

OHIO POLICE & FIRE PENSION FUND

January 1, 2013
Actuarial Valuation of
Retiree Health Care Benefits
Under GASB 43

October 2013

October 22, 2013

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 January 1, 2013 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 January 1, 2013 actuarial valuation of OP&F's pension plan benefits. The discount rate (interest rate) is 5.00 percent, selected in accordance with GASB 43.

The results of our calculations and analysis indicate that the Annual Required Contribution (ARC) for 2013 is 14.65 percent of payroll. This can be compared to OP&F's allocation of employer contribution toward health care benefits equal to 4.69 percent of payroll prior to June 1, 2013 and 2.85 percent of payroll after of June 1, 2013. Thus, the contribution allocation is approximately 56 percent of the ARC for December 31, 2012. The funded status (i.e., the ratio of assets to liabilities) of retiree health care benefits is 22.09 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.

Respectfully submitted,



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



Bob Besenhofer, ASA, MAAA
Director, Health and Productivity

**OHIO POLICE & FIRE
PENSION FUND
RETIREE HEALTH CARE BENEFITS**

**GASB 43 ACTUARIAL VALUATION
JANUARY 1, 2013**

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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 January 1, 2013 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 December 15, 2005.

The principal valuation results include:

- The actuarially required contribution rate to fund health care benefits on a full reserve basis is 14.65 percent of payroll.
- The funded status of the plan as of January 1, 2013, based on the accrued liability and the market value of assets as of that date, is 22.09 percent.

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

Changes Since Last Year's Valuation

There were no changes in the plan provisions since last year's valuation; however there were changes in the assumptions as well as per capita costs and short-term trend rates to reflect plan experience. Specifically, the 2013 dollar subsidies for the AARP participants and the 2013 Medicare Part B premium reimbursement amount have been replaced with the actual 2013 amounts. The assumed prescription drug and non-Medicare and non-AARP medical costs and dollar premium subsidies for 2014 have been replaced with actual amounts adopted by the Board in June 2013. The trend rates for 2013, that is the assumed rates of increase from 2013 to 2014, have been adjusted to reflect the expected increases from the actual 2013 amounts to the actual or assumed amounts for 2014. The trend rates for increases after 2014 are have been updated from last year. The net effect of these changes is an experience gain.

I – Executive Summary

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 5.00 percent as of January 1, 2013. The development of this discount rate is summarized in Section V.

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 V.

I – Executive Summary

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 \$4,234,767,000. The value of assets in the Ohio Police & Fire Health Care Stabilization Fund as of January 1, 2013 is \$935,592,000. The difference between the liability and assets is an unfunded accrued liability of \$3,299,175,000. As of January 1, 2013 the ratio of assets to accrued liability is 22.09 percent, which can be compared to 21.09 percent as of January 1, 2012.

Health Care Contribution Rate

Ohio Police & Fire allocates a portion of employer contributions to health care. The total estimated employer contribution for 2013 is 21.61 percent of payroll, of which 4.69 percent of payroll prior to June 1, 2013 and 2.85 percent of payroll after of June 1, 2013 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 14.65 percent of payroll. This amount consists of 7.84 percent for normal cost, plus 6.81 percent to amortize the unfunded accrued liability of \$3,299,175,000 as a level percentage of payroll over 30 years.

II – Summary of Valuation Results

This section presents detailed results of the January 1, 2013 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 December 31, 2012, 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 January 1, 2013.
- **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 January 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 January 1, 2006.

II – Summary of Valuation Results

TABLE 1

**RETIREE HEALTH CARE BENEFITS
SUMMARY OF RESULTS OF ACTUARIAL VALUATION
AS OF JANUARY 1, 2013
(\$ Amounts in Thousands)**

