

Ohio Police & Fire Pension Fund

Jan. 1, 2016 Actuarial Valuation of Retiree
Health Care Benefits Under GASB 43

October, 2016



Robert Besenhofer
Director, Health and Productivity

Buck Consultants, LLC.
123 North Wacker Drive
Suite 1000
Chicago, IL 60606

robert.besenhofer@xerox.com
tel 312.846.3801
fax 312.846.3502

Nisha Doshi
Sr. Consultant, Health and Productivity

Buck Consultants, LLC.
123 North Wacker Drive
Suite 1000
Chicago, IL 60606

nisha.doshi@xerox.com
tel 312.846.3761
fax 312.846.3502

October, 2016

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

Members of the Board:

This report presents the results of the Jan. 1, 2016 actuarial valuation of the Ohio Police & Fire Pension Fund (OP&F) retiree health care benefits. The valuation was prepared in accordance with, and for the purpose of financial disclosure under, Governmental Accounting Standards Board Statement No. 43 (GASB 43).

Plan benefits include medical and prescription drug benefits and OP&F's reimbursement of Medicare Part B premiums.

The actuarial assumptions and methods used in the valuation were selected in compliance with the requirements under GASB 43. The demographic assumptions are consistent with the assumptions used in the Jan. 1, 2016 actuarial valuation of OP&F's pension plan benefits. The discount rate (interest rate) is 4.25 percent, selected in accordance with GASB 43.

The results of our calculations and analysis indicate that the Annual Required Contribution (ARC) for 2016 is 17.19 percent of payroll. This can be compared to OP&F's allocation of employer contribution toward health care benefits equal to 0.50 percent of payroll. Thus, the contribution allocation is approximately 2.9 percent of the ARC for 2016. The funded status (i.e., the ratio of assets to liabilities) of retiree health care benefits is 18.0 percent.

Detailed summaries of the financial results of the valuation are shown in this report. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice. It should be recognized, however, that significant differences between actual experience and these assumptions could occur. Moreover, other sets of reasonable assumptions can yield materially lesser or greater results.

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

Board of Trustees
Ohio Police & Fire Pension Fund
October, 2016



The undersigned include a Fellow of the Society of Actuaries, an Associate of the Society of Actuaries, Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all Applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

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

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Bob Besenhofer".

Bob Besenhofer, ASA, MAAA
Director, Health and Productivity

A handwritten signature in black ink, appearing to read "Nisha Doshi".

Nisha Doshi, FSA, MAAA
Sr. Consultant, Health and Productivity

Table of Contents

<u>Section</u>	<u>Page</u>
I Executive Summary.....	1
II Summary of Valuation Results.....	4
III Retiree Health Care Benefit Provisions.....	10
IV Participant Data.....	13
V Comprehensive Annual Financial Report Exhibits	17
VI Assumptions and Methods.....	19
VII Glossary of Terms	26

I - Executive Summary

Introduction

This report presents the results of the actuarial valuation of the Ohio Police & Fire Pension Fund's retiree health care benefits as of Jan. 1, 2016 under GASB 43. GASB 43 mandates a uniform accrual-based standard of measuring retiree health care and other postemployment benefits. Postemployment costs are recognized systematically over employees' years of service.

GASB 43 is applicable for large systems, such as Ohio Police & Fire, for fiscal years beginning after Dec. 15, 2005.

The principal valuation results include:

- The actuarially required contribution rate to fund health care benefits on a full reserve basis is 17.19 percent of payroll.
- The funded status of the plan as of Jan. 1, 2016, based on the accrued liability and the market value of assets as of that date, is 18.0 percent.

The valuation was based upon membership and financial data submitted by OP&F.

Changes since Last Year's Valuation

Communication to retirees has been provided for plan changes to the medical and prescription drug plan provisions effective Jan. 1, 2017, so these plan changes have been included in the valuation. Changes were also made to per capita costs and the short-term trend rates to reflect plan experience. Specifically, the assumed 2016 dollar subsidies for the AARP participants and the assumed 2016 Medicare Part B premium reimbursement amount have been replaced with the actual 2016 amounts. The assumed prescription drug and non-Medicare and non-AARP medical costs and dollar premium subsidies for 2017 have been replaced with actual amounts adopted by the Board in Jun. 2016. The trend rates for 2016, that is the assumed rates of increase from 2016 to 2017, have been adjusted to reflect the expected increases from the actual 2016 amounts to the actual or assumed amounts for 2017. Finally, the aging factors applied to the Gross Costs were changed to better model the current population. Effects of the above can be found on Table 3.

Actuarial Assumptions and Methods

GASB 43 requires that the discount rate used in the valuation be the estimated long-term yield on investments that are expected to finance postemployment benefits. Depending on the method by which a plan is financed, the relevant investments could be plan assets, employer assets or a combination of plan and employer assets. The investment return should reflect the nature and the mix of both current and expected investments and the basis used to determine the actuarial value of assets.

