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GASB STATEMENT NO. 75 REPORT

FOR THE OHIO POLICE & FIRE PENSION FUND

MEASUREMENT DATE: DECEMBER 31, 2019

FOR FISCAL YEARS ENDING IN 2020





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

April 21, 2020

Mr. Scott K. Miller
Deputy Executive Director
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 providing information required under the Governmental Accounting Standards Board (GASB) Statement No. 75 to participating employers. This report has been prepared as of December 31, 2019 and is intended for use by OP&F for financial reporting for fiscal year 2020. The calculations in this report have been made on a basis that is consistent with our understanding of this accounting standard (GASB 75). Please note that the discount rate used to determine the Total OPEB Liability (TOL) changed from 4.66% at the Prior Measurement Date to 3.56% at the current Measurement Date.

The annual GASB 74 valuation, used as the basis for much of the information presented in this report was performed as of December 31, 2019. That report utilized information from an actuarial valuation prepared as of January 1, 2019, which was based upon data, furnished by OP&F 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, 2019 actuarial valuation for additional details on the funding requirements for OP&F including actuarial assumptions and methods and the Plan's funding policy.

To the best of our knowledge, the information contained in this report is complete and accurate. We note that the allocation of net OPEB liability, OPEB expense, and deferred inflows and outflows to participating employers under GASB 75 will be provided by OP&F and, therefore, is not included in this report. 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 provisions of OP&F as of the Measurement Date, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of OP&F. In addition, the



Mr. Scott K. Miller
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calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 75.

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 75 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. The effects of such changes are outside the scope of this report.

The undersigned 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,

A handwritten signature in blue ink, appearing to read 'L. Langer'.

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

A handwritten signature in blue ink, appearing to read 'Patrice Beckham'.

Patrice A. Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Wendy Ludbrook'.

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



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GASB STATEMENT NO. 75

OHIO POLICE & FIRE PENSION FUND

SECTION I - SUMMARY OF PRINCIPAL RESULTS

Ohio Police & Fire Pension Fund	
Valuation Date (VD):	January 1, 2019
Prior Measurement Date:	December 31, 2018
Measurement Date (MD):	December 31, 2019
Reporting Date:	December 31, 2020
Membership Data:	
Retirees and Beneficiaries	24,969
Inactive Members Eligible for Allowances	226
Active Employees	<u>28,904</u>
Total	54,099
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	8.00%
Municipal Bond Index Rate at Prior Measurement Date	4.13%
Municipal Bond Index Rate at Measurement Date	2.75%
Year in which Fiduciary Net Position is Projected to be Depleted	2035
Single Equivalent Interest Rate at Prior Measurement Date	4.66%
Single Equivalent Interest Rate at Measurement Date	3.56%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$1,866,462,020
Fiduciary Net Position (FNP)	<u>878,688,997</u>
Net OPEB Liability (NOL = TOL – FNP)	\$987,773,023
FNP as a percentage of TOL	47.08%
OPEB Expense:	\$100,145,956
Deferred Outflows of Resources:	\$621,588,689
Deferred Inflows of Resources:	\$406,286,903



SECTION II – INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 75 (GASB 75), “*Accounting and Financial Reporting for Postemployment Benefit Plans other than Pension*” in June 2015. GASB 75’s effective date for employers was the first fiscal year beginning after June 30, 2017. The GASB 75 information is for disclosure by participating employers for their fiscal years ending in 2020.

This report, prepared as of December 31, 2019 (the Measurement Date), presents information to assist OP&F in providing the required information under GASB 75 to the participating employers. Much of the material provided in this report, including the Net OPEB Liability, is based on the results of the GASB 74 report for OP&F. See that report, dated April 10, 2020, for more information on the member data, actuarial assumptions and methods used in developing the GASB 74 results.

GASB 75 replaces GASB 45, and represents a significant departure from the requirements of the prior statement. GASB 45 was issued as a “funding friendly” statement that required postemployment benefit plans other than pension plans (OPEB) to report items consistent with the results of OP&F’s actuarial valuations, as long as those valuations met certain parameters. GASB 75 basically separates accounting from funding by creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding OP&F.

Two major changes in GASB 75 are the requirements to determine the Net OPEB Liability (NOL) and recognize an OPEB Expense (OE) in the financial statements of the participating employer.

