

OHIO POLICE & FIRE PENSION FUND
JANUARY 1, 2008
ACTUARIAL VALUATION
OF RETIREE HEALTH CARE BENEFITS
UNDER GASB 43

September 30, 2008

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, 2008 actuarial valuation of the Ohio Police & Fire Pension Fund ("Fund") 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 the Fund's reimbursement of Medicare Part B premiums. As of this valuation, Ohio Police & Fire has replaced its self-insured medical plan coverage for members and dependents age 65 or older who are eligible for Medicare Parts A and B with a choice of fully-insured MediGap plans offered by AARP/UHC. Ohio Police & Fire subsidizes a portion of the members' premiums to AARP/UHC. The January 1, 2008 valuation takes these changes into account.

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, 2008 actuarial valuation of the Fund's pension plan benefits. The discount rate (interest rate) is 6.00%, selected in accordance with GASB 43.

The results of our calculations and analysis indicate that the Annual Required Contribution (ARC) for 2008 is 15.49% of payroll. This can be compared to the Fund's allocation of employer contribution toward health care benefits equal to 6.75% of payroll. Thus, the contribution allocation is approximately 44% of the ARC for 2008. The funded status (i.e., the ratio of assets to liabilities) of retiree health care benefits is 14.54%.

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,



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

**GASB 43 ACTUARIAL VALUATION
JANUARY 1, 2008**

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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, 2008 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 15.49% of payroll.
- The funded status of the plan as of January 1, 2008, based on the accrued liability and the market value of assets as of that date, is 14.54%.

The valuation was based upon membership and financial data submitted by the Fund.

Changes Since Last Year's Valuation

Medical inflation rates (trend) have been updated to reflect expected rates of increase in medical and prescription drug costs. A listing of these rates can be found in Section V.

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 6.00% as of January 1, 2008. 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 \$3,623,484,000. The value of assets in the Ohio Police & Fire Health Care Stabilization Fund as of January 1, 2008 is \$526,999,000. The difference between the liability and assets is an unfunded accrued liability of \$3,096,485,000. As of January 1, 2008 the ratio of assets to accrued liability is 14.54%, which can be compared to 13.34% as of January 1, 2007.

Health Care Contribution Rate

Ohio Police & Fire allocates a portion of employer contributions to health care. The total employer contribution for 2008 is approximately 21.56% of payroll, of which 6.75% 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 15.49% of payroll. This amount consists of 7.84% for normal cost, plus 7.65% to amortize the unfunded accrued liability of \$3,096,485,000 as a level percentage of payroll over 30 years.

II – Summary of Valuation Results

This section presents detailed results of the January 1, 2008 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, 2007, 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, 2008.
- **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, 2008 (\$ Amounts in Thousands)

Item	January 1, 2008	January 1, 2007
Membership Data		
1. Number of Members		
a) Active Members	28,733	28,454
b) Inactive Members	135	148
c) Retirees, Spouses and Survivors	25,337	25,279
d) Children of Current Retirees	<u>1,449</u>	<u>1,508</u>
e) Total	55,654	55,389
2. Annualized Salaries	\$ 1,787,133	\$ 1,736,681
3. Membership Payroll	\$ 1,831,438	\$ 1,782,851
Valuation Results		
4. Present Value of Future Benefits		
a) Active Members	\$ 3,526,739	\$ 2,954,335
b) Inactive Members	21,483	18,599
c) Retirees, Spouses and Beneficiaries	<u>1,745,469</u>	<u>1,769,370</u>
d) Total	\$ 5,293,691	\$ 4,742,304
5. Accrued Liability		
a) Active Members	\$ 1,856,532	\$ 1,485,721
b) Inactive Members	21,483	18,599
c) Retirees, Spouses and Beneficiaries	<u>1,745,469</u>	<u>1,769,370</u>
d) Total	\$ 3,623,484	\$ 3,273,690
6. Assets	\$ 526,999	\$ 436,598
7. Unfunded Liability	\$ 3,096,485	\$ 2,837,092
8. Funded Ratio	14.54%	13.34%
9. Annual Required Contribution		
a) Normal Cost	\$ 143,572	\$ 123,552
b) Unfunded Accrued Liability	<u>142,272</u>	<u>126,611</u>
c) Total Cost	\$ 285,844	\$ 250,163
10. Annual Required Contribution as Percentage of Payroll		
a) Normal Cost Rate	7.84%	6.93%
b) Unfunded Accrued Liability Amortization Rate	<u>7.65%</u>	<u>7.10%</u>
c) Total Cost Rate	15.49%	14.03%
11. Employer Contribution to Health Care Stabilization Fund	6.75%	6.75%