The Ohio Police & Fire retiree health care plan is partially funded. GASB outlines two reasonable methods of developing a blended discount rate when a plan is partially funded. These methods base the proportion of plan and employer asset returns on 1) the funded ratio and 2) the percentage of ARC actually being contributed to the plan. Ohio Police & Fire has utilized the second methodology to develop a discount rate of 4.25 percent as of Jan. 1, 2016. The development of this discount rate is summarized in Section VI.

Separate trend rates are developed for pre-Medicare and post-Medicare medical benefits, prescription drug benefits and Medicare Part B premiums. Trend rates for medical and prescription drug plans have continued to outpace inflation for a number of years. The trend rates used in the valuation are our best estimate for future medical inflation based on the assumption that medical and prescription drug inflation will decline over time.

The actuarial assumptions and methods used for this year's valuation are outlined in Section VI.

Medicare Part D

Based on GASB accounting rules, the retiree drug subsidy Ohio Police & Fire receives under Medicare Part D has not been recognized in the actuarial valuation.

Health Care Funded Status

As shown in Table 1, the actuarially determined accrued liability for retiree health care benefits is \$5,166,518,000. The value of assets in the Ohio Police & Fire Health Care Stabilization Fund as of Jan. 1, 2016 is \$29,362,000. The difference between the liability and assets is an unfunded accrued liability of \$4,237,219,000. As of Jan. 1, 2016 the ratio of assets to accrued liability is 18.0 percent, which can be compared to 19.1 percent as of Jan. 1, 2015.

Health Care Contribution Rate

Ohio Police & Fire allocates a portion of employer contributions to health care. The total estimated employer contribution for 2016 is 21.61 percent of payroll, of which 0.50 percent of payroll is allocated to the health care fund and the remainder is allocated to the pension fund.

The Annual Required Contribution (ARC) under GASB 43 is 17.19 percent of payroll. This amount consists of 9.66 percent for normal cost, plus 7.53 percent to amortize the unfunded accrued liability of \$4,237,219,000 as a level percentage of payroll over 30 years.

ACA Excise Tax

Health Care Reform legislation added a new High Cost Plan Excise Tax (also known as the "Cadillac Tax"). The effect of the Cadillac Tax due to Healthcare Reform was re-evaluated to be consistent with other assumptions including current premium levels and trend rates. In addition, the Cadillac Tax impact reflects the delay of the implementation date from 2018 to 2020 since the prior valuation. This year we determined that the tax would increase Accrued Liabilities by 2.5% and Present Value of Future Benefits by 3.5%. The increases are included in the results that follow.

For valuation purposes, we examined the value of the tax in future years:

The tax is 40% of the excess of a) the cost of coverage over b) the limit. We calculated "a" (the cost of coverage), based on the gross costs listed in this report. We calculated "b" (the limit) starting with the statutory limits (\$10,200 single and \$27,500 family) adjusted for the following:

- Limits will increase from 2020 to 2021 by 4.5% (3.0% assumed CPI plus 1.5%);
- Limits will increase after 2020 by 3.0% (assumed CPI);

- For retirees over age 55 but not on Medicare, the limit is increased an additional dollar amount of \$1,650 for single coverage, \$3,450 for family coverage; and
- Accumulated non-Medicare eligible medical/drug trend for the period from 2010 through 2020 are being compared with the assumed 55% trend increase for the federal standard Blue Cross/Blue Shield option, with trend in excess of 55% applied on the base amount before the additional amount for “early” retirees.

II – Summary of Valuation Results

This section presents detailed results of the Jan. 1, 2016 GASB 43 actuarial valuation of the Ohio Police & Fire retiree health care benefits and consists of Tables 1 to 4, as described below. All liabilities and contribution rates reflect plan costs net of retiree premiums.

- **Table 1** presents a summary of the actuarial valuation results, including the number of active and inactive members, and members and dependents currently receiving benefits as of the valuation date, plan liabilities, assets and the annual contribution rate.
- **Table 2** shows the market value of assets in the Health Care Stabilization Fund available to pay benefits as of Dec. 31, 2015, reconciled with the value as of the end of the prior year. The actuarial value of assets is the market value.
- **Table 3** shows a reconciliation of the Unfunded Accrued Liability as of Jan. 1, 2016.
- **Table 4** shows the Schedule of Funding Progress under GASB 43. The Schedule of Funding Progress shows the history of the plan's funded status since the initial application of GASB 43. The initial application of GASB 43 for Ohio Police & Fire is the fiscal year beginning Jan. 1, 2006.
- **Table 5** shows the Schedule of Employer Contributions under GASB 43. The Schedule of Employer Contributions shows the history of employer contributions compared to the Annual Required Contribution for health care. The initial year is the fiscal year beginning Jan. 1, 2006.