GASB 75 requires the inclusion of a proportionate share of the Net OPEB Liability (NOL) on the participating employer’s balance sheet and a determination of an OPEB Expense (OE), which may bear little relationship to the funding requirements for OP&F. In fact, it is possible in some years for the NOL to be an asset or the OE to be an income item. The NOL is set equal to the Total OPEB Liability (TOL) minus the Fiduciary Net Position (FNP). The benefit provisions recognized in the calculation of the TOL are summarized in Appendix B. For the purposes of reporting under GASB 75, OP&F is assumed to be a cost-sharing multiple employer plan so the NOL and OE are allocated among the participating employers and non-employer entities. Those amounts, which are needed for the employer’s financial statements, will be determined by OP&F.

OE includes amounts for Service Cost (the Normal Cost under Entry Age Normal (EAN) for the year), interest on the TOL, employee contributions, administrative expenses, other cash flows during the year, recognition of increases/decreases in the TOL due to changes in the benefit structure, actual versus expected experience, actuarial assumption changes, and recognition of investment gains/losses. The actual experience and assumption change impacts are recognized



over the average expected remaining service life of OP&F membership as of the beginning of the measurement period, while investment gains/losses are recognized equally over five years. The development of the OE is shown in Section III. The unrecognized portions of each year's experience, assumption changes and investment gains/losses are used to develop Deferred Inflows and Outflows of Resources, which also must be included on the employer's Statement of Net Position.

Among the items needed for the TOL calculation is a discount rate, as defined by GASB, or a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the FNP must be projected into the future for as long as there are anticipated benefits payable under the plan provisions applicable to the membership 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. 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) (2.75%).

Our calculations indicate that the FNP is projected to be depleted by fiscal year 2034 so the Municipal Bond Index Rate is used in the determination of the SEIR for the December 31, 2018 and the December 31, 2019 TOL. The SEIR is 3.56% at December 31, 2019 and 4.66% at December 31, 2018. The SEIR is comprised of the long-term expected rate of return of 8.00% and the Municipal Bond Index Rate of 4.13% as of December 31, 2018, and 2.75% as of December 31, 2019.

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 74 and 75. 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 sections that follow provide the results of all the required aggregate calculations, presented in the order laid out in GASB 75 for note disclosure and Required Supplementary Information (RSI). OP&F will prepare the calculation of the proportionate share of the NOL, OPEB Expense and Deferred Inflows and Outflows for each participating employer or non-employer contributing entity.



SECTION III – OPEB EXPENSE

As noted earlier, the collective OPEB Expense (OE) consists of a number of different items. GASB 75 refers to the first as Service Cost, which is the Normal Cost using the Entry Age Normal (EAN) actuarial funding method. The second item is interest on the TOL at the long-term rate of return in effect as of the Prior Measurement Date.

The next three items refer to any changes that occurred in the TOL (i.e., actuarial accrued liability (AAL) under EAN) due to:

- benefit changes,
- actual versus expected experience, or
- changes in actuarial assumptions.

Benefit changes, which are reflected immediately, will increase OE if there is a benefit improvement for existing System members, or decrease OE if there is a benefit reduction. For the year ended December 31, 2019 there were no benefit changes recognized.

The next item to be recognized is the portion of current year changes in TOL due to actual versus expected experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire OP&F membership at the beginning of the measurement period. The average expected remaining service life of active members is the average number of years the active members are expected to remain in covered employment. At the beginning of the measurement period, this number is 14.11. The average expected remaining service life of the inactive members is zero. Therefore, the recognition period is the weighted average of these two amounts, or 7.54 years.

The last item under changes in TPL is changes in actuarial assumptions or other inputs. Since the Prior Measurement Date, the SEIR decreased from 4.66% to 3.56%. The resulting change in the TPL will be recognized over the average expected remaining service life of the entire System membership, using the same approach that applied to experience gains and losses as described earlier.

Member contributions for the year and projected earnings on the FNP at the long-term expected rate of return are subtracted from the amount determined thus far. One-fifth of current-period difference between projected and actual earnings on the FNP is recognized in the OE.

The current year portions of previously determined experience, assumption changes and earnings amounts, recognized as Deferred Outflows of Resources and Deferred Inflows of Resources are included next. Deferred Outflows of Resources are added to the OE while Deferred Inflows of



Resources are subtracted from the OE. Finally, administrative expenses and other miscellaneous items are included.

The calculation of the collective OE for the year ended December 31, 2019 is shown in the following table.

