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GASB STATEMENT NO. 67 REPORT

FOR THE OHIO POLICE & FIRE PENSION FUND

MEASUREMENT DATE: DECEMBER 31, 2022

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April 24, 2023

Mr. Scott K. Miller
Chief Financial Officer
Ohio Police & Fire Pension Fund
140 East Town Street
Columbus, OH 43215-5164

Dear Scott:

Presented in this report is information to assist the Ohio Police & Fire Pension Fund (OP&F) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 67 for the December 31, 2022 Measurement Date. The calculations in this report have been made on a basis that is consistent with our understanding of this accounting standard (GASB 67).

The information is based on an actuarial valuation performed by Cavanaugh Macdonald (CMC) as of January 1, 2022, with actuarial liabilities rolled forward to December 31, 2022, and plan asset information provided by OP&F for its fiscal year ended December 31, 2022. This valuation is used for accounting purposes and is different than the actuarial valuation presented to the Board of Trustees in October 2022, which was used for funding purposes.

The valuation was based upon data, furnished by OP&F's staff, concerning active, inactive and retired members along with pertinent financial information. This information was reviewed for completeness and internal consistency but was not audited by us. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete our results may be different, and our calculations may need to be revised. Please see the January 1, 2022 actuarial valuation report, dated October, 2022, for additional details on the funding requirements for OP&F, including actuarial assumptions and methods and the funding policy.

To the best of our knowledge, the information contained in this report is complete and accurate. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of OP&F, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of OP&F. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 67.

These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

Larry Langer and Wendy T. Ludbrook are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in this report or to provide explanations or further details as may be appropriate.

Respectfully submitted,

Wendy Ludbrook

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

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

Ryan Gundersen
Senior Consultant

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REPORT OF THE ANNUAL GASB STATEMENT NO. 67

OHIO POLICE & FIRE PENSION FUND

SUMMARY OF PRINCIPAL RESULTS

Valuation Date (VD):	January 1, 2022
Prior Measurement Date:	December 31, 2021
Measurement Date (MD):	December 31, 2022
Membership Data:	
Retirees and Beneficiaries	30,794
Inactive Vested Members	257
Inactive Nonvested Members	4,054
Active Employees	29,384
Total	64,489
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.50%
Municipal Bond Index Rate at Prior Measurement Date	2.05%
Municipal Bond Index Rate at Measurement Date	3.65%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.50%
Single Equivalent Interest Rate at Measurement Date	7.50%
Net Pension Liability:	
Total Pension Liability (TPL)	$25,606,604,961
Fiduciary Net Position (FNP)	16,107,574,300
Net Pension Liability (NPL = TPL – FNP)	$9,499,030,661
FNP as a percentage of TPL	62.90%

INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67), *"Financial Reporting for Pension Plans"*, in June 2012. The effective date for reporting under GASB 67 was the plan year ending December 31, 2014 for the Ohio Police & Fire Pension Fund (the "Fund"). Based on the provisions of GASB 67, the Ohio Police & Fire Pension Fund is a cost-sharing, multiple-employer public employee retirement system.

This report, prepared as of December 31, 2022 (the Measurement Date), presents information to assist the Ohio Police & Fire Pension Fund in meeting the requirements of GASB 67 and is different than the actuarial valuation presented to the Board of Trustees in October 2022, which was used for funding purposes. The information is based on an actuarial valuation performed by CMC as of January 1, 2022 (the Valuation Date) with actuarial liabilities rolled forward to December 31, 2022, and plan asset information provided by OP&F for its fiscal year ended December 31, 2022.

GASB 67 discloses the Total Pension Liability (TPL) utilizing the Entry Age Normal actuarial cost method. The Net Pension Liability (NPL) is equal to the TPL minus OP&F's Fiduciary Net Position (FNP) (basically the fair (market) value of assets). The plan provisions recognized in the calculation of the TPL are summarized in Appendix B.