Table 1

**Retiree Health Care Benefits
Summary of Results Of Actuarial Valuation
As of Jan. 1, 2016**
(\$ Amounts in Thousands)

Item	Jan. 1, 2016	Jan. 1, 2015
Membership Data		
1. Number of Members		
a) Active Members	27,446	27,602
b) Inactive Members	236	178
c) Retirees, Spouses, and Beneficiaries	25,294	25,645
d) Children of Current Retirees	1,025	1,177
e) Waivers to Elect Coverage	3,023	3,006
f) Total	57,024	57,608
2. Membership Payroll	\$ 2,060,851	\$ 1,986,569
Valuation Results		
3. Present Value of Future Benefits		
a) Active Members	\$ 5,318,784	\$ 5,670,343
b) Inactive Members	44,671	35,103
c) Retirees, Spouses, and Beneficiaries	2,363,923	2,516,093
d) Total	\$ 7,727,378	\$ 8,221,539
4. Accrued Liability		
a) Active Members	\$ 2,757,987	\$ 2,848,354
b) Inactive Members	44,671	35,103
c) Retirees, Spouses, and Beneficiaries	2,363,923	2,516,093
d) Total	\$ 5,166,581	\$ 5,399,550
5. Assets	\$ 929,362	\$ 1,031,941
6. Unfunded Liability	\$ 4,237,219	\$ 4,367,609
7. Funded Ratio	18.0%	19.1%
8. Annual Required Contribution		
a) Normal Cost	\$ 199,116	\$ 216,966
b) Unfunded Accrued Liability	157,738	162,592
c) Total Cost	\$ 356,854	\$ 379,558
9. Annual Required Contribution as a Percentage of Payroll		
a) Normal Cost Rate	9.66%	10.92%
b) Unfunded Accrued Liability Amortization Rate	<u>7.53%</u>	<u>8.04%</u>
c) Total Cost Rate	17.19%	18.96%
10. Employer Contribution to Health Care Stabilization Fund	0.50%	0.50%

Table 2

Health Care Stabilization Fund

As of Dec. 31, 2015

(\$ Amounts in Thousands)

Item	Amount
1. Market Value as of Dec. 31, 2014	\$ 1,031,941
2. Contributions in 2015	
(a) Employer	\$ 10,212
(b) Member Premiums	71,187
(c) Total	\$ 81,399
3. Benefits and Administrative Expenses in 2015	\$ 213,918
4. Investment Income in 2015	\$ 6,673
5. Other Income in 2015	
(a) Recoveries and Rebates	\$ 13,291
(b) Medicare Part D Reimbursements	9,976
(c) Total	\$ 23,267
6. Market Value as of Dec. 31, 2015 (1) + (2) - (3) + (4) + (5)	\$ 929,362
7. Rate of Return (per 2015 Comprehensive Financial Report)	0.65%

Table 3

**Analysis of Change in Unfunded Accrued Liability
As of Jan. 1, 2016**

(\$ Amounts in Thousands)

Item	Amount
1. Unfunded Accrued Liability at Jan. 1, 2015	\$ 4,367,609
2. Normal Cost	212,497
3. Contributions*	20,188
4. Interest Credit at 4.25% to Dec. 31, 2015	<u>194,226</u>
5. Expected Unfunded Accrued Liability at Dec. 31, 2015 (1) + (2) - (3) + (4) + (5)	\$ 4,754,144
6. Actual Unfunded Accrued Liability at Jan. 1, 2016	<u>4,237,219</u>
7. Net Gain (6) - (7)	\$ 516,925
8. Reasons for Net Gain	
(a) Loss from Investment Return on Actuarial Value of Assets	\$ (34,862)
(b) Gain from Demographic Change	16,391
(c) Gain from Claim Experience	87,987
(d) Gain from Benefit Design	409,365
(e) Gain from New Aging Table	38,044
(f) Grand Total	\$ 516,925

* Employer contribution and Medicare Part D reimbursement

Table 4

Schedule of Funding Progress
GASB Statement No. 43 Disclosure
(\$ Amounts in Thousands)

Valuation as of Jan. 1	Valuation Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2016	\$929,362	\$5,166,581	\$4,237,219	18.0%	\$2,060,851	205.6%
2015	1,031,941	5,399,550	4,367,609	19.1%	1,986,569	219.9%
2014	1,053,534	5,244,559	4,191,025	20.1%	1,942,269	215.8%
2013	935,592	4,234,767	3,299,175	22.1%	1,913,383	172.5%
2012	780,142	3,698,777	2,918,635	21.1%	1,897,413	153.8%
2011	717,730	3,295,313	2,577,583	21.8%	1,868,502	137.9%
2010	573,399	3,232,391	2,658,992	17.7%	1,895,196	140.3%
2009	438,658	3,163,622	2,724,964	13.9%	1,900,935	143.3%
2008	526,999	3,623,484	3,096,485	14.5%	1,831,438	169.1%
2007	436,598	3,273,690	2,837,092	13.3%	1,782,851	159.1%
2006	343,040	3,334,861	2,991,821	10.3%	1,756,230	170.4%

The above information needs to be included in the GASB 43 disclosure as of Dec. 31, 2016.