**Collective OPEB Expense
For the Year Ended December 31, 2019**

Ohio Police & Fire Pension Fund	2019
Service Cost	\$43,042,991
Interest on the Total OPEB Liability	79,675,059
Current-period Benefit Changes	0
Expensed portion of current-period difference between expected and actual experience in the total OPEB liability	(13,150,594)
Expensed portion of current-period changes of assumptions	28,483,182
Member Contributions	0
Projected Earnings on Plan Investments	(60,964,958)
Expensed portion of current-period differences between actual and projected earnings on plan investments	(17,726,128)
Administrative Expense	362,607
Other	0
Recognition of beginning deferred outflows of resources as OPEB expense	95,528,036
Recognition of beginning deferred inflows of resources as OPEB expense	(55,104,239)
Total OPEB Expense	\$100,145,956

Note: Average expected remaining service life for all members is 7.54.



SECTION IV – NOTES TO FINANCIAL STATEMENTS

The material presented herein will follow the order presented in GASB 75. Paragraph numbers are provided for ease of reference. Amounts are shown in the aggregate. OP&F will determine the proportionate share of certain amounts for individual employers as required by GASB 75.

Paragraph 89: The information required is to be prepared by OP&F and/or the individual employer.

Paragraph 90: The information required is to be prepared by the individual employer.

Paragraph 91(a) – (d): The information required is to be supplied by OP&F.

Paragraph 92: This paragraph requires information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TOL. The complete set of actuarial assumptions and other inputs utilized in developing the TOL are outlined in Appendix C. The TOL as of December 31, 2019 was determined based on an actuarial valuation prepared as of January 1, 2019, using the following actuarial assumptions and other inputs:

Price Inflation	2.75 percent
Salary increases, including price inflation	3.50 to 10.50 percent
Long-term Rate of Return, net of investment expense, including price inflation	8.00 percent
Municipal Bond Index Rate	
Prior Measurement Date	4.13 percent
Measurement Date	2.75 percent
Year FNP is projected to be depleted	2034
Single Equivalent Interest Rate, net of plan investment expense, including price inflation	
Prior Measurement Date	4.66 percent
Measurement Date	3.56 percent
Healthcare Cost Trend Rate	N/A



Mortality

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

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

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

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

The actuarial assumptions used in the valuation are based on the results of a five-year experience review covering the period 2012-2016. The experience study was performed by OP&F’s prior actuary and the assumptions were effective with the January 1, 2017 valuation.

Paragraph 93:

- (a): Benefit-related costs are all provided by OP&F.
- (b): The mortality assumptions above were developed during the most recent experience study.
- (c): The actuarial assumptions used in the valuation are based on the results of a five-year experience review covering the period 2012-2016. The experience study was performed by OP&F’s prior actuary and the assumptions were effective with the January 1, 2017 valuation.
- (d): The alternative measurement method was not used.



(e): The disclosure of the sensitivity of the Net OPEB Liability to changes in the healthcare cost trend rate. The TOL is based on a medical benefit that is a flat dollar amount, therefore, it is unaffected by a healthcare cost trend rate. An increase or decrease in the trend rate would have no effect on the TOL.

Paragraph 94:

(a): Discount rate (SEIR). The discount rate used to measure the TOL at December 31, 2019 was 3.56 percent. The projection of cash flows used to determine the discount rate was performed in accordance with GASB 74. On that basis, OP&F's FNP was projected to be depleted in the year 2034, and as a result, the Municipal Bond Index Rate was used in the determination of the SEIR. The long-term assumed rate of return on investments of 8.00 percent was applied to periods before December 31, 2033 and the Municipal Bond Index Rate of 2.75 percent was applied to periods on and after December 31, 2033, resulting in a SEIR of 3.56 percent. The discount rate used to measure the TOL at the Prior Measurement Date was 4.66 percent.

(b): Projected cash flows. The projection of cash flows used to determine the discount rate assumed that plan contributions from members and OP&F will be made at the current contribution rates as set out in state statute:

- a. Employee contribution rate: N/A
- b. Employer contribution rate: 0.50 percent of covered payroll
- 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.

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 74 and 75. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing OP&F 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.

(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 is based on the results of



an experience study effective with the January 1, 2017 actuarial valuation. 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 by 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. The SEIR (discount rate) determination uses the Municipal Bond Index Rate. The rate used 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). The rate was 4.13% on the Prior Measurement Date and 2.75% on the current Measurement Date.

