blend of 45% FTSE Dev. Core 50/50 Infrastructure Index, 35% NCREIF Timberland Index, and 20% NCREIF Farmland Index. d) Commodities first funded in the 4Q2023.

\*\* One quarter in arrears.

\*\*\* Interim Policy Index: 20.55% FT Wilshire 5000 Total Market TR Index, 13% MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index (\$N), 25% Bloomberg U.S. Aggregate 2x (-) Cost of Financing, 8.0% ICE BofA Merrill Lynch U.S. High Yield Master II Constrained Index, 4.0% Morningstar LSTA U.S. Leveraged Loan Index + 2.0% Lagged, 15% Bloomberg U.S. Gov't Inflation Linked Bond Index X2 (-) Libor, 12% NCREIF ODCE Index (Net) Lagged, 8.5% Actual Private Markets Composite (NOF) Lagged, 6.25% Blend of 45% FTSE Dev. Core 50/50 Infrastructure Index, 35% NCREIF Timberland Index, and 20% NCREIF Farmland Index Lagged, 5.0% Alerian Midstream Energy Index, 5.7% S&P GSCI Gold Index (-) Cost of Financing, 2.0% Bloomberg Commodity Index.

Long-Term Policy: 18.6% FT Wilshire 5000 Total Market TR Index, 12.4% MSCI ACWI ex-U.S. Iran/Sudan Free IMI Index (\$N), 25% Bloomberg U.S. Aggregate X2 (-) Cost of Financing, 7.0% ICE BofA Merrill Lynch U.S. High Yield Master II Constrained Index, 5.0% Morningstar LSTA U.S. Leveraged Loan Index + 2.0% Lagged, 15% Bloomberg U.S. Gov't Inflation Linked Bond Index X2 (-) Libor, 12% NCREIF ODCE Index (Net) Lagged, 10% Actual Private Markets Composite (NOF) Lagged, 8.0% Blend of 45% FTSE Dev. Core 50/50 Infrastructure Index, 35% NCREIF Timberland Index, and 20% NCREIF Farmland Index Lagged, 5.0% Alerian Midstream Energy Index, 5.0% S&P GSCI Gold Index (-) Cost of Financing, 2.0% Bloomberg Commodity Index. (adds to 125% as "Risk Parity" approach uses 2x levered U.S. Gov't Inflation-Protected Securities and 2x levered Core Fixed Income).

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

Acronyms and abbreviations used in this chart are explained at the end of the Statistical Section, in the List of Professional Acronyms, Symbols and Abbreviations.



## DEBT CAPACITY INFORMATION

OP&F does not have any outstanding debt, nor are there any plans to ever pursue issuing debt anytime in the future.

## DEMOGRAPHIC AND ECONOMIC INFORMATION

### NUMBER OF EMPLOYER UNITS\*

	Municipalities		Townships		Villages		Total		Total
Year	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Combined
2023	250	208	-	198	281	41	531	447	978
2022	250	205	-	190	281	42	531	437	968
2021	249	204	-	182	278	40	527	426	953
2020	248	204	-	178	277	37	525	419	944
2019	248	201	-	170	278	37	526	408	934
2018	248	197	-	161	280	40	528	398	926
2017	248	199	-	162	282	35	530	396	926
2016	248	221	-	130	279	37	527	388	915
2015	249	220	-	131	280	37	529	388	917
2014	249	221	-	129	283	36	532	386	918

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

## OPERATING INFORMATION

### RETIRED MEMBERSHIP BY TYPE OF BENEFITS AND AVERAGE ANNUAL ALLOWANCE

(SOURCE: ACTUARIAL VALUATION) AS OF JAN. 1, 2023

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
<b>Service Retirees</b>			
Under 60	3,414	\$172,914,332	\$50,649
60 - 64	3,211	179,518,158	55,907
65 - 69	3,452	200,610,557	58,114
70 - 74	2,947	169,316,001	57,454
75 - 79	2,295	126,101,210	54,946
Over 79	2,329	105,444,922	45,275
<b>TOTAL</b>	<b>17,648</b>	<b>\$953,905,180</b>	<b>\$54,052</b>
<b>Survivors and Beneficiaries</b>			
Under 60	1,151	\$11,648,852	\$10,121
60 - 64	483	6,854,184	14,191
65 - 69	756	10,470,425	13,850
70 - 74	1,141	15,270,995	13,384
75 - 79	1,228	15,278,382	12,442
Over 79	3,095	35,616,962	11,508
<b>TOTAL</b>	<b>7,854</b>	<b>\$95,139,800</b>	<b>\$12,114</b>
<b>Disability Retirees</b>			
Under 60	1,674	\$70,116,587	\$41,886
60 - 64	740	35,657,618	48,186
65 - 69	939	46,418,780	49,434
70 - 74	955	45,411,319	47,551
75 - 79	763	34,511,064	45,231
Over 79	644	24,733,918	38,407
<b>TOTAL</b>	<b>5,715</b>	<b>\$256,849,286</b>	<b>\$44,943</b>