Item	January 1, 2013	January 1, 2012
Membership Data		
1. Number of Members		
a) Active Members	27,289	27,463
b) Inactive Members	137	106
c) Retirees, Spouses, and Beneficiaries	25,427	25,003
d) Children of Current Retirees	1,296	1,041
e) Waivers to Elect Coverage	2,708	3,049
f) Total	56,857	56,662
2. Membership Payroll	\$ 1,912,459	\$ 1,897,413
Valuation Results		
3. Present Value of Future Benefits		
a) Active Members	\$ 3,709,659	\$ 2,817,647
b) Inactive Members	23,066	20,790
c) Retirees, Spouses, and Beneficiaries	2,256,951	2,160,139
d) Total	\$ 5,989,676	\$ 4,998,576
4. Accrued Liability		
a) Active Members	\$ 1,954,750	\$ 1,517,848
b) Inactive Members	23,066	20,790
c) Retirees, Spouses, and Beneficiaries	2,256,951	2,160,139
d) Total	\$ 4,234,767	\$ 3,698,777
5. Assets	\$ 935,592	\$ 780,142
6. Unfunded Liability	\$ 3,299,175	\$ 2,918,635
7. Funded Ratio	22.09%	21.09%
8. Annual Required Contribution		
a) Normal Cost	\$ 149,845	\$ 111,747
b) Unfunded Accrued Liability	132,204	134,100
c) Total Cost	\$ 282,049	\$ 245,847
9. Annual Required Contribution as a Percentage of Payroll		
a) Normal Cost Rate	7.84%	5.89%
b) Unfunded Accrued Liability Amortization Rate	6.81%	6.92%
c) Total Cost Rate	14.65%	12.81%
10. Employer Contribution to Health Care Stabilization Fund	3.62%	6.75%

II – Summary of Valuation Results

TABLE 2

**HEALTH CARE STABILIZATION FUND
AS OF DECEMBER 31, 2012**
(\$ Amounts in Thousands)

Item	Amount
1. Market Value as of December 31, 2011	\$ 780,142
2. Contributions in 2012	
(a) Employer	\$ 130,286
(b) Member Premiums	65,066
(c) Total	\$ 195,352
3. Benefits and Administrative Expenses in 2012	\$ 188,009
4. Investment Income in 2012	\$ 126,880
5. Other Income in 2012	
(a) Recoveries and Rebates	\$ 12,148
(b) Medicare Part D Reimbursements	9,078
(c) Total	\$ 21,226
6. Market Value as of December 31, 2012 (1) + (2) - (3) + (4) + (5)	\$ 935,591
7. Rate of Return (per 2012 Comprehensive Financial Report)	14.89%

II – Summary of Valuation Results

TABLE 3

**ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY
AS OF JANUARY 1, 2013
(\$ Amounts in Thousands)**

Item	Amount
1. Unfunded Accrued Liability at January 1, 2012	\$ 2,918,636
2. Normal Cost	111,747
3. Contributions*	138,376
4. Interest Credit at 6.00% to December 31, 2012	<u>174,320</u>
5. Expected Unfunded Accrued Liability at December 31, 2012 (1) + (2) - (3) + (4) + (5)	\$ 3,066,327
6. Actual Unfunded Accrued Liability at January 1, 2013	<u>3,299,175</u>
7. Net Loss (6) - (7)	\$ (232,848)
8. Reasons for Net Loss	
(a) Gain from Investment Return on Actuarial Value of Assets	\$ 78,769
(b) Gain from Demographic Change	162,298
(c) Gain from Claim Experience	84,976
(d) Gain from Updated Trend	89,311
(e) Loss from Discount Rate Change	<u>(648,202)</u>
(f) Grand Total	\$ (232,848)

* Employer contribution and Medicare Part D reimbursement

II – Summary of Valuation Results

TABLE 4

**SCHEDULE OF FUNDING PROGRESS
GASB STATEMENT NO. 43 DISCLOSURE**
(\$ Amounts in Thousands)

Valuation as of January 1	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Payroll
2013	\$935,592	\$4,234,757	\$3,299,175	22.09%	\$1,912,459	172.5%
2012	\$780,142	\$3,698,777	\$2,918,635	21.09%	\$1,897,413	153.8%
2011	\$717,730	\$3,295,313	\$2,577,583	21.78%	\$1,868,502	137.9%
2010	\$573,399	\$3,232,391	\$2,658,992	17.74%	\$1,895,196	140.3%
2009	\$438,658	\$3,163,622	\$2,724,964	13.87%	\$1,900,935	143.3%
2008	\$526,999	\$3,623,484	\$3,096,485	14.54%	\$1,831,438	169.1%
2007	\$436,598	\$3,273,690	\$2,837,092	13.30%	\$1,782,851	159.1%

The above information needs to be included in the GASB 43 disclosure as of December 31, 2013.