(e): Period of projected benefit payments. Future benefit payments for all current plan members were projected through 2118.



(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	16.0%	5.4%
Non-U.S. Equity	16.0%	5.8%
Private Markets	8.0%	8.0%
Core Fixed Income*	23.0%	2.7%
High Yield Fixed Income	7.0%	4.7%
Private Credit	5.0%	5.5%
U.S. Inflation Linked Bonds*	17.0%	2.5%
Midstream Energy Infrastructure	8.0%	6.6%
Real Assets	8.0%	7.4%
Private Real Estate	<u>12.0%</u>	6.4%
Total	120.0%	

*Levered 2x

**Geometric mean, net of expected inflation

(g): Sensitivity analysis. This paragraph requires disclosure of the sensitivity of the NOL to changes in the discount rate. The following presents the NOL of OP&F, calculated using the discount rate of 3.56 percent, as well as OP&F’s NOL calculated using a discount rate that is 1-percentage-point lower (2.46 percent) or 1-percentage-point higher (4.46 percent) than the current rate. OP&F will provide the individual employer’s proportionate share calculation.

	1% Decrease (2.56%)	Current Discount Rate (3.56%)	1% Increase (4.56%)
Total OPEB Liability	\$2,103,463,836	\$1,866,462,020	\$1,669,530,092
Fiduciary Net Position	<u>\$878,688,997</u>	<u>\$878,688,997</u>	<u>\$878,688,997</u>
Net OPEB Liability	\$1,224,774,839	\$987,773,023	\$790,841,095

Paragraph 95: The required information will be supplied by OP&F.



Paragraph 96:

(a)-(b): This information will be supplied by OP&F.

(c): The Measurement Date of the collective NOL is December 31, 2019. The TOL as of December 31, 2019 was determined based on the annual actuarial funding valuation report prepared as of January 1, 2019 using the SEIR, rolled forward one year using standard actuarial techniques.

(d): There was one change in the actuarial assumptions or other inputs that affected the measurement of the TOL since the Prior Measurement Date. This was an decrease in the discount rate from 4.66% at the Prior Measurement Date to 3.56% at the current Measurement Date.

(e): There were no changes in the benefit terms that affected measurement of the TOL since the Prior Measurement Date.

(f): The information will be supplied by OP&F.

(g): Please see Section III for the development of the collective OE. OP&F will provide the individual employer amounts.

(h): Since certain expense items are recognized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts will increase OE they are labeled Deferred Outflows of Resources. If the amounts serve to reduce OE they are labeled Deferred Inflows of Resources. The recognition of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, or other inputs, if any, are recognized over the average expected remaining service life of the active and inactive OP&F members at the beginning of the measurement period. Investment gains and losses are recognized over a fixed five-year period.



The following tables provide a summary of the amounts of the collective Deferred Outflows of Resources and collective Deferred Inflows of Resources as of the Measurement Date (December 31, 2019). Per GASB 75, reporting of the differences between projected and actual earnings should be on a net basis, with only one Deferred Outflow or Inflow. This information is provided in the following table.

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows/(Inflows) of Resources
Differences between expected and actual experience	\$0	\$106,225,477	(\$106,225,477)
Changes of assumptions	577,490,300	210,509,316	366,980,984
Differences between projected and actual earnings	<u>44,098,389</u>	<u>89,552,110</u>	<u>(45,453,721)</u>
Total	\$621,588,689	\$406,286,903	\$215,301,786



The following tables show the Deferred Outflows of Resources and Deferred Inflows of Resources separately to provide additional detail.

Ohio Police & Fire Pension Fund - Deferred Outflows of Resources				
	December 31, 2018	Additions	Recognition	December 31, 2019
Differences between expected and actual experience				
FY 2017 Base	\$ 0	\$ 0	\$ 0	\$ 0
FY 2018 Base	0	0	0	0
FY 2019 Base	0	0	0	0
Total	\$ 0	\$ 0	\$ 0	\$ 0
Changes of assumptions				
FY 2017 Base	\$ 472,038,864	\$ 0	\$ 80,828,573	\$ 391,210,291
FY 2018 Base	0	0	0	0
FY 2019 Base	0	214,763,191	28,483,182	186,280,009
Total	\$ 472,038,864	\$ 214,763,191	\$ 109,311,755	\$ 577,490,300
Differences between projected and actual earnings				
FY 2017 Base	\$ 0	\$ 0	\$ 0	\$ 0
FY 2018 Base	58,797,852	0	14,699,463	44,098,389
FY 2019 Base	0	0	0	0
Total	\$ 58,797,852	\$ 0	\$ 14,699,463	\$ 44,098,389
Total	\$ 530,836,716	\$ 214,763,191	\$ 124,011,218	\$ 621,588,689