## 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+	
2023	Average Monthly Benefit	\$1,422	\$2,710	\$3,229	\$2,971	\$2,975	\$4,465	\$5,422	\$4,342
	Average Final Average Salary	\$72,763	\$78,278	\$76,567	\$81,882	\$81,154	\$88,947	\$96,006	\$88,310
	Number of Active Recipients	2	6	10	40	38	904	21	1,021
2022	Average Monthly Benefit	\$3,211	\$4,331	\$3,377	\$2,939	\$3,265	\$4,350	\$5,496	\$4,282
	Average Final Average Salary	\$85,487	\$78,331	\$74,290	\$78,733	\$77,254	\$86,845	\$97,030	\$86,337
	Number of Active Recipients	1	3	15	42	33	1,075	26	1,195
2021	Average Monthly Benefit	\$1,486	\$4,274	\$3,394	\$3,051	\$3,630	\$4,308	\$5,446	\$4,283
	Average Final Average Salary	\$59,442	\$74,899	\$70,148	\$75,490	\$84,296	\$84,481	\$90,595	\$84,353
	Number of Active Recipients	1	2	8	23	47	1,037	37	1,155
2020	Average Monthly Benefit	\$3,701	\$3,227	\$2,950	\$2,282	\$3,380	\$4,191	\$4,926	\$4,112
	Average Final Average Salary	\$61,675	\$71,464	\$65,660	\$72,417	\$83,497	\$81,323	\$80,717	\$80,941
	Number of Active Recipients	1	5	8	28	36	896	26	1,000
2019	Average Monthly Benefit	\$1,013	\$3,467	\$3,351	\$2,479	\$3,486	\$4,170	\$5,211	\$4,112
	Average Final Average Salary	\$51,667	\$70,342	\$69,191	\$71,050	\$77,710	\$79,431	\$81,773	\$79,011
	Number of Active Recipients	1	3	11	26	55	777	41	914
2018	Average Monthly Benefit	\$-	\$3,001	\$3,753	\$2,691	\$3,352	\$4,240	\$5,419	\$4,153
	Average Final Average Salary	\$-	\$60,515	\$78,920	\$73,634	\$76,564	\$79,029	\$84,710	\$78,769
	Number of Active Recipients	-	4	12	35	49	720	29	849
2017	Average Monthly Benefit	\$-	\$1,892	\$2,792	\$2,781	\$3,119	\$4,139	\$4,707	\$4,019
	Average Final Average Salary	\$-	\$46,107	\$68,897	\$69,634	\$70,690	\$77,000	\$74,777	\$76,051
	Number of Active Recipients	-	2	11	39	49	731	33	865
2016	Average Monthly Benefit	\$1,395	\$2,314	\$2,638	\$2,477	\$3,234	\$4,075	\$4,277	\$3,925
	Average Final Average Salary	\$34,158	\$59,041	\$59,716	\$63,590	\$73,762	\$75,132	\$69,681	\$73,889
	Number of Active Recipients	1	6	14	44	40	737	31	873
2015	Average Monthly Benefit	\$-	\$1,332	\$2,387	\$2,445	\$3,175	\$4,127	\$4,944	\$3,976
	Average Final Average Salary	\$-	\$49,515	\$59,939	\$64,106	\$71,568	\$75,267	\$77,280	\$74,128
	Number of Active Recipients	-	5	17	48	43	728	40	881
2014	Average Monthly Benefit	\$-	\$2,243	\$2,577	\$2,349	\$3,096	\$4,011	\$4,738	\$3,910
	Average Final Average Salary	\$-	\$62,465	\$58,188	\$62,903	\$72,772	\$72,161	\$76,831	\$71,822
	Number of Active Recipients	-	8	9	29	38	708	36	828

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

## PRINCIPAL PARTICIPATING EMPLOYERS

AS OF DEC. 31, 2023

Employer Name	Covered Employees*	Rank	Percentage of Total Covered Members
City of Columbus	3,714	1	12.3%
City of Cleveland	2,171	2	7.2%
City of Cincinnati	1,875	3	6.2%
City of Toledo	1,314	4	4.4%
City of Akron	896	5	3.0%
City of Dayton	700	6	2.3%
City of Canton	329	7	1.1%
City of Springfield	264	8	0.9%
City of Youngstown	253	9	0.8%
City of Hamilton	240	10	0.8%
All Others	18,429		61.0%
<b>TOTAL</b>	<b>30,185</b>		<b>100.0%</b>

\* Total covered employees ties to the actuarial report.