Table 5

Schedule of Employer Contributions
GASB Statement No. 43 Disclosure
(\$ Amounts in Thousands)

Year Ended Dec. 31	Annual Required Contribution	Percentage Contributed
2015	\$379,558	5.3%
2014	355,543	5.4%
2013	282,049	27.6%
2012	245,847	56.3%
2011	241,539	57.1%
2010	248,912	54.3%
2009	256,297	52.1%
2008	285,844	48.8%
2007	250,163	51.6%
2006	264,137	51.6%

The information presented above was determined as part of the actuarial valuation as of one year prior to the dates indicated (i.e., the contribution determined by the valuation completed as of Jan. 1, 2015 was contributed in the year ending Dec. 31, 2015). The actual percentage contributed includes employer contributions and Medicare Part D reimbursement that Ohio Police & Fire has elected to contribute to the Health Care Stabilization Fund.

Additional information as of the latest actuarial valuation follows:

Valuation date:	Jan. 1, 2016
Actuarial Cost method:	Entry Age
Amortization method:	Level percent of payroll, open
Remaining amortization period:	30 years
Asset valuation method:	Fair value
Actuarial assumptions:	
— Investment return (discount rate)	4.25%
— Projected salary increases	0.50% - 7.25%
— Payroll increases	3.75%
— Inflation assumption	3.25%
— Health care cost trend rates:	

	<u>Initial Rate 3 Years</u>	<u>Ultimate Rate</u>	<u>Ultimate Year</u>
• Non-Medicare	0.43%, 6.00%, 5.50%	4.50%	2020
• Non-AARP	0.43%, 6.00%, 5.50%	4.50%	2020
• AARP	5.80%, 5.50%, 5.25%	4.50%	2020
• Rx Drug	-9.60%, 6.00%, 5.50%	4.50%	2020
• Medicare Part B	5.30%, 5.20%, 5.10%	5.00%	2019

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

III – Retiree Health Care Benefit 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 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.

Types of Plans

For 2016, Ohio Police & Fire offers one medical plan for members not eligible for AARP coverage and one prescription drug plan as summarized below. The 2017 plans are also shown below to illustrate the plan changes.

Medical Coverage			Prescription Drug Coverage		
In Network Coverage	2016 Design	2017 Design	Retail Option	<u>2016 Design</u>	<u>2017 Design</u>
Deductible	\$500/\$1,000	\$750/\$1,500	Days Supply (as prescribed)	30	30
Coinsurance	80%	80%	Tier 1	\$7	\$15
Out-of-Pocket Maximum (excluding deductible)	\$1,500/\$3,000	\$2,000/\$4,000	Tier 2	\$25	\$50
Office Visit Copay (PCP/Spec)	\$30/\$30	\$30/\$45	Tier 3	\$35	\$70
Admission Copay	\$250	\$400	Tier 4	N/A	50% to \$300 Max
ER Copay	\$100	\$200	Mail Service Option		
Out-of-Network Coverage			Days Supply (as prescribed)	90	90
Deductible	\$1,000/\$2,000	\$2,250/\$4,500	Tier 1	\$14	\$30
Coinsurance	50%	50%	Tier 2	\$50	\$100
Out-of-Pocket Maximum (excluding deductible)	\$5,000/\$10,000	\$10,000/\$20,000	Tier 3	\$70	\$140
Office Visit Copay	50%	50%	Tier 4	N/A	50% to \$600 Max
Admission Copay	\$250	\$400			



The prescription drug plan tiers are described below:

Tier 1: Generic Medications

Tier 2: Preferred Brand Name Medications

Tier 3: Non-Preferred Brand Name Medications

Tier 4: UHC's Standard 4th Tier Prescription Drug List

Members who enroll in an Ohio Police & Fire health care plan are responsible for paying all or part of the cost of health care coverage through a monthly premium deduction, copayments/coinsurance and deductibles. Ohio Police & Fire pays the remaining cost. The monthly premium rates differ depending on the person's date of retirement and Medicare status. Member premiums are a percentage of the OP&F full cost premiums. The applicable percentage is 25 percent for members, 50 percent for spouses and children of members who retired on or before July 24, 1986 and 75 percent for spouses and children of members who retired after July 24, 1986.

	Non-Medicare Eligible Medical Plan			Non-AARP Eligible Medical Plan			Prescription Drug Plan		
	2016	2017	Change	2016	2017	Change	2016	2017	Change
	Participant Contribution	Participant Contribution		Participant Contribution	Participant Contribution		Participant Contribution	Participant Contribution	
Pre 7/24/1986 Retirees									
Benefit Recipient	\$219.26	\$226.28	\$7.02	\$71.06	\$73.34	\$2.28	\$70.23	\$74.30	\$4.07
Spouse	\$290.30	\$299.60	\$9.30	\$119.80	\$123.64	\$3.84	\$132.31	\$139.99	\$7.68
Child	\$151.73	\$156.58	\$4.85	\$119.80	\$123.64	\$3.84	\$39.33	\$41.61	\$2.28
Post 7/24/1986 Retirees									
Benefit Recipient	\$219.26	\$226.28	\$7.02	\$71.06	\$73.34	\$2.28	\$70.23	\$74.30	\$4.07
Spouse	\$435.46	\$449.39	\$13.93	\$179.70	\$185.45	\$5.75	\$198.47	\$209.99	\$11.52
Child	\$227.59	\$234.88	\$7.29	\$179.70	\$185.45	\$5.75	\$59.00	\$62.41	\$3.41