Ohio Police & Fire Pension Fund - Deferred Inflows of Resources				
	December 31, 2018	Additions	Recognition	December 31, 2019
Differences between expected and actual experience				
FY 2017 Base	\$ 24,398,396	\$ 0	\$ 4,177,807	\$ 20,220,589
FY 2018 Base	0	0	0	0
FY 2019 Base	0	99,155,482	13,150,594	86,004,888
Total	\$ 24,398,396	\$ 99,155,482	\$ 17,328,401	\$ 106,225,477
Changes of assumptions				
FY 2017 Base	\$ 0	\$ 0	\$ 0	\$ 0
FY 2018 Base	252,111,948	0	41,602,632	210,509,316
FY 2019 Base	0	0	0	0
Total	\$ 252,111,948	\$ 0	\$ 41,602,632	\$ 210,509,316
Differences between projected and actual earnings				
FY 2017 Base	\$ 27,971,398	\$ 0	\$ 9,323,800	\$ 18,647,598
FY 2018 Base	0	0	0	0
FY 2019 Base	0	88,630,640	17,726,128	70,904,512
Total	\$ 27,971,398	\$ 88,630,640	\$ 27,049,928	\$ 89,552,110
Total	\$ 304,481,742	\$ 187,786,122	\$ 85,980,961	\$ 406,286,903

OP&F will provide the individual employers' balances of the collective Deferred Outflows of Resources and collective Deferred Inflows of Resources.



(i): Collective amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to OPEB will be recognized in OE in future years as follows:

Year Ended December 31:	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows/(Inflows) of Resources
2020	\$124,011,218	\$85,980,961	\$38,030,257
2021	124,011,218	85,980,959	38,030,259
2022	124,011,218	76,657,161	47,354,057
2023	109,311,755	76,657,161	32,654,594
2024	96,379,181	58,262,587	38,116,594
Thereafter	43,864,099	22,748,074	21,116,025

OP&F will provide the individual employers' balances of the Deferred Outflows of Resources and Deferred Inflows of Resources.

(j): This will be provided by OP&F.



SECTION V – REQUIRED SUPPLEMENTARY INFORMATION

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

Paragraphs 97(a) and (b): This information will be provided by OP&F.

Paragraph 98: Information about factors that significantly affect trends in the amounts reported in the schedules required by paragraph 97 should be presented as notes to the schedules. At this point only three years are being reported, but comments on additional years will be added as they occur.

Changes of benefit and funding terms:

No changes to the plan provisions were made by OP&F and reflected in the valuation performed as of January 1, 2019.

Changes in actuarial assumptions:

There have been no changes in actuarial assumptions since the January 1, 2017 actuarial valuation.



APPENDIX A

ADDITIONAL INFORMATION

SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY

Fiscal Year Ended December 31, 2019

Ohio Police & Fire Pension Fund			
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) – (b)
Balances at December 31, 2018	\$1,704,439,395	\$793,785,996	\$910,653,399
Changes for the year:			
Service cost	43,042,991		43,042,991
Interest	79,675,059		79,675,059
Benefit changes	0		0
Difference between expected and actual experience	(99,155,482)		(99,155,482)
Changes in assumptions	214,763,191		214,763,191
Contributions - employer		11,973,144	(11,973,144)
Net investment income		149,595,598	(149,595,598)
Net benefit payments	(76,303,134)	(76,303,134)	0
Administrative expense		(362,607)	362,607
Other changes		0	0
Net changes	<u>162,022,625</u>	<u>84,903,001</u>	<u>77,119,624</u>
Balances at December 31, 2019	\$1,866,462,020	\$878,688,997	\$987,773,023



APPENDIX B

SUMMARY OF MAIN BENEFIT PROVISIONS

Ohio Police & Fire Pension Fund

Following is a summary of the major Fund provisions used in the actuarial valuation of the Fund. For purposes of this report, only the post-retirement medical benefit is valued for liabilities. The full benefit provisions are included because they are relevant for assumptions and funding provisions.

