

OHIO POLICE & FIRE PENSION FUND
JANUARY 1, 2006
ACTUARIAL VALUATION
OF RETIREE HEALTH CARE BENEFITS
UNDER GASB 43

December 15, 2006

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, 2006 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 Statement No. 43 (GASB 43).

Plan benefits include medical and prescription drug benefits and the Fund's reimbursement of Medicare Part B premiums. The valuation is based on the plan provisions in effect January 1, 2006, including plan changes adopted and effective beginning January 1, 2007.

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, 2006 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 2006 is 15.04% of payroll. This can be compared to the Fund's allocation of employer contribution toward health care benefits equal to 7.75% of payroll. Thus, the contribution allocation is approximately 52% of the ARC for 2006. The funded status (i.e., the ratio of assets to liabilities) of retiree health care benefits is 10.29%.

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,



Kim M. Nicholl, F.S.A.
Principal, Consulting Actuary



Bob Besenhofer, A.S.A.
Director, Health and Welfare

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

**GASB 43 ACTUARIAL VALUATION
JANUARY 1, 2006**

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I – Management 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, 2006 under GASB 43. GASB 43 mandates 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 15.04% of payroll.
- The funded status of the plan as of January 1, 2006, based on the accrued liability and the market value of assets as of that date, is 10.29%.

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

I – Management 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, 2006. The development of this discount rate is summarized on page 15 of the report.

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 and are summarized on page 16 of the report.

All other actuarial assumptions and methods used for this year's valuation are outlined in Table V.

I – Management 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 \$3,334,860,877. The value of assets in the Ohio Police & Fire Health Care Stabilization Fund as of January 1, 2006 is \$343,040,038. The difference the liability and assets is an unfunded accrued liability of \$2,991,820,839.

Health Care Contribution Rate

Ohio Police & Fire allocates a portion of employer contributions to health care. The total employer contribution for 2006 is approximately 21.58% of payroll, of which 7.75% 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 15.04% of payroll. This amount consists of 7.44% for normal cost, plus 7.60% to amortize the unfunded accrued liability of \$2,991,820,839 as a level percentage of payroll over 30 years.

II – Summary of Valuation Results

This section presents detailed results of the January 1, 2006 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 are net of retiree contributions.

- **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, 2005, reconciled with the value as of the end of the prior year. The actuarial value of assets is the market value.
- **Table 3** 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 4** 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, 2006 (\$ Amounts in Thousands)

Item	January 1, 2006
Membership Data	
1. Number of Members	
a) Active Members	27,884
b) Inactive Members	307
c) Retirees, Spouses and Survivors	26,689
d) Children of Current Retirees	<u>1,870</u>
e) Total	56,750
2. Membership Payroll	\$ 1,756,230
Valuation Results	
3. Present Value of Future Benefits	
a) Active Members	\$ 3,103,714
b) Inactive Members	41,745
c) Retirees, Spouses and Beneficiaries	<u>1,758,271</u>
d) Total	\$ 4,903,730
4. Accrued Liability	
a) Active Members	\$ 1,534,845
b) Inactive Members	41,745
c) Retirees, Spouses and Beneficiaries	<u>1,758,271</u>
d) Total	\$ 3,334,861
5. Assets	\$ 343,040
6. Unfunded Liability	\$ 2,991,821
7. Funded Ratio	10.29%
8. Annual Required Contribution	
a) Normal Cost	\$ 130,586
b) Unfunded Accrued Liability	<u>133,516</u>
c) Total Cost	\$ 264,102
9. Annual Required Contribution as Percentage of Payroll	
a) Normal Cost Rate	7.44%
b) Unfunded Accrued Liability Amortization Rate	<u>7.60%</u>
c) Total Cost Rate	15.04%
10. Employer Contribution to Health Care Stabilization Fund	7.75%

II – Summary of Valuation Results

TABLE 2

**HEALTH CARE STABILIZATION FUND
AS OF DECEMBER 31, 2005**
(\$ Amounts in Thousands)

1. Balance as of December 31, 2004	\$ 293,574
2. Contributions During Period January 1, 2005 to December 31, 2005	
(a) Employer	\$ 128,183
(b) Member Premiums	<u>55,272</u>
(c) Total	\$ 183,455
3. Benefits and Administrative Expenses Paid During Period January 1, 2005 to December 31, 2005	\$ 165,847
4. Investment Income	\$ 31,858
5. Balance as of December 31, 2005 (1) + (2) – (3) + (4)	\$ 343,040
6. Rate of Return	10.5%

II – Summary of Valuation Results

TABLE 3

**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
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, 2006.

II – Summary of Valuation Results

TABLE 4

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

Year Ended December 31	Annual Required Contribution	Percentage Contributed
2006	*	*

- * The ARC as a percentage of payroll is 15.04%. The expected contribution is 7.75% of payroll, or about 51.5% of the ARC rate. The ARC amount (dollars) is equal to the ARC rate times the 2006 payroll. The ARC amount and the actual percentage contributed will be determined after 2006 has ended and will be reported in the January 1, 2007 valuation report.