## PRINCIPAL PARTICIPATING EMPLOYERS

AS OF DEC. 31, 2014

Employer Name	Covered Employees*	Rank	Percentage of Total Covered Members
City of Columbus	3,557	1	12.9%
City of Cleveland	2,441	2	8.8%
City of Cincinnati	1,853	3	6.7%
City of Toledo	1,200	4	4.3%
City of Akron	842	5	3.1%
City of Dayton	669	6	2.4%
City of Canton	324	7	1.2%
City of Youngstown	299	8	1.1%
City of Springfield	261	9	0.9%
City of Parma	218	10	0.8%
All Others	15,941		57.8%
<b>TOTAL</b>	<b>27,605</b>		<b>100.0%</b>

\* Total covered employees ties to the actuarial report.

## OP&F EMPLOYEE BUDGETED POSITION COUNTS

Department*	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Administration	42	19	19	19	19	19	20	19	36	48
Finance	35	23	24	25	25	24	21	21	21	21
Information Technology (IT)	25	28	39	40	41	41	45	44	26	25
Investments	15	16	17	17	17	16	16	15	14	14
Member Services	23	56	46	47	46	46	46	46	46	34
<b>TOTAL FULL-TIME POSITIONS</b>	<b>140</b>	<b>142</b>	<b>145</b>	<b>148</b>	<b>148</b>	<b>146</b>	<b>148</b>	<b>145</b>	<b>143</b>	<b>142</b>

\* In 2022, Calculations was transitioned to Finance from Member Services and Procurement was transitioned to Administration from Finance. Also in 2022, Records, Imaging, Mail Services and Disability Processing were transitioned to Administration from Member Services. In 2018, Procurement was transitioned to Finance from IT. In 2015, Customer Service was transitioned to Member Services and Procurement was transitioned to IT from Administration.

## PERSONNEL SALARIES BY YEAR (DOLLARS IN THOUSANDS)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Salaries and Wages	\$12,028.5	\$11,525.5	\$11,611.4	\$11,318.5	\$11,227.3	\$10,801.4	\$10,317.3	\$9,971.3	\$9,635.1	\$9,054.2
Average Salary per Budgeted Staff	\$85.9	\$81.2	\$80.1	\$76.5	\$75.9	\$74.0	\$69.7	\$68.8	\$67.4	\$63.8

## OP&F BUDGET (DOLLARS IN MILLIONS)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Administrative Expenses (Actual)*	\$76.9	\$68.6	\$66.1	\$68.8	\$75.9	\$67.3	\$70.3	\$63.6	\$59.4	\$61.6
Administrative Expenses (Budget)*	\$83.4	\$81.8	\$70.1	\$77.3	\$77.3	\$72.5	\$70.2	\$66.0	\$65.4	\$62.6
Percentage of Budget vs. Actual	92%	84%	94%	89%	98%	93%	100%	96%	91%	98%
<b>* Excludes depreciation expense.</b>										
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Capital (Actual)	\$1.9	\$5.3	\$5.5	\$0.8	\$1.1	\$0.5	\$0.4	\$0.5	\$1.3	\$2.1
Capital (Budget)	\$5.2	\$9.5	\$11.4	\$4.3	\$3.1	\$2.9	\$4.3	\$4.6	\$3.0	\$2.8
Percentage of Budget vs. Actual	37%	56%	48%	19%	35%	17%	9%	11%	43%	75%
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Operating Expenses (Actual)*	\$19.3	\$10.3	\$8.1	\$18.1	\$20.5	\$15.8	\$18.9	\$17.9	\$14.6	\$14.4
Investment Expenses (Actual)*	\$57.6	\$58.3	\$58.0	\$50.7	\$55.4	\$51.5	\$51.4	\$45.7	\$44.8	\$47.2

\* Excludes depreciation expense.

## OTHER OPERATING STATISTICS

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Staff	140	142	145	148	148	146	148	145	143	142
Investment Staff	15	16	17	17	17	16	16	15	14	14
Investment Actual Expenses	\$57.6	\$58.3	\$58.0	\$50.7	\$55.4	\$51.5	\$51.4	\$45.7	\$44.8	\$47.2
Investment Income (Loss)	\$1,533.2	\$(2,128.5)	\$3,192.8	\$1,436.7	\$2,434.3	\$(487.9)	\$1,923.5	\$1,317.4	\$(10.0)	\$860.7
Investment Staff to Investment Expense Ratio	\$3.8	\$3.6	\$3.4	\$3.0	\$3.3	\$3.2	\$3.2	\$3.0	\$3.2	\$3.4
Total Staff to Investment Income (Loss) Ratio	\$11.0	\$(15.0)	\$22.0	\$9.7	\$16.4	\$(3.3)	\$13.0	\$9.1	\$(0.1)	\$6.1
Investment Staff to Investment Income (Loss) Ratio	\$102.2	\$(133.0)	\$187.8	\$84.5	\$143.2	\$(30.5)	\$120.2	\$87.8	\$(0.7)	\$61.5