Effective Jan. 1, 2008, Ohio Police & Fire replaced its self-insured medical plan for members and dependents age 65 or older and enrolled in Medicare Parts A and B with a choice of the B, F, or L fully insured MediGap plans offered by AARP/UHC. Ohio Police & Fire subsidizes the participant's premiums by an amount equal to a percentage of the AARP/UHC Plan L premium for the State of Ohio. The applicable percentage is 75 percent for members, 50 percent for spouses and children of members who retired on or before July 24, 1986 and 25 percent for spouses and children of members who retired after July 24, 1986.

For members who have been enrolled in Medicare Part B for less than 3 years, AARP/UHC applies a 30 percent discount to the base premium (3-6 year level) upon initial enrollment. This discount will decrease by 3 percent each year for 10 years until the premium is equal to the base premium level.

Members who have been enrolled in Medicare Part B for more than 6 years upon initial coverage with AARP/UHC receive a 10 percent surcharge to the base premium. This surcharge will continue to be applied for the full time the member is covered under the AARP/UHC plans.

There are 16 states in which AARP/UHC does not vary its premium rates by length of Medicare Part B coverage at initial enrollment. For these states, the OP&F subsidy will be set at the subsidy for the 6+ year level.

Time from Medicare Part B Effective Date	2016 Monthly Subsidy for AARP/UHC					
	State of Ohio Plan Monthly Premium		OP&F Subsidy Pre-7/25/86 Retirees		OP&F Subsidy Post-7/25/86 Retirees	
	Benefit Recipient	Spouse	Benefit Recipient	Spouse	Benefit Recipient	Spouse
< 3 Years *	\$95.37	\$95.37	\$95.37	\$68.13	\$95.37	\$34.06
3 - 6 Years	\$136.25	\$136.25	\$102.19	\$68.13	\$102.13	\$34.06
6+ Years	\$149.87	\$149.87	\$102.19	\$68.13	\$102.13	\$34.06

Medicare Part B Premium Reimbursement

For service and disability retirements, as well as survivors, Ohio Police & Fire reimburses the standard Medicare Part B premium (\$104.90 per month for 2016) provided the retiree is not eligible for reimbursement from any other sources.

IV – Participant Data

The participant data as of Jan. 1, 2016 is summarized in the following tables:

- **Table 6** summarizes the number of participants by status.
- **Table 7** summarizes the number of active members by age and years of service.
- **Table 8** summarizes the number of retired members — including spouses and surviving spouses of retirees — by health care plan enrollment (for those participants currently enrolled in retiree health care coverage).

Table 6

**Number of Participants
As of Jan. 1, 2016**

Status	Number
Active Members	27,446
Inactive Members	
Eligible for Allowances	236
Retirees and Beneficiaries	
Retirees and Spouses	
Retirees	10,330
Spouses	4,965
Total	15,295
Disability Retirees	
Retirees	4,155
Spouses	1,631
Total	5,786
Children of Current Retirees	1,025
Survivors	4,177
Orphans	36
Waivers to Elect Coverage	3,023
Total	29,342
Grand Total	57,024

There are also 1,349 participants who receive Medicare Part B reimbursements only.

Table 7

**Active Membership Data Number and Allowable Average Annual Salary
As of Jan. 1, 2016**

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
Under 25	612 \$49,201										612 \$49,201
25-29	2,278 \$55,503	305 \$70,853									2,583 \$57,315
30-34	1,564 \$57,659	1,620 \$71,681	390 \$75,801	3 \$81,826							3,577 \$66,008
35-39	673 \$56,683	1,028 \$71,193	1,497 \$76,475	659 \$78,846	2 \$82,889						3,859 \$72,024
40-44	214 \$54,201	445 \$69,792	1,093 \$74,157	2,335 \$78,316	688 \$83,418	10 \$81,512					4,785 \$76,235
45-49	90 \$53,318	193 \$66,725	532 \$72,151	1,535 \$76,310	2,206 \$82,541	858 \$86,197	17 \$85,074				5,431 \$79,301
50-54	35 \$58,469	61 \$65,133	180 \$69,963	488 \$76,276	1,096 \$79,288	1,690 \$84,463	517 \$86,789	12 \$89,696			4,079 \$81,251
55-59	19 \$45,276	24 \$62,987	60 \$66,644	153 \$74,047	360 \$76,427	616 \$80,130	587 \$85,600	78 \$89,379	3 \$73,360		1,900 \$80,006
60-64	9 \$60,837	11 \$52,550	16 \$72,877	37 \$71,538	101 \$72,406	154 \$77,119	157 \$82,186	42 \$88,607	9 \$84,863		536 \$77,456
Over 64	2 \$ 52,856	3 \$ 72,970	7 \$ 71,261	6 \$ 62,983	14 \$ 70,907	20 \$ 71,008	14 \$ 76,118	6 \$ 78,999	12 \$ 88,339		84 \$ 73,975
Total	5,496 \$55,464	3,690 \$70,769	3,775 \$74,633	5,216 \$77,413	4,467 \$81,120	3,348 \$83,683	1,292 \$85,551	138 \$88,721	24 \$85,163		27,446 \$73,557