II – Summary of Valuation Results

TABLE 5

**SCHEDULE OF EMPLOYER CONTRIBUTIONS
GASB STATEMENT NO. 43 DISCLOSURE**
(\$ Amounts in Thousands)

Year Ended December 31	Annual Required Contribution	Percentage Contributed
2012	\$245,847	56.29%
2011	\$241,539	57.15%
2010	\$248,912	54.32%
2009	\$256,297	52.08%
2008	\$285,844	48.84%
2007	\$250,163	51.62%

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 January 1, 2012 was contributed in the year ending December 31, 2012). 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:	January 1, 2013
Actuarial Cost Method:	Entry Age
Amortization Method:	Level Percent of Payroll, Open
Amortization Period:	30 Years
Asset Valuation Method:	Fair Value

Actuarial Assumptions:

— Investment Return (Discount Rate)	5.00%
— Projected Salary Increases	5.00% - 11.00%
— Payroll Increases	3.75%
— Inflation Assumption	3.25%
— Trend Rates:	

	<u>Initial Rate 3 Years</u>	<u>Ultimate Rate</u>	<u>Ultimate Year</u>
• Non-Medicare	13.25%, 7.50%, 7.00%	4.50%	2020
• Non-AARP	13.25%, 7.50%, 7.00%	4.50%	2020
• AARP	6.50%, 6.25%, 6.00%	4.50%	2020
• Rx Drug	0.71%, 7.50%, 7.00%	4.50%	2020
• Medicare Part B	5.60%, 5.50%, 5.40%	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 are eligible to receive a pension at age 48 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 2013, Ohio Police & Fire offers one medical plan for members not eligible for AARP coverage and one prescription drug plan as summarized below.

Medical Coverage		Prescription Drug Coverage	
In Network Coverage		Retail Option	
Deductible	\$500/\$1,000	Days Supply (as prescribed)	30
Coinsurance	80%	Tier 1	\$5
Out-of-Pocket Maximum	\$1,500/\$3,000	Tier 2	\$20
Office Visit Copay	\$30	Tier 3	\$30
Admission Copay	\$250		
Out-of-Network Coverage		Mail Service Option	
Deductible	\$1,000/\$2,000	Days Supply (as prescribed)	90
Coinsurance	50%	Tier 1	\$10
Out-of-Pocket Maximum	\$5,000/\$10,000	Tier 2	\$40
Office Visit Copay	50%	Tier 3	\$60
Admission Copay	\$250		

III – Retiree Health Care Benefit Provisions

The prescription drug plan tiers are described below:

Tier 1: Includes primarily generic drug; however, some generic drugs may fall into other tiers.

Tier 2: Middle copay level includes many brand-name drugs.

Tier 3: Includes several prescriptions with a Tier 1 or Tier 2 alternative.

Drugs are sorted into the 3 tiers, based on the overall clinical and pharmacoeconomic value of each particular drug and how it stacks up against other drugs in the same therapy class. Therefore, where each drug is placed within the 3 tiers is based on the effectiveness and cost of that drug.

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 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.

Plan	Monthly Member Premiums					
	Pre-7/25/86 Retirees			Post-7/24/86 Retirees		
	Benefit Recipient	Spouse	Child(ren)	Benefit Recipient	Spouse	Child(ren)
Medical 2013 –						
Non-Medicare Eligible	\$ 183.40	\$ 242.82	\$ 126.91	\$ 183.40	\$ 364.22	\$ 190.37
Non-AARP Eligible	59.44	100.21	100.21	59.44	150.31	150.31
Prescription Drug 2013	66.37	125.04	37.16	66.37	187.55	55.75
Medical 2014 –						
Non-Medicare Eligible	\$ 207.69	\$ 274.99	\$ 143.73	\$ 207.69	\$ 412.49	\$ 215.59
Non-AARP Eligible	67.31	113.48	113.48	67.31	170.22	170.22
Prescription Drug 2014	66.85	125.93	37.43	66.85	188.90	56.14