II – Summary of Valuation Results

TABLE 2

**HEALTH CARE STABILIZATION FUND
AS OF DECEMBER 31, 2007**
(\$ Amounts in Thousands)

1. Balance as of December 31, 2006	\$ 436,598
2. Contributions in 2007	
(a) Employer	\$ 121,722
(b) Member Premiums	<u>56,032</u>
(c) Total	\$ 177,754
3. Benefits and Administrative Expenses in 2007	\$ 150,921
4. Investment Income	\$ 49,938
5. Other Income in 2007	
(a) Recoveries and Rebates	\$ 6,224
(b) Medicare Part D Reimbursements	<u>7,406</u>
(c) Total	\$ 13,630
6. Balance as of December 31, 2007 (1) + (2) – (3) + (4) + (5)	\$ 526,999
7. Rate of Return (per 2007 Comprehensive Financial Report)	10.47%

II – Summary of Valuation Results

TABLE 3

**ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY
AS OF JANUARY 1, 2008
(\$ Amounts in Thousands)**

Item	Amount
1. Unfunded Accrued Liability at January 1, 2007	\$ 2,837,092
2. Normal Cost at January 1, 2007	123,552
3. Contributions	129,128
4. Interest Credit at 6.00% to December 31, 2007	173,765
5. Change Due to Trend Assumption Change	<u>153,987</u>
6. Expected Unfunded Accrued Liability at December 31, 2007 (1) + (2) – (3) + (4) + (5)	\$ 3,159,268
7. Actual Unfunded Accrued Liability at January 1, 2008	<u>3,096,485</u>
8. Net Gain (6) – (7)	\$ 62,783
9. Reasons for Net Gain	
(a) Gain from Investment on Actuarial Value of Assets	\$ 22,528
(b) Gain from Demographic Experience	<u>40,255</u>
(c) Grand Total	\$ 62,783

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
2008	\$526,999	\$3,623,484	\$3,096,485	14.50%	\$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 December 31, 2008.

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
2007	\$250,163	51.6%
2006	\$264,137	52.6%

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 January 1, 2007 was contributed in the year ending December 31, 2007). The actual percentage contributed includes employer contributions and Medicare Part D reimbursement that Ohio Police & Fire has elected to contribute to the Fund.

Additional information as of the latest actuarial valuation follows:

Valuation Date:	January 1, 2008
Actuarial Cost Method:	Entry Age
Amortization Method:	Level Percent of Payroll, Open
Amortization Period:	30 Years
Asset Valuation Method:	Fair Market Value

Actuarial Assumptions:

— Investment Return (Discount Rate)	6.00%
— Projected Salary Increases	5.00% - 11.00%
— Payroll Increases	4.00%
— Inflation Assumption	3.25%
— Trend Rates:	

	<u>Initial Rate</u>	<u>Ultimate Rate</u>	<u>Ultimate Year</u>
• Non-Medicare	10.00%	5.00%	2019
• Non-AARP	10.00%	5.00%	2019
• AARP	7.25%	5.00%	2018
• Rx Drug	11.00%	5.00%	2021
• Medicare Part B	6.00%	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 and sponsored dependents. To enroll a dependent, a member must be enrolled in the health care plan. Only benefit recipients are eligible for reimbursement of Medicare Part B reimbursement.

For **service retirement benefit or survivor benefit recipients**, coverage becomes effective the later of (1) the first of the month following the date the benefit application is received and approved by Ohio Police & Fire, or (2) the effective date of retirement.

For **disability benefit recipients**, coverage is effective the later of (1) the first of the month after Ohio Police & Fire approves the disability benefit, or (2) the first of the month following the date the application is received by Ohio Police & Fire.

Premium Overview

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 coverage selected and the person's Medicare status.

As of January 1, 2008 member contribution amounts are based on the following schedule:

- Retired Before 7/24/1986 – Benefit Recipients pay 25% of gross costs,
Dependents pay 50% of gross costs
- Retired After 7/24/1986 – Benefit Recipients pay 25% of gross costs,
Dependents pay 75% of gross costs

III – Retiree Health Care Benefit Provisions

Medicare Part B Premium Reimbursement

For service and disability retirements, as well as survivors, Ohio Police & Fire reimburses Medicare Part B premiums (\$96.40 per month for 2008) provided the retiree is not eligible for reimbursement from any other sources.