Among the items needed for the liability calculation is the discount rate, or Single Equivalent Interest Rate (SEIR), as described by GASB 67. To determine the SEIR, the FNP must be projected using GASB 67 guidelines into the future for as long as there are anticipated benefits payable under the plan's provisions applicable to the members and beneficiaries of OP&F on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long-term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, the FNP is projected to be depleted at a future measurement date, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate (Municipal Bond Index Rate). The rate used, if necessary, for this purpose is the monthly average of the Bond Buyers General Obligation 20-year Municipal Bond Index Rate (formerly published monthly by the Board of Governors of the Federal Reserve System).

Our calculations indicate that the FNP is not projected to be depleted, so the Municipal Bond Ind Rate is not used in the determination of the SEIR for either the December 31, 2021 or the December 31, 2022 TPL. The SEIR for both the Measurement Date and the Prior Measurement Date is 7.50%, the long-term assumed rate of return on investments. Please see Paragraph 31.b.(1) for more explanation of the development of the SEIR.

The FNP projections are based upon OP&F's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of OP&F, or OP&F's ability to make benefit payments in future years.

The benefit structure of OP&F includes a Deferred Retirement Option Plan (DROP). For details on the provisions of the DROP, please see Paragraph 30.f.(1) in Section 1 of this report. In accordance with Paragraph 46(d) of GASB 67, the date of entry into the DROP is the member's retirement date for purpose of attributing the actuarial present value of projected benefit payments. Note that this is a different approach than is used in the funding valuation. For the funding valuation the member's actual retirement date, not the DROP entry date, is the member's retirement date for purpose of attributing the actuarial present value of projected benefit payments.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 67 for note disclosure and Required Supplementary Information (RSI).

SECTION I – NOTES TO FINANCIAL STATEMENTS

The material presented herein will follow the order presented in GASB 67. Paragraph numbers are provided for ease of reference.

Paragraph 30.a. (1): The name of the pension plan is the Ohio Police & Fire Pension Fund (OP&F) and it is a cost-sharing multiple employer defined benefit pension plan. The Fund is administered by the Ohio Police & Fire Pension Fund Board of Trustees.

Paragraph 30.a. (2): All contributions required, other than member contributions, are paid by the Ohio municipalities, townships (fire only), villages, joint fire districts or political subdivisions on behalf of their full-time firefighters or full-time police officers.

Paragraph 30.a. (3): The Board of Trustees is composed 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 investment expertise.

Paragraph 30.a. (4): The data required regarding the membership in OP&F were furnished by OP&F. The following table summarizes the membership of OP&F as of January 1, 2022, the Valuation Date.

Membership

Number as of January 1, 2022	
Retired Members Or Their Beneficiaries Currently Receiving Benefits	30,794
Inactive Members Entitled To But Not Yet Receiving Benefits	257
Inactive Nonvested Members	4,054
Active Members	29,384
Total	64,489

Paragraphs 30.a. (5): Benefit terms for the Ohio Police & Fire Pension Fund are established in Chapter 742 of the Ohio Revised Code (ORC), as amended by Senate Bill No. 340 of 2013, and

can only be amended by the Ohio General Assembly. OP&F provides pension, deferred retireme option plan (DROP), pre-retirement death benefits, survivor benefits, duty and non-duty related disability benefits, and termination benefits to qualified members.

Paragraph 30.a. (6):

(a) State statutes set out the funding requirements for OP&F. Member contribution rates are set by Ohio law. State law permits the Board of Trustees to adjust the member contribution rate if, in consultation with the actuary following an actuarial review, OP&F determines that an adjustment to the rate is appropriate. Employer contribution rates are also set by Ohio law. A change in the employer rates requires action by both Houses of the General Assembly and approval by the Governor.

(b) **Members:** Each member contributes 12.25 percent of base pay.

Employers: Employers of police officers pay 19.50 percent of salary; employers of firefighters pay 24.00 percent of police salary. The State of Ohio also provides a subsidy which is less than 0.05 percent of the total contributions made to OP&F.

OP&F allocates a portion of the contributions to the Health Care Stabilization Fund (HCSF) and the rest to the pension fund. The allocation to the HCSF for 2022 was 0.50 percent of salary.

These contribution rates, minus the allocation to the HCSF, are used in the projection of the fiduciary net position in Schedule A in the Appendix, which is used for determining the crossover point for the development of the discount rate.