III – Retiree Health Care Benefit Provisions

Effective January 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	2013 Monthly Subsidy for AARP/UHC					
	State of Ohio Plan L Monthly Premium		OP&F Subsidy Pre-7/25/86 Retirees		OP&F Subsidy Post-7/24/86 Retirees	
	Benefit Recipient	Spouse	Benefit Recipient	Spouse	Benefit Recipient	Spouse
< 3 Years *	\$ 91.87	\$ 91.87	\$ 91.87	\$ 65.63	\$ 91.87	\$ 32.81
3- 6 Years	131.25	131.25	98.44	65.63	98.44	32.81
6+ Years	144.37	144.37	98.44	65.63	98.44	32.81

* Illustrated rates reflect 30 percent discount for a new retiree in 2013

III – Retiree Health Care Benefit Provisions

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 2013) provided the retiree is not eligible for reimbursement from any other sources.

IV – Participant Data

The participant data as of January 1, 2013 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).

IV – Participant Data

TABLE 6

NUMBER OF PARTICIPANTS AS OF JANUARY 1, 2013

Status	Number
Active Members	27,289
Inactive Members	
Eligible for Allowances	137
Retirees and Beneficiaries	
Retirees and Spouses	
Retirees	9,793
Spouses	5,143
Total	14,936
Disability Retirees	
Retirees	4,354
Spouses	1,898
Total	6,252
Children of Current Retirees	1,296
Survivors	4,206
Orphans	33
Waivers to Elect Coverage	2,708
Total	29,431
Grand Total	56,857

There are also 1,048 participants who receive Medicare Part B reimbursements only.

IV – Participant Data

TABLE 7

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2013

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 25	422 \$44,377									422 \$44,377
25-29	1,746 \$50,650	485 \$66,121	1 \$56,359							2,232 \$54,014
30-34	1,194 \$52,563	1,602 \$66,265	598 \$70,844	2 \$70,777						3,396 \$62,257
35-39	495 \$51,225	1,029 \$66,122	2,063 \$69,847	627 \$73,331	8 \$84,906					4,222 \$67,302
40-44	220 \$50,068	650 \$64,025	1,639 \$68,153	2,554 \$72,827	802 \$77,393	10 \$72,680				5,875 \$70,320
45-49	87 \$46,143	199 \$62,323	583 \$66,613	1,348 \$70,884	2,145 \$75,999	775 \$80,717	14 \$77,965			5,151 \$73,281
50-54	37 \$54,211	76 \$62,504	188 \$65,960	453 \$69,083	1,009 \$73,769	1,346 \$78,934	515 \$82,126	13 \$89,795		3,637 \$75,500
55-59	18 \$59,360	37 \$62,861	51 \$59,606	150 \$68,509	340 \$68,459	533 \$76,600	599 \$79,783	100 \$84,832		1,828 \$74,993
60-64	9 \$60,035	4 \$58,356	13 \$59,840	44 \$64,417	95 \$69,237	101 \$75,142	134 \$76,187	57 \$80,424	9 \$79,518	466 \$73,094
Over 64	1 \$39,253	3 \$71,532	6 \$46,943	6 \$62,211	11 \$72,549	12 \$63,687	8 \$73,482	3 \$77,991	10 \$75,429	60 \$67,453
Total	4,229 \$50,594	4,085 \$65,559	5,142 \$68,758	5,184 \$71,846	4,410 \$75,023	2,777 \$78,757	1,270 \$80,294	173 \$83,634	19 \$77,365	27,289 \$68,718

IV – Participant Data

TABLE 8

**CURRENT ENROLLMENT OF RETIRED PARTICIPANTS
AS OF JANUARY 1, 2013**

(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	5,605	88	102	5,795
Spouses	1,807	100	30	1,937
Children	1,104	-	7	1,111
Eligible For Medicare				
Benefit Recipients	508	11,842	241	12,591
Spouses	1,005	4,033	66	5,104
Children	183	1	1	185
Total	10,212	16,064	447	26,723

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 Ended Dec. 31	Added to rolls		Removed from rolls		Rolls end of year		Average Annual Subsidy	Increase in Average Subsidy
	Number	Annual Subsidy	Number	Annual Subsidy	Number	Annual Subsidy		
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