Types of Plans

For 2008, Ohio Police & Fire offers one medical plan 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		

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.

III – Retiree Health Care Benefit Provisions

Effective January 1, 2008, Ohio Police & Fire replaced its current self-insured medical plan for members and dependents age 65 or older and enrolled in Medicare Parts A and B with a choice of fully insured MediGap plans offered by AARP/UHC. Ohio Police & Fire will subsidize 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% for members, 50% for spouses and children of members who retired before July 24, 1986 and 25% for spouses and children of members who retired after July 24, 1986. This plan change is reflected in the January 1, 2008 actuarial valuation.

IV – Participant Data

The participant data as of January 1, 2008 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, 2008

Status	Number
Active Members	28,733
Inactive Members	
Eligible for Allowances	135
Retirees and Beneficiaries	
Retirees & Spouses	
Retirees	8,905
Spouses	<u>5,397</u>
Total	14,302
Disability Retirees	
Retirees	4,432
Spouses	<u>2,364</u>
Total	6,796
Children of Current Retirees	1,449
Survivors	4,177
Orphans	62
Total Retirees and Beneficiaries	<u>26,786*</u>
GRAND TOTAL	55,654

* In addition, there are 629 participants who receive Medicare Part B reimbursement only.

IV – Participant Data

TABLE 7

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2008

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 25	606 \$42,325	1 \$49,929								607 \$42,337
25-29	1,898 \$47,825	653 \$59,564	5 \$60,275							2,556 \$50,848
30-34	1,183 \$49,763	2,331 \$60,603	616 \$63,908	6 \$67,583						4,136 \$58,005
35-39	761 \$49,276	1,882 \$59,540	2,714 \$63,531	792 \$66,331	6 \$60,931					6,155 \$60,906
40-44	252 \$48,260	687 \$58,313	1,532 \$62,108	2,341 \$66,155	752 \$70,134	12 \$63,739				5,576 \$63,800
45-49	102 \$49,714	228 \$57,915	532 \$61,182	1,197 \$64,516	1,527 \$69,849	708 \$73,145	16 \$75,283			4,310 \$66,752
50-54	51 \$50,998	75 \$53,130	188 \$60,471	438 \$61,997	741 \$67,686	1,305 \$72,217	523 \$76,086	8 \$83,550		3,329 \$69,080
55-59	8 \$44,906	21 \$52,869	62 \$58,603	133 \$62,554	207 \$63,956	422 \$69,049	544 \$73,943	179 \$78,972		1,576 \$69,899
60-64	5 \$54,344	12 \$42,546	18 \$52,711	30 \$61,159	46 \$62,356	37 \$63,427	90 \$69,597	149 \$73,286	20 \$74,897	407 \$67,475
Over 64	1 \$ 35,656	3 \$ 44,626	2 \$ 73,239	5 \$ 48,965	6 \$ 50,623	3 \$ 50,406	4 \$ 70,223	19 \$ 74,928	38 \$ 76,939	81 \$ 69,679
Total	4,867 \$47,933	5,893 \$59,608	5,669 \$62,777	4,942 \$65,275	3,285 \$68,899	2,487 \$71,745	1,177 \$74,569	355 \$76,472	58 \$76,235	28,733 \$62,198

IV – Participant Data

TABLE 8

**CURRENT ENROLLMENT OF RETIRED PARTICIPANTS
AS OF JANUARY 1, 2008**

	UHC	AARP	Rx Drug Only	Total
Not Eligible for Medicare				
Benefit Recipients	6,215	215	93	6,523
Spouses	3,697	119	53	3,869
Children	1,397	-	15	1,412
Eligible for Medicare				
Benefit Recipients	421	10,037	589	11,047
Spouses	189	3,627	82	3,898
Children	36	1	-	37
Total	11,955	13,999	832	26,786

V – Assumptions and Methods

ASSUMPTIONS

DISCOUNT RATE: 6.00% 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	=	6.75%
2. Annual Required Contribution (Estimate)	=	14.03%
3. Portion of ARC Contributed: (1) / (2)	=	48.1%
4. Multiplied by long-term investment return	=	3.97%
5. Portion of ARC not Contributed: 100% - (3)	=	51.9%
6. Multiplied by short-term investment return	=	2.08%
7. Total: (4) + (6)	=	6.05%

Based on the methodology above, Ohio Police & Fire has selected a discount rate of 6.00%.