Paragraphs 30.b.-e.: This information will be supplied by the Fund.

Paragraphs 30.f. (1): The benefit structure of OP&F includes a Deferred Retirement Option Plan (DROP). Members must be eligible to retire under normal service retirement to participate in the DROP. The maximum DROP period is eight years. The monthly benefit amount is computed as of the DROP election date based on the Final Average Salary and years of service as of that date. The benefit is paid into the member's notional DROP account during the deferral or DROP period. The Member continues to make the required contributions during the DROP period. A portion of these contributions are credited to the Member's DROP account, the remaining contributions are credited to the Fund assets to improve OP&F's funding. Interest at a rate equal to the 10-year U.S. Treasury Note Business Day Series, with a cap of 5.0 percent, is credited to the notional DROP account. This variable interest rate will be adjusted quarterly to match the published 10-year U.S. Treasury Note rate for the last business day of each quarter and will be in effect for the subsequent quarter. Voluntary termination of employment during the DROP period results in the loss of accrued interest. When the Member terminates employment, the balance in the DROP account paid as a lump sum or converted to a monthly annuity and the monthly Normal Service Retirement benefits are paid to the member.

Paragraphs 30.f. (2): The balance of the notional DROP accounts as of the Measurement Date is $2,000,847,817.

Paragraph 31.a. (1)-(4): As stated earlier, the NPL is equal to the TPL minus the FNP. That result, as of December 31, 2022, is presented in the following table.

Fiscal Year Ending December 31, 2022		
Total Pension Liability	$	25,606,604,961
Fiduciary Net Position		16,107,574,300
Net Pension Liability	$	9,499,030,661
Ratio of Fiduciary Net Position to Total Pension Liability		62.90%

Paragraph 31.b.: This paragraph requires information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TPL. The complete set of actuarial assumptions and other inputs utilized in developing the TPL are outlined in Appendix C. The TPL as of December 31, 2022 was determined based on an actuarial valuation, prepared as of January 1, 2022, rolled forward one year to December 31, 2022, using the following actuarial assumptions and other inputs:

Price Inflation	2.75 percent
Wage Inflation	3.25 percent
Salary increases, including wage inflation	3.75 to 10.50 percent
Long-term Rate of Return, net of investment expense, including price inflation	7.50 percent
Municipal Bond Index Rate	
Prior Measurement Date	2.05 percent
Measurement Date	3.65 percent
Year FNP is projected to be depleted	N/A

Single Equivalent Interest Rate, net of plan investment expense, including inflation	
Prior Measurement Date	7.50 percent
Measurement Date	7.50 percent
Post-retirement benefit increases	Simple COLA of 2.2% per year

Mortality

Svc Retiree/Vested Former Member	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.

The actuarial assumptions used in the valuation 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.

Paragraph 31.b.(1)

(a) Discount rate (SEIR): The discount rate used to measure the TPL as of December 31, 2022 was 7.50%. The SEIR on the Prior Measurement Date was 7.50%.

(b) Projected cash flows: The projection of cash flows used to determine the discount rate assumed that plan contributions from members and employers will be made at the current contribution rate as set out in state statute, each year:

a. Employee contribution rate: 12.25 percent of base pay.

b. Employer contribution rate: Employers of police officers pay 19.50 percent of salary; Employers of firefighters pay 24.00 percent of salary. OP&F allocates a portion of the contributions to the Health Care Stabilization Fund (HCSF) and the rest to the pension fund. The allocation to the HCSF for 2021 was 0.50 percent of salary and was assumed for all future years.

c. Administrative expenses in the prior year were projected forward with price inflation as an estimate for administrative expenses in current and future years. The portion of expenses in future years allocated to the current members was based on the proportionate share of covered payroll in each year for the remainder of the existing members to the total covered payroll for all members.

Based on those assumptions, OP&F's FNP was projected to be available to make all projected future benefit payments of current OP&F members. Therefore, the long-term expected rate of return on OP&F's investments of 7.50% was applied to all periods of projected benefit payments to determine the TPL.

The FNP projections are based upon OP&F's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. The FNP does include the member and Fund contributions in excess of future new member's normal costs for expected future new members as allowed by the Standard. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of OP&F, or OP&F's ability to make benefit payments in future years.