## DEATH BENEFIT FUND

Pursuant to Section 742.62 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. OP&F assesses a fee of 1.5% on benefits paid to cover the cost of administering the State of Ohio DBF. The assets and liabilities of the DBF are included in OP&F's combining statement of plan net assets as of Dec. 31, 2023. The following is a schedule of DBF financial activity:

<b>Balance Jan. 1, 2023</b>	<b>\$ (27,401)</b>
Less: Survivor Benefits Paid Jan. 1 thru June 30, 2023	(17,865,096)
Less: Administrative Fees	(782,859)
State Funding Received	37,225,000
Less: Survivor Benefits Paid July 1 thru Dec. 31, 2023	(16,923,118)
<b>BALANCE DEC. 31, 2023</b>	<b>\$ 1,626,526</b>



## LIST OF PROFESSIONAL ACRONYMS, SYMBOLS AND ABBREVIATIONS

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AAL = Actuarial Accrued Liabilities	GASB = Government Accounting Standards Board
ACFR = Annual Comprehensive Financial Report	GDP = Gross Domestic Product
ACH = Automated Clearing House	GFOA = Government Finance Officers Association of the U.S. and Canada
ACWI Ex-U.S. = All Country World Index excluding the U.S.	GNMA = Government National Mortgage Association
Board = Board of Trustees	Gov't = Government
BofA = Bank of America	GSCI = Goldman Sachs Commodity Index
bps = Basis Points	HCSF = Health Care Stabilization Fund
CMC = Cavanaugh Macdonald	HY = High Yield
COLA = Cost-of-Living Allowance	ICE = Intercontinental Exchange
CPI = Consumer Price Index	IMI = Investible Market Index
CS = Credit Suisse	IPO = Initial Public Offering
DBF = Ohio Public Safety Officers Death Benefit Fund	IRC = Internal Revenue Code
Dev. = Developed	IRR = Internal Rate of Return
DROP = Deferred Retirement Option Plan	IRS = Internal Revenue Service
EDOR = Effective Date of Retirement	I/S Free = Iran and Sudan Free
EMSI = Economic Modeling Specialist International	IT = Information Technology
€ = Euro	JSA = Joint and Survivor Annuity
FAS = Final Average Salary	LACC = Life Annuity Certain and Continuous
FED = Federal Reserve	LIBOR = London Interbank Offered Rate
FF&C = Full Faith and Credit	LNG = Liquefied Natural Gas
FHLMC = Federal Home Loan Mortgage Corporation	LSTA = Loan Syndication and Trading Association
FNMA = Federal National Mortgage Association	MD&A = Management Discussion and Analysis
401(h) Account = 401(h) Health Care Account	MLPs = Master Limited Partnerships
4Q = 4th Quarter	MSCI = Morgan Stanley Capital International
FOMC = Federal Open Market Committee	MVA = Market Value of Assets
FT = Financial Times	N/A = Not Applicable
FTSE Dev. = Financial Times Stock Exchange and Developed	NAV = Net Asset Value

## **LIST OF PROFESSIONAL ACRONYMS, SYMBOLS AND ABBREVIATIONS - CONTINUED**

NCREIF = National Council of Real Estate Investment Fiduciaries	U.S.D. = United States Dollar
NOF = Net of Fees	Vs. = Verses
NPL = Net Pension Liability	(\$N) = U.S.D. Net
NR = Not Rated	
ODCE = Open-End Diversified Core Equity	
OP&F = Ohio Police & Fire Pension Fund	
OPEB = Other Post-Employment Benefit	
OPERS = Ohio Public Employees Retirement System	
ORC = Ohio Revised Code	
ORSC = Ohio Retirement Study Council	
PME = Public Market Equivalent	
Policy or Statement = Investment Policy and Guidelines	
PPCC = Public Pension Coordination Council	
REMICs = Real Estate Mortgage Investment Conduits	
RFP = Request for Proposal	
RSI = Required Supplementary Information	
S&P = Standard and Poor's	
SPACs = Special Purpose Acquisition Company	
STRIPS = Separate Trading of Registered Interest and Principal Securities	
TIPS = Treasury Inflation Protected Securities	
TR = Total Return	
X2 = Times Two	
2x = Two Times	
TTY = TeletypeWriter	
UAAL = Unfunded Actuarial Accrued Liabilities	
U.S. = United States of America	





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