Table 8

**Current Enrollment Of Retired Participants
As of Jan. 1, 2016**

(excludes those non-Medicare eligible retirees who waived coverage who will return when Medicare eligible)

	UHC	AARP	Prescription Drug Only	Total
Not Eligible For Medicare				
Benefit Recipients	5,353	75	7	5,435
Spouses	2,091	222	24	2,337
Children	989	2	4	995
Eligible For Medicare				
Benefit Recipients	599	12,627	37	13,263
Spouses	175	4,046	38	4,259
Children	24	6	-	30
Total	9,231	16,978	110	26,319

V – Comprehensive Annual Financial Report Exhibits

Table 9

**Retirees and Beneficiaries Added to and Removed From Rolls
Health Care Trust Fund
(Dollars in Thousands)**

Year Beginning Jan. 1	Added to rolls		Removed from rolls		Rolls end of year		Average	Increase in
	Number	Annual Subsidy	Number	Annual Subsidy	Number	Annual Subsidy	Annual	Average
							Subsidy	Subsidy
2015	1,837	\$9,962	2,340	\$11,373	26,319	\$142,730	\$5.423	\$0.563
2014	1,845	8,967	1,817	8,509	26,822	130,360	4.860	0.177
2013	1,710	8,008	1,639	7,540	26,794	125,482	4.683	0.083
2012	2,361	10,862	1,682	7,397	26,723	122,943	4.601	0.203
2011	2,241	9,855	1,593	6,378	26,044	114,528	4.397	0.394
2010	1,579	6,322	1,491	6,497	25,396	101,679	4.004	(0.354)
2009	1,568	6,833	1,626	6,244	25,308	110,286	4.358	0.517
2008	1,218	4,678	2,638	9,345	25,366	97,414	3.840	0.298
2007	1,496	5,300	1,497	6,861	26,786	94,889	3.542	(1.041)
2006	1,291	5,917	3,063	12	26,787	122,767	4.583	0.711

Table 10

**Analysis of Financial Experience – Health Care Trust Fund
Gains and Losses as of Jan. 1, 2016 and Jan. 1, 2015**

Type of Activity	Gain (Loss)	
	Jan. 1, 2016	Jan. 1, 2015
Plan experience:		
Turnover <i>If more liabilities are released by withdrawal separations from active membership than assumed, there is a gain. If smaller releases, a loss.</i>	\$ 2,320,811	\$ 43,440
Retirement <i>If members retire at older ages than assumed, there is a gain. If younger, a loss.</i>	(6,511,136)	2,688,907
Disability Retirement <i>If disability claims are less than assumed, there is a gain. If more claims, a loss.</i>	17,330,292	19,805,645
New Entrants <i>If new entrants join OP&F, there is a loss.</i>	(1,367,379)	(11,471,301)
Deaths <i>If more deaths occur than assumed, there is a gain. If fewer deaths, a loss.</i>	71,720,007	114,439,222
Claims Costs <i>If per capita costs or trend rates are less than assumed, there is a gain. Otherwise there is a loss.</i>	88,639,515	168,165,402
Investment <i>If there is greater investment return than assumed, there is a gain. If less return, a loss.</i>	(34,862,262)	43,276,507
Other Experience <i>If all other experience, including but not limited to data changes, increases the unfunded liability, there is a loss. If a decrease, there is a gain.</i>	(67,752,829)	(146,011,272)
Net gain (or loss) during the year due to plan experience	69,517,019	190,936,550
Plan changes adopted in 2016	409,364,646	0
Changes in assumed per capita aging table Jan. 1, 2016	38,043,724	0
Total net gain (or loss)	\$ 516,925,389	\$ 190,936,550

VI – Assumptions and Methods

ASSUMPTIONS

DISCOUNT RATE: 4.25 percent per annum, compounded annually.

The development of the discount rate used in the valuation is summarized below:

Investment Returns

Plan Assets (Long-Term Return)	=	8.25%
Employer Assets (Estimated Short-Term Return)	=	4.00%

Based on Percentage of ARC Contributed

1. Contribution Allocated to Health Care	=	0.50%
2. Annual Required Contribution (2015)	=	18.96%
3. Portion of ARC Contributed: (1) / (2)	=	2.64%
4. Multiplied by long-term investment return	=	0.22%
5. Portion of ARC not Contributed: 100% - (3)	=	97.36%
6. Multiplied by short-term investment return	=	3.89%
7. Total: (4) + (6)	=	4.11%

Based on the methodology above, Ohio Police & Fire has selected a discount rate of 4.25 percent.