(c) Long-term rate of return: The long-term expected rate of return on pension plan investments is reviewed as part of regular experience studies prepared for OP&F about every five years. The current long-term expected rate of return was adopted by the Board of Directors in February 2022. The rate was determined using a building- block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. The assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the underlying inflation assumption, or a fundamental change in the market that alters expected returns in future years.

(d) **Municipal bond rate:** A municipal bond rate was not used in determining the discount rate. If it were required, the rate would be 3.65% on the Measurement Date.

(e) **Periods of projected benefit payments:** Future benefit payments for all current plan members were projected through 2121.

(f) **Assumed asset allocation**: The target asset allocation and best estimates of geometric real rates of return for each major asset class as of the Measurement Date, as provided by OP&F's investment consultant, Wilshire, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return**
Domestic Equity	18.6%	4.8%
Non-U.S. Equity	12.4%	5.5%
Private Markets	10.0%	7.9%
Core Fixed Income*	25.0%	2.5%
High Yield Fixed Income	7.0%	4.4%
Private Credit	5.0%	5.9%
U.S. Inflation Linked Bonds*	15.0%	2.0%
Midstream Energy Infrastructure	5.0%	5.9%
Real Assets	8.0%	5.9%
Gold	5.0%	3.6%
Private Real Estate	12.0%	5.3%
Commodities	2.0%	3.6%
Total	125.0%	

*Levered 2.5x

**Geometric mean, net of expected inflation

(g): **Sensitivity analysis**: This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents the NPL of OP&F, calculated using the discount rate of 7.50 percent, as well as OP&F's NPL calculated using a discount rate that is 1-percentage-point lower (6.50 percent) or 1-percentage-point higher (8.50 percent) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Total Pension Liability	$28,638,628,515	$25,606,604,961	$23,086,083,532
Fiduciary Net Position	16,107,574,300	16,107,574,300	16,107,574,300
Net Pension Liability	$12,531,054,215	$9,499,030,661	$6,978,509,232

Paragraph 31.c.: The actuarial valuation, upon which the TPL is based, was performed as of January 1, 2022. The valuation results were first used to determine the TPL at January 1, 2022 using the SEIR, then the liabilities were rolled forward one year to December 31, 2022 using standard actuarial techniques. The roll-forward begins with the TPL at January 1, 2022, adds the annual normal cost (also called Service Cost), subtracts the actual benefit payments and refunds for the plan year and then applies interest to December 31, 2022 using the discount rate as of the Measurement Date. The DROP provisions were valued where the date of entry into the DROP is the member's retirement date for purpose of attributing the actuarial present value of projected benefit payments, as required by GASB.

SECTION II – REQUIRED SUPPLEMENTARY INFORMATION

There are several tables of Required Supplementary Information (RSI) that need to be included in OP&F's financial statements:

Paragraphs 32.a.-b.: The required tables of schedules are provided in Appendix A.

Paragraph 32.c.: Because OP&F is funded with fixed statutory contribution rates, an Actuarially Determined Contribution is not calculated.

Paragraph 32.d.: The money-weighted rates of return were provided by OP&F and are shown below.

Year Ending December 31:	Annual Money-Weighted Rate of Return
2022	-10.703%
2021	19.230%
2020	9.212%
2019	17.279%
2018	-2.854%
2017	13.867%
2016	10.048%

Paragraph 34: There have been no changes in plan provisions since the January 1, 2021 actuarial valuation.

All 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. Please see Appendix C for a description of the assumptions and changes.