SALARY INCREASE: Assumed annual salary increases are as follows:

Years of Service	Salary Increase Rate
1 or less	11.0%
2	9.5
3	8.5
4	6.5
5 or more	5.0

V – 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. This valuation reflects costs and premiums established for 2008 and 2009. Beginning in 2009, the per-capita costs are assumed to increase by the following percentages each year.

Year	Non-Medicare	Non-AARP	AARP Medigap	Rx Drug	Medicare Part B
2008*	4.30	4.30	7.50	11.20	0.00
2009	10.00	10.00	7.25	11.00	6.00
2010	9.50	9.50	7.00	10.50	5.90
2011	9.00	9.00	6.75	10.00	5.80
2012	8.50	8.50	6.50	9.50	5.70
2013	8.00	8.00	6.25	9.00	5.60
2014	7.50	7.50	6.00	8.50	5.50
2015	7.00	7.00	5.75	8.00	5.40
2016	6.50	6.50	5.50	7.50	5.30
2017	6.00	6.00	5.25	7.00	5.20
2018	5.50	5.50	5.00	6.50	5.10
2019	5.00	5.00	5.00	6.00	5.00
2020	5.00	5.00	5.00	5.50	5.00
2021	5.00	5.00	5.00	5.00	5.00
and Later					

* With the exception of AARP Medigap, 2008 trend rates reflect the established and approved 2009 per-capita rates.

V – 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. Age-specific gross costs were developed based on the average gross costs. Shown below are the average costs, as well as retiree contributions and age-specific gross costs developed for 2008.

	2008								
	Average Monthly Gross Costs			Pre-7/24/86 Retiree Contributions			Post-7/24/86 Retiree Contributions		
	Benefit Recipient	Spouse	Children	Benefit Recipient	Spouse	Children	Benefit Recipient	Spouse	Children
Medical									
Non-Medicare	\$ 609	\$ 403	\$ 211	\$ 152	\$ 202	\$ 105	\$ 152	\$ 302	\$ 158
Non-AARP	197	166	166	49	83	83	49	125	125
Rx Drug	226	213	63	56	107	32	56	160	48

The 2008 premium rates and OP&F subsidies for the AARP/UHC Medicare Supplement Plans are summarized below:

Time from Medicare Part B Effective Date	2008 AARP/UHC Gross Costs & OP&F Subsidy					
	State of Ohio Plan L Monthly Premium		Pre-7/24/86 OP&F Subsidy		Post-7/24/86 OP&F Subsidy	
	Benefit Recipient	Spouse	Benefit Recipient	Spouse	Benefit Recipient	Spouse
< 3 Years	\$ 78.40	\$ 78.40	\$ 58.80	\$ 39.20	\$ 58.80	\$ 19.60
3- 6 Years	112.00	112.00	84.00	56.00	84.00	28.00
6+ Years	123.20	123.20	92.40	61.60	92.40	30.80

The monthly premiums and OP&F subsidies differ by the time each member has been enrolled in Medicare Part B as of the coverage effective date.

V – Assumptions and Methods

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

OP&F will pay a subsidy based on the state of Ohio premium applicable to each member.

There are 20 states in which AARP/UHC does not differ 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% of new retirees will reside in one of these states.

V – Assumptions and Methods

2008 Age-Specific Gross Costs

Age	Non-Medicare Eligible Medical			Non-AARP Eligible Medical			Prescription Drugs		
	Benefit Recipient	Spouse	Child	Benefit Recipient	Spouse	Child	Benefit Recipient	Spouse	Child
20			\$ 210			\$ 143			\$ 63
50	\$ 467	\$ 316		\$ 80	\$ 96		\$ 124	\$ 129	
55	547	370		93	113		145	151	
60	647	437		110	133		172	179	
65	776	525		132	160		206	215	
70	908	614		155	187		241	251	
75	1,022	691		174	210		272	283	
80	1,118	756		190	230		297	309	
85	1,192	806		203	245		317	330	

V – 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	0.03660	0.03660	0.03713	0.03047	0.02618	0.02267	0.02130	0.02076	0.01827	0.01967	0.01967
30	0.03084	0.03084	0.03170	0.03018	0.02736	0.02412	0.02178	0.02033	0.01817	0.01752	0.01752
35	0.03464	0.03464	0.03600	0.03564	0.03237	0.02795	0.02402	0.02108	0.01845	0.01589	0.01437
40	0.04524	0.04524	0.04695	0.04563	0.04073	0.03419	0.02799	0.02298	0.01907	0.01454	0.00885
45	0.06156	0.06156	0.06306	0.05916	0.05187	0.04269	0.03371	0.02613	0.02006	0.01379	0.00467
50	0.08252	0.08252	0.08319	0.07518	0.06509	0.05315	0.04106	0.03062	0.02174	0.01436	0.00449
55	0.10733	0.10733	0.10668	0.09299	0.07983	0.06525	0.04991	0.03654	0.02432	0.01686	0.01106
60	0.13557	0.13557	0.13322	0.11220	0.09585	0.07887	0.06020	0.04397	0.02790	0.02157	0.02157