V – Comprehensive Annual Financial Report Exhibits

TABLE 10

ANALYSIS OF FINANCIAL EXPERIENCE – HEALTH CARE TRUST FUND GAINS AND LOSSES AS OF JANUARY 1, 2013 AND JANUARY 1, 2012

Type of Activity	Gain (Loss)	
	January 1, 2013	January 1, 2012
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>	\$ 312,371	\$ 1,027,696
Retirement <i>If members retire at older ages than assumed, there is a gain. If younger, a loss.</i>	(1,556,992)	7,468,693
Disability Retirement <i>If disability claims are less than assumed, there is a gain. If more claims, a loss.</i>	10,672,859	17,928,512
New Entrants <i>If new entrants join OP&F, there is a loss.</i>	(4,017,317)	(1,032,736)
Deaths <i>If more deaths occur than assumed, there is a gain. If fewer deaths, a loss.</i>	53,910,320	(12,370,659)
Claims Costs <i>If per capita costs or trend rates are less than assumed, there is a gain. Otherwise there is a loss.</i>	174,287,593	321,305,492
Investment <i>If there is greater investment return than assumed, there is a gain. If less return, a loss.</i>	78,769,442	(25,371,486)
Other Experience <i>If all other experience, including data changes, increases the unfunded liability, there is a loss. If a decrease, there is a gain.</i>	102,976,351	(15,136,426)
Net gain (or loss) during the year due to plan experience	\$ 415,354,627	\$ 293,819,086
Change assumptions effective January 1, 2013:	(648,202,636)	(495,587,176)
Total net gain (or loss)	\$ (232,848,009)	\$ (201,768,090)

VI – Assumptions and Methods

ASSUMPTIONS

DISCOUNT RATE: 5.00 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%

Based on Percentage of ARC Contributed

1. Contribution Allocated to Health Care	=	2.85%
2. Annual Required Contribution (2012)	=	12.81%
3. Portion of ARC Contributed: (1) / (2)	=	22.25%
4. Multiplied by long-term investment return	=	1.84%
5. Portion of ARC not Contributed: 100% - (3)	=	77.75%
6. Multiplied by short-term investment return	=	3.11%
7. Total: (4) + (6)	=	4.95%

Based on the methodology above, Ohio Police & Fire has selected a discount rate of 5.00 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 or more	5.00%

VI – Assumptions and Methods

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 2013 and 2014 for Non-Medicare, Non-AARP and Rx. Thus, the trend rates for 2013 and 2014 for those benefits reflect actual increases from 2013 to 2014 and expected increases from 2014 to 2015. Beginning in 2013, the per-capita costs are assumed to increase by the following percentages each year.

Year	Non-Medicare	Non-AARP	AARP	Rx	Medicare Part B
2013	13.3%	13.3%	6.50%	0.7%	5.6%
2014	7.5%	7.5%	6.25%	7.5%	5.5%
2015	7.0%	7.0%	6.00%	7.0%	5.4%
2016	6.5%	6.5%	5.75%	6.5%	5.3%
2017	6.0%	6.0%	5.50%	6.0%	5.2%
2018	5.5%	5.5%	5.25%	5.5%	5.1%
2019	5.0%	5.0%	5.00%	5.0%	5.0%
2020	4.5%	4.5%	4.50%	4.5%	5.0%
2021	4.5%	4.5%	4.50%	4.5%	5.0%
2022	4.5%	4.5%	4.50%	4.5%	5.0%

VI – Assumptions and Methods

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.

2013 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			\$ 259			\$ 196			\$ 74
50	\$ 555	\$ 385		\$ 96	\$ 125		\$ 140	\$ 140	
55	650	450		113	147		163	164	
60	768	532		133	173		193	194	
65				287	374		232	233	
70				336	438		271	272	
75				379	493		305	307	
80				414	540		334	335	
85				442	576		356	357	

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.

VI – Assumptions and Methods

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.

VI – Assumptions and Methods

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%

VI – Assumptions and Methods

Firefighters

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%	100%

RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS: Commencement at age 48 and 25 years of service from full-time hire date, whichever is later.

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

VI – Assumptions and Methods

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 0.75 percent.

DATA

CENSUS AND ASSETS: The valuation was based on members of OP&F as of January 1, 2013 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.”
Actuarially 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.

VII – Glossary of Terms

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.

VII – Glossary of Terms

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.