APPENDIX A

REQUIRED
SUPPLEMENTARY INFORMATION

Exhibit A

GASB 67 Paragraph 32(a) and (b)
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY

	2022	2021	2020	2019	2018	2017
Total Pension Liability						
Service Cost	$432,828,079	$360,427,328	$357,200,509	$343,991,701	$331,600,261	$289,911,106
Interest	1,851,865,191	1,826,859,097	1,763,487,122	1,741,126,879	1,663,040,537	1,623,441,004
Benefit term changes	0	0	0	0	0	0
Differences between expected and actual experience	80,765,641	(168,232,265)	134,816,300	(421,664,871)	322,601,323	109,199,474
Assumption/SEIR changes	(223,737,455)	1,312,414,800	0	0	0	318,479,524
Benefit payments, including member refunds	(1,559,456,438)	(1,535,344,021)	(1,400,413,884)	(1,394,027,927)	(1,314,608,496)	(1,256,254,446)
Net change in Total Pension Liability	$582,265,018	$1,796,124,939	$855,090,047	$269,425,782	$1,002,633,625	$1,084,776,662
Total Pension Liability - beginning	$25,024,339,943	$23,228,215,004	$22,373,124,957	$22,103,699,175	$21,101,065,550	$20,016,288,888
Total Pension Liability - ending (a)	$25,606,604,961	$25,024,339,943	$23,228,215,004	$22,373,124,957	$22,103,699,175	$21,101,065,550
Plan Fiduciary Net Position						
Employer and State contributions	$575,675,549	$539,335,665	$518,430,203	$502,303,770	$478,595,785	$462,394,203
Employee contributions	352,964,203	337,025,068	312,628,926	303,413,682	295,472,374	282,006,793
Net investment income	(2,025,855,021)	3,034,386,114	1,362,818,981	2,305,254,776	(458,734,784)	1,812,565,572
Benefit payments, including member refunds	(1,559,456,438)	(1,535,344,021)	(1,400,413,884)	(1,394,027,927)	(1,314,608,496)	(1,256,254,446)
Administrative expenses	(12,672,374)	(9,609,702)	(18,929,776)	(21,410,301)	(16,234,396)	(19,487,358)
Other	0	0	0	-	(7,047,680)	0
Net change in Plan Fiduciary Net Position	($2,669,344,081)	$2,365,793,124	$774,534,450	$1,695,534,000	($1,022,557,197)	$1,281,224,764
Plan Fiduciary Net Position – beginning	$18,776,918,381	$16,411,125,257	$15,636,590,807	$13,941,056,807	$14,963,614,004	$13,682,389,240
Plan Fiduciary Net Position - ending (b)	$16,107,574,300	$18,776,918,381	$16,411,125,257	$15,636,590,807	$13,941,056,807	$14,963,614,004
Net Pension Liability - ending (a) - (b)	$9,499,030,661	$6,247,421,562	$6,817,089,747	$6,736,534,150	$8,162,642,368	$6,137,451,546
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	62.90%	75.03%	70.65%	69.89%	63.07%	70.91%
Covered payroll	$2,654,917,807	$2,526,179,170	$2,475,784,283	$2,373,429,623	$2,302,436,015	$2,224,675,422
Net Pension Liability as a percentage of covered payroll	357.79%	247.31%	275.35%	283.83%	354.52%	275.88%

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.

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, Section 4765.55 or conducted under Section 3737.33 of the ORC.

Eligibility for Membership

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

Contributions

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

Employer Contribution Rates – Percentage of Active Member Payroll:

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

APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

Member Contribution Rates – Percentage of Active Member Payroll:

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

Benefits

Service Retirement

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

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

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

Normal Service Retirement

Eligibility

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

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

APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

Benefit

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

Service Commuted Retirement

Eligibility

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

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

Benefit

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

Age/Service Commuted Retirement

Eligibility

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

Benefit

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

SUMMARY OF MAIN BENEFIT PROVISIONS

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. Employer contributions 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.

SUMMARY OF MAIN BENEFIT PROVISIONS

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 five percent and a floor of 2.5 percent. This variable interest rate is adjusted quarterly to match the published 10-year U.S. Treasury Note rate for the last trading business day of the preceding quarter and is in effect for the subsequent quarter.

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

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

Years of DROP Service	Percentage of Member Contributions
Years 1-3	50% of member's contributions
Years 4-5	75% of member's contributions
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 joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member’s surviving spouse, designated beneficiary or estate, as applicable will receive the entire DROP account balance determined at the time of death.

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

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

Years of DROP Service	Percentage of Member Contributions
Years 1-2	50% of member's contributions
Year 3	75% of member's contributions
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.