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

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

HEALTH CARE COST TREND RATES: The trend rate is the annual rate at which the cost of covered medical services is assumed to increase from the current year to the next year. The valuation reflects costs and premiums established for 2016 and 2017 for Non-Medicare, Non-AARP and Rx. Thus, the trend rates for 2016 and 2017 for those benefits reflect actual increases from 2016 to 2017 and expected increases from 2017 to 2018. Beginning in 2016, the per-capita costs are assumed to increase by the following percentages each year.

Year	Non-Medicare	Non-AARP	AARP	Rx Drug	Medicare Part B
2016	0.40%	0.40%	5.80%	-9.60%	5.30%
2017	6.00%	6.00%	5.50%	6.00%	5.20%
2018	5.50%	5.50%	5.30%	5.50%	5.10%
2019	4.50%	4.50%	5.00%	4.50%	5.00%
2020+	4.50%	4.50%	4.50%	4.50%	5.00%

PER CAPITA HEALTH CARE COSTS: Average costs for the self-insured medical and prescription drug plans were developed based on claims experience and current enrollment, taking into consideration trend and any changes in the plans. Retiree contributions were calculated based on the average costs and the applicable subsidy percentages under the plan. For the valuation, age-specific per capita gross costs were used. Shown below are sample age-specific amounts.

2016 Age-Specific Monthly Gross Costs

Age	Non-Medicare Eligible Medical			Non-AARP Eligible Medical			Prescription Drugs		
	Benefit Recipient	Spouse	Child(ren)	Benefit Recipient	Spouse	Child(ren)	Benefit Recipient	Spouse	Child(ren)
20			\$303			\$228			\$78
50	\$650	\$431		\$104	\$104		\$146	\$145	
55	761	505		121	122		171	170	
60	899	597		143	144		202	201	
65				309	311		242	241	
70				362	364		284	282	
75				408	410		319	318	
80				446	449		349	348	
85				475	479		372	371	

AARP/UHC OUT-OF-STATE PERCENTAGE: There are 20 states in which AARP/UHC does not vary its premium rates by length of Medicare Part B coverage at initial enrollment. For these states, the OP&F subsidy will be set at the subsidy for the 6+ year level. Based on current retiree demographics, it is assumed that 10 percent of new retirees will reside in one of these states.

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

Police

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

Firefighters

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

RATES OF DISABILITY: The following are sample rates of disability.

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

9 percent of non-Medicare eligible disabled members are assumed to become Medicare eligible prior to reaching the age of 65.

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

Age	Police	Firefighters
48	10%	10%
49-52	5%	5%
53-54	11%	5%
55-57	11%	10%
58-59	5%	13%
60	15%	20%
61	25%	20%
62	25%	50%
63	25%	20%
64	25%	25%
65-69	35%	25%
70	100%	100%

DEFERRED RETIREMENT OPTION PLAN (DROP) 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.

Police

Age	Years in DROP								
	0	1	2	3	4	5	6	7	8
48	5%								
49	5%	5%							
50	4%	5%	5%						
51	4%	5%	5%	10%					
52	4%	5%	5%	10%	10%				
53	4%	5%	5%	10%	10%	12%			
54	4%	5%	5%	10%	10%	12%	14%		
55	5%	5%	5%	15%	15%	12%	17%	30%	
56	5%	5%	5%	15%	15%	12%	17%	30%	100%
57	5%	5%	5%	15%	15%	12%	17%	30%	100%
58	5%	5%	5%	15%	15%	12%	17%	30%	100%
59	16%	5%	5%	15%	16%	15%	18%	32%	100%
60	16%	5%	5%	15%	16%	15%	18%	32%	100%
61	16%	5%	5%	15%	16%	15%	18%	32%	100%
62	16%	5%	5%	15%	16%	15%	18%	32%	100%
63	16%	5%	5%	15%	16%	15%	18%	32%	100%
64	19%	5%	5%	17%	17%	16%	19%	35%	100%
65-69	19%	5%	5%	17%	17%	16%	19%	35%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

Firefighters

Age	Years in DROP								
	0	1	2	3	4	5	6	7	8
48	2%								
49	4%	3%							
50	4%	3%	3%						
51	4%	3%	3%	10%					
52	4%	3%	3%	10%	12%				
53	4%	3%	3%	10%	12%	13%			
54	4%	3%	3%	10%	12%	13%	15%		
55	5%	3%	3%	12%	12%	13%	17%	27%	
56	5%	3%	3%	12%	12%	13%	17%	27%	100%
57	5%	3%	3%	12%	12%	13%	17%	27%	100%
58	5%	3%	3%	17%	16%	15%	20%	35%	100%
59	6%	3%	3%	17%	16%	15%	20%	35%	100%
60	6%	3%	3%	17%	16%	15%	20%	35%	100%
61	6%	3%	3%	17%	16%	15%	20%	35%	100%
62	6%	3%	3%	17%	16%	15%	20%	35%	100%
63	30%	3%	3%	20%	20%	20%	20%	40%	100%
64	30%	3%	3%	20%	20%	20%	20%	40%	100%
65-69	30%	3%	3%	20%	20%	20%	20%	40%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS: Commencement at age 48 and 25 years of service from full-time hire date, whichever is later. For participants hired after July 1, 2013 commencement is at age 52 with 25 years of service.