Eligibility for Coverage

All pension benefit recipients are eligible to enroll in the plan. Members who were hired prior to July 1, 2013 are eligible to receive a pension at age 48 with 25 years of service or 62 with 15 years of service. Members who were hired after July 1, 2013 are eligible to receive a pension at age 52 with 25 years of service or age 62 with 15 years of service. In addition, a member is eligible to enroll in the plan if they are receiving a disability pension or they are the survivor of a member. A member may enroll a spouse, dependent children, generally until age 28, and sponsored dependents. Only benefit recipients are eligible for reimbursement of Medicare Part B reimbursement.

Coverage begins at the time of OP&F retirement or the first of the following month, if the member requests this effective date.

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 2019) provided the retiree is not eligible for reimbursement from any other sources.

2019 Monthly Health Care Plan Monthly Stipend Levels

In the spring of 2017 the OP&F Board of trustees made the decision to restructure the retiree health care plan, ending the group-sponsored model. A new model was implemented on Jan. 1, 2019 providing eligible retirees with a fixed monthly stipend earmarked to pay for health care. The below table summarizes the stipends.

	Medicare Status		Monthly	Monthly	Total OP&F
	Retiree	Spouse	Medical/Rx Stipend	Medicare Part B	Support for Health Care
Retiree Only	Medicare	Non-Med	\$143	\$107	\$250
	Non-Med	Non-Med	\$685	\$0	\$685
Retiree + Spouse	Medicare	Medicare	\$239	\$107	\$346
	Medicare	Non-Med	\$525	\$107	\$632
	Non-Med	Medicare	\$788	\$0	\$788
	Non-Med	Non-Med	\$1,074	\$0	\$1,074
Retiree + Dependent(s)	Medicare	Non-Med	\$203	\$107	\$310
	Non-Med	Non-Med	\$865	\$0	\$865
Retiree + Spouse + Dependent(s)	Medicare	Either	\$525	\$107	\$632
	Non-Med	Either	\$1,074	\$0	\$1,074
Surviving Spouse	Medicare		\$143	\$107	\$250
	Non-Med		\$685	\$0	\$685



APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS

Ohio Police & Fire Pension Fund

Assumptions

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

Discount Rate

Long-Term Return on Plan Assets – 8.00%

GASB 74 – 3.56% per annum compounded (using 12/31/2019 Municipal Bond Index rate of 2.75%)

The projection of cash flows used to determine the discount rate assumed that OP&F will contribute at a rate equal to 0.50 percent of payroll. 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 2034. 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.

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%



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Stipend Increase rate:

The stipend is not assumed to increase over the projection period

Payroll Growth Rate

3.25 percent per annum

Withdrawal Rates

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

Police

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Firefighters

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Rates of Disability

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

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

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

Retirement Rates

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

Age	Police	Firefighters
48	0%	0%
49-50	5%	4%
51	6%	4%
52	6%	6%
53	10%	6%
54	10%	7%
55-57	11%	11%
58	5%	16%
59	10%	16%
60	18%	20%
61	19%	20%
62	25%	50%
63	25%	20%
64	25%	25%
65-69	35%	25%
70	100%	100%



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Deferred Retirement Option Plan Elections

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

DROP Retirement Rates

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

Police

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Firefighters

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

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

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

Police

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Firefighters

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

Retirement Age for Inactive Vested Participants

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

Healthy Mortality

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

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

Disabled Mortality

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

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

Member Participation

For medical and prescription drug benefits, 60 percent of eligible non-Medicare members are assumed to elect coverage and 90 percent of Medicare eligible members are assumed to elect coverage. 50 percent of non-Medicare members who elect coverage are assumed to elect coverage for their spouses and children, and 70 percent of Medicare members who elect coverage are assumed to elect coverage for their spouses and children. 88 percent of future Medicare eligible members are assumed to elect the Medicare Part B benefit. Additionally, 75 percent of all non-Medicare members who waived coverage are assumed to elect plan coverage once they become Medicare eligible.

Age of Spouse

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



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STATEMENT OF ACTUARIAL ASSUMPTIONS

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.

Administrative Expense

For projection purposes, future administrative expenses are assumed to increase at the assumed inflation assumption of 2.75%.

Unknown Data for Members

Same as those exhibited by members with similar known characteristics.

Data

Census and Assets: The valuation was based on members of OP&F as of January 1, 2019 and does not take into account future members. All census and asset data was supplied by OP&F.