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

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

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

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

Disability Benefits

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

Permanent and Total Disability (On-Duty)

Eligibility

No age or service requirement.

Benefit

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

Partial Disability (On-Duty)

Eligibility

No age or service requirement.

Benefit

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

Non-Service Incurred Disability (off-Duty)

Eligibility

Any age and five years of service credit.

Benefit

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

Pre-Retirement Survivor Annuity

Eligibility

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

Benefit

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

Statutory Survivor Benefits

Eligibility

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

Benefit

- Surviving Spouse's Benefit

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

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APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

- Surviving Child's Benefit

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

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

Survivors	Monthly Pension	Causes of Termination
Widow/Widower	current amount + future COLA	*Death
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	1/2 current amount (each) + future COLA	*Termination of dependency

APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

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 three percent. Every year after 2000, the monthly increase was $16.50 or three percent of the base benefit.

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

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

Lump Sum Death Benefit

Eligibility

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

Benefit

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

APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

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, SHPRS 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.

APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

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

Multiple Beneficiary Annuity

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

Life Annuity Certain and Continuous (LACC)

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

Tiered Retirement Plan – COLA or Terminal Pay (Non-COLA)

Members retiring on or after July 24, 1986, who had 15 or more years of service credit as of 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 three percent of the member's base pension benefit.

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

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

Re-employed Retiree's Defined Contribution Plan Benefit

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

Group Health Insurance and Medicare

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

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

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

APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

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

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

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 percent per annum, compounded annually.

Salary Increase Rates

Assumed annual salary increases are as follows:

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

Payroll Growth

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

DROP Interest Crediting Rate

3.75 percent per annum, compounded annually.

CPI-Based COLA

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

Withdrawal Rates

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

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%

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Rates of Disability

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

Age	Firefighters	Police
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%

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

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

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 percent for Firefighters and 20 percent 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

	Years of Service	
Age	15-23	24
62	25%	15%
63	25%	15%
64	25%	15%
65	100%	100%

Police

	Years of Service	
Age	15-23	24
62	25%	20%
63	25%	20%
64	25%	20%
65	100%	100%

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Deferred Retirement Option Plan Elections

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

DROP Retirement Rates

The following rates of retirement apply to members in DROP as of the valuation date:

Years of Service	Firefighters	Police
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.

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

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 IRC Section 415, assumed to increase 2.75 percent per annum.

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

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 1.191 percent load is added to the 2021 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
2021	1.418%
2020	0.820%
2019	1.335%

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

Percent Married

80 percent of active members are assumed to be married.

Age of Spouse

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

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Optional Form Election

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

DROP Account Distributions

For 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 retirements in a pattern equivalent to 25 percent receiving lump sums, 30 percent receiving installments over two years, and 45 percent receiving installments over 10 years.

Dependent Parents

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

Dependent Children

Each 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 2021) provided the retiree is not eligible for reimbursement from any other sources.

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

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

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Changes in actuarial assumptions since the January 1, 2021 valuation:

The assumptions used for the January 1, 2022 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. Material assumptions and methods that were changed since the prior valuation:

- The investment return assumption was lowered from 8.00 percent to 7.50 percent
- The DROP interest crediting rate was lowered from 4.00 percent to 3.75 percent
- The mortality assumption, withdrawal rates, retirement rates, and disability rates were changed
- The DROP participation rate was lowered from 90 percent to 80 percent
- The percent married assumption was changed from assuming 75 percent of members are married to 80 percent.
- The percentage of members assumed to elect a joint annuity was changed from 33 percent to 40 percent for service retirees and from 10 percent to 15 percent for disabled retirees. The percentage continued to the joint annuitant assumption was changed from 40 percent to 45 percent.

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

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. In accordance with Paragraph 46(d) of GASB 67, the date of entry into the DROP is considered to be the member's retirement date for purpose of attributing the actuarial present value of projected benefit payments. Note that this is a different approach than is used in the funding valuation. For the funding valuation the member's retirement date is considered to be the member's retirement date for purpose of attributing the actuarial present value of projected benefit payments.

Adjustment for Re-Employed Retirees

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

Adjustment for Employer Accrued Liability

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

Asset Valuation Method

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

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

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.