Firefighters

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	0.00795	0.01124	0.01296	0.01355	0.01287	0.01124	0.00911	0.00765	0.00680	0.00651	0.00651
30	0.01368	0.01323	0.01236	0.01124	0.01026	0.00948	0.00882	0.00824	0.00773	0.00725	0.00725
35	0.01718	0.01484	0.01298	0.01151	0.01071	0.01049	0.01049	0.01019	0.00947	0.00821	0.00626
40	0.01916	0.01623	0.01467	0.01397	0.01374	0.01385	0.01388	0.01340	0.01199	0.00942	0.00539
45	0.01962	0.01739	0.01742	0.01863	0.01940	0.01961	0.01904	0.01790	0.01533	0.01094	0.00468
50	0.01863	0.01827	0.02118	0.02550	0.02769	0.02777	0.02595	0.02372	0.01953	0.01275	0.00423
55	0.01623	0.01886	0.02592	0.03459	0.03863	0.03836	0.03465	0.03086	0.02460	0.01490	0.00408
60	0.01247	0.01913	0.03164	0.04590	0.05220	0.05135	0.04512	0.03935	0.03057	0.01739	0.00428

V – Assumptions and Methods

RATES OF DISABILITY AND DEATH BEFORE RETIREMENT: Rates of death are based on the RP2000 Combined Table (sex distinct) set back five years. The following sample rates apply to active members:

Age	Annual Rate of:		
	Death Male	Death Female	Disability
	<u>POLICE</u>		
20	.027%	.017%	.002%
30	.038	.021	.177
40	.077	.048	1.102
50	.151	.112	2.359
55	.214	.168	2.583
60	.362	.272	2.513
62	.469	.348	2.545
65	.675	.506	
	<u>FIREFIGHTERS</u>		
20	.027%	.017%	.004%
30	.038	.021	.100
40	.077	.048	.494
50	.151	.112	2.390
55	.214	.168	3.526
60	.362	.272	4.172
62	.469	.348	3.964
65	.675	.506	

OCCURRENCE OF DISABILITY:

On duty permanent and total	35%
On duty partial	61%
Off duty ordinary	4%

V – Assumptions and Methods

RETIREMENT RATES: The following rates apply to members upon reaching eligibility for retirement.

Age	Annual Rate of Retirement	
	Police	Firefighters
48	30%	25%
49	20	15
50	15	15
51	15	15
52	15	15
53	15	20
54	15	20
55	15	20
56	20	20
57	20	20
58	20	20
59	25	25
60	25	25
61	25	25
62	25	30
63	25	30
64	25	30
65	100	100

DROP RETIREMENT RATES: DROP participants are assumed to retire at the retirement rates shown above, with the following exceptions: Second and third years of DROP: 5%, eighth year of DROP: 100%

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

DEFERRED RETIREMENT OPTION PLAN (DROP) ELECTIONS: 85% of members who do not retire when first eligible are assumed to elect DROP.

V – Assumptions and Methods

DEATH AFTER RETIREMENT: According to the RP2000 Combined Table (male only) for pensioners with one-year set forward for police and one-year set back for firefighters. RP2000 Combined Table (female only) with one-year set forward for all beneficiaries. RP2000 Combined Table (male only) for disableds, with six-year set forward for police and four-year set forward for firefighters.

MEMBER PARTICIPATION: 66% of eligible members are assumed to elect coverage. 80% of married members who elect coverage are assumed to elect coverage for their spouses.

PERCENT MARRIED: 85%

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

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.

ASSET VALUATION METHOD: Market value of assets.

PAYROLL GROWTH: Inflation rate of 3.25% plus productivity increase rate of 0.75%.

DATA

CENSUS AND ASSETS: The valuation was based on members of the Fund as of January 1, 2008 and does not take into account future members. All census and asset data was supplied by the Fund.

VI – 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.
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.

VI – Glossary of Terms

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.

VI – Glossary of Terms

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.