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

MEMBER PARTICIPATION: 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.

SPOUSE'S AGE: Wives are assumed to be three years younger than their husbands.

DEPENDENT CHILDREN: Each member is assumed to have two children, born when the member was age 26.

ADMINISTRATIVE EXPENSE: Per-capita costs include administrative expenses.

UNKNOWN DATA FOR MEMBERS: Same as those exhibited by members with similar known characteristics.

METHODS

ACTUARIAL COST METHOD: Projected benefit method with level percentage entry age normal cost and open-end unfunded accrued liability. Gains and losses are reflected in the accrued liability. Normal cost is expressed as a mid-year amount.

ASSET VALUATION METHOD: Market value of assets.

PAYROLL GROWTH: Inflation rate of 3.25 percent plus productivity increase rate of 0.50 percent.

DATA

CENSUS AND ASSETS: The valuation was based on members of OP&F as of Jan. 1, 2016 and does not take into account future members. All census and asset data was supplied by OP&F.

VII – Glossary of Terms

Accrued Liability	The present value as of the valuation date of all of the prior normal costs of the plan. It is the portion of the present value of future plan benefits attributable to service accrued as of the valuation date. If all assumptions were realized and contributions equal to the normal cost were made annually from the inception of the plan, the accrued liability would equal the plan assets. Mathematically, the accrued liability is equal to the difference between (a) the present value of future plan benefits, and (b) the present value of future normal cost. Sometimes referred to as “actuarial accrued liability.”
Actuarial Assumptions	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	The cost of a pension or retiree health care plan should be recognized during the working lifetime of the members who are ultimately going to receive benefits, preferably by actually funding amounts sufficient to provide completely for each member’s benefit at the time of retirement. The mathematical budgeting procedure for allocating the cost of benefits is called the “actuarial cost method.” The cost method allocates the dollar amount of the “present value of future plan benefits” between the “present value of future normal cost” and the “accrued liability.” Sometimes referred to as the “actuarial funding method.”
Annual Required Contribution Rate	The contribution rate necessary to advance fund benefits. In this valuation, that rate is equal to the normal cost plus amortization of the unfunded accrued liability over a 30-year period.
Advance Funding	Funding on a full reserve basis. See definition of full reserve basis.
Amortization	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
Entry Age Normal Cost Method	A funding method based upon the premise that if all assumptions are realized, the annual contribution as a percentage of payroll will remain level from year to year. This premise means that the present value of all future normal costs at a member’s hire age (i.e., entry age) is exactly equal to the present value of all future benefits.
Experience Gain (Loss)	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.
Full Reserve Basis	The philosophy behind every proper funding method is that benefits should be funded during the working lifetime of the members. This means that at retirement, contributions plus interest on those

contributions are sufficient to provide completely for the benefits expected to be paid out. This advance funding is called funding on a full reserve basis.

Funded Status	The percentage of the total accrued liability that the assets represent.
Market Value of Assets	The value of assets segregated in the trust fund to provide benefits. The market value is the amount that the plan could reasonably expect to receive for its investments as of the valuation date in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale.
Normal Cost	The annual cost of the benefits that accrue during the year. The normal cost is the amount necessary to be contributed to pay for the benefits that are earned during the year. It is the cost of keeping the fund at the desired level if the assumptions are realized and if the assets equal the accrued liability (i.e., the cost under “normal” circumstances). Sometimes referred to as “current service cost.”
Present Value	The amount of funds presently required to provide a payment or series of payments in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
Present Value of Future Plan Benefits	The value as of the valuation date of all of the benefits expected to be paid in the future based upon the actuarial assumptions.
Present Value of Future Normal Cost	The value as of the valuation date of all of the future normal costs of the plan based upon the actuarial assumptions.
Set Back in Age	Used in applying rates of mortality. Set back in age means assuming that the age of a member is younger than it actually is. For example, if the male mortality is setback by one year that means a male age 50 is assumed to be age 49 for purposes of applying the mortality table.
Set Forward in Age	Used in applying rates of mortality. Set forward in age means assuming that the age of a member is older than it actually is. For example, if the female mortality is set forward by one year that means a female age 50 is assumed to be age 51 for purposes of applying the mortality table.
Trend Rates	The annual rates at which the cost of covered medical services and prescription drugs are assumed to increase.
Unfunded Accrued Liability	The difference between the actuarial accrued liability and the valuation assets.