Additional information as of the latest actuarial valuation follows:

Valuation Date:	January 1, 2006
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	3.00%
— Trend Rates:	

	<u>Initial Rate</u>	<u>Ultimate Rate</u>	<u>Ultimate Year</u>
• Pre-Medicare	12.00%	5.00%	2018
• Post-Medicare	8.00%	5.00%	2018
• Rx Drug	14.00%	5.00%	2018
• Medicare Part B	8.00%	5.00%	2018

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

Plan Design Changes Effective January 1, 2007

The following plan design changes, effective January 1, 2007, were approved by the Ohio Police & Fire board on April 7, 2006:

- Elimination of HMO coverage, adoption of one PPO plan and one prescription drug plan with new levels of coinsurance, deductibles, copays and out-of-pocket maximums
- Elimination of coverage for non-sedating antihistamine (NSA) drugs
- Reduce coverage for male erectile dysfunction (MED) drugs to 3 doses per 30 days and increase copays
- Cap coverage for bariatric surgery at \$10,000 and restrict to in-network facilities, maintaining 2 year physician directed weight loss management program prerequisite
- Equalize pre-65 and post-65 retiree contributions for prescription drug coverage
- Spouses of re-employed retirants must enroll in their employers' health coverage, if available, or pay entire premium for Ohio Police & Fire coverage
- Establish lifetime maximum of \$2.5 million.

Eligibility for Coverage

All pension benefit recipients are eligible to enroll in the plan. 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.

III – Retiree Health Care Benefit Provisions

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 health care plan selected, date of retirement, the member's age, years of service and his or her Medicare status.

Member contribution amounts for 2006 are broken into three levels:

- Level 1 – If Member Age + Years of Service is 63 to 77.
- Level 2 – If Member Age + Years of Service is 78 to 82.
- Level 3 – If Age + Years of Service is greater than 82
or the member retired before January 1, 2004
or Coverage is for a person on disability
or Coverage is for a surviving spouse or dependent
or Coverage is for a person who is eligible for Medicare.

As of January 1, 2007 member contribution amounts will change to 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

Medicare Part B Premium Reimbursement

For service and disability retirements, as well as survivors, Ohio Police & Fire reimburses Medicare Part B premiums (\$88.50 per month for 2006) provided the retiree is not eligible for reimbursement from any other sources.

III – Retiree Health Care Benefit Provisions

HEALTH CARE PLANS OFFERED BY OHIO POLICE & FIRE

Types of Plans

For plan year 2006, Ohio Police & Fire offers 3 levels of PPO, HMO and Rx plans. As of January 1, 2007 Ohio Police & Fire will offer one PPO plan and one Rx plan. The plan designs are summarized below:

PPO Medical Plan Coverage:

	2006 Plan Designs			2007 Plan Design
	Option 1	Option 2	Option 3	
In Network Coverage				
Deductible	\$400/\$800	\$200/\$400	\$100/\$200	\$500/\$1,000
Coinsurance	80%	80%	80%	80%
Out-of-Pocket Maximum	\$1,200/\$2,400	\$1,000/\$2,000	\$500/\$750	\$1,500/\$3,000
Office Visit Copay	\$25	\$15	\$10	\$30
Admission Copay	\$250	\$250	\$100	\$250
Out-of-Network Coverage				
Deductible	\$750/\$1,500	\$500/\$1,000	\$250/\$500	\$1,000/\$2,000
Coinsurance	70%	70%	70%	50%
Out-of-Pocket Maximum	\$5,000/\$10,000	\$3,000/\$4,000	\$1,500/\$2,250	\$5,000/\$10,000
Office Visit Copay	70%	70%	70%	50%
Admission Copay	\$250	\$250	\$100	\$250

III – Retiree Health Care Benefit Provisions

Prescription Drug Coverage:

	2006 Plan Designs			2007 Plan Design
	Option 1	Option 2	Option 3	
Retail Pharmacy Option				
Days Supply (as prescribed)	30	30	60	30
Generic	\$5	\$5	\$5	\$5
Brand Name – Preferred	\$10	\$10	\$10	\$20
Brand Name – Non-Preferred	\$15	\$10	\$10	\$30
Mail Service Pharmacy Option				
Days Supply (as prescribed)	90	90	60	90
Generic	\$10	\$10	\$1	\$10
Brand Name – Preferred	\$20	\$20	\$5	\$40
Brand Name – Non-Preferred	\$30	\$20	\$5	\$60

IV – Participant Data

The participant data as of January 1, 2006 is summarized in the following tables:

- **Table 5** summarizes the number of participants by status.
- **Table 6** summarizes the number of active members by age and years of service.
- **Table 7** summarizes the number of retired members — including spouse and surviving spouses of retirees — by health care plan enrollment (for those participants currently enrolled in retiree health care coverage).

IV – Participant Data

TABLE 5

NUMBER OF PARTICIPANTS AS OF JANUARY 1, 2006

Status	Number
Active Members	27,884
Inactive Members	
Eligible for Allowances	307
Retirees and Beneficiaries	
Retirees & Spouses	
Retirees	9,135
Spouses	<u>6,001</u>
Total	15,136
Disability Retirees	
Retirees	4,553
Spouses	<u>2,703</u>
Total	7,256
Children of Current Retirees	1,870
Survivors	4,222
Orphans	75
Total Retirees and Beneficiaries	28,559
GRAND TOTAL	56,750

IV – Participant Data

TABLE 6

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2006

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
Under 25	474 \$41,280	3 \$58,980									477 \$41,391
25-29	1,807 \$49,180	733 \$58,761	2 \$62,934								2,542 \$51,954
30-34	1,386 \$50,321	2,772 \$59,098	665 \$62,806	6 \$65,545							4,829 \$57,098
35-39	658 \$48,955	1,947 \$58,832	2,546 \$62,648	859 \$66,384	16 \$69,995						6,026 \$60,472
40-44	241 \$49,320	690 \$58,306	1,485 \$61,358	2,150 \$65,884	681 \$68,918	13 \$71,057					5,260 \$63,259
45-49	99 \$50,319	234 \$56,536	510 \$60,626	1,023 \$63,770	1,486 \$68,906	756 \$72,967	22 \$80,364				4,130 \$66,269
50-54	29 \$49,342	84 \$54,761	173 \$58,648	361 \$61,881	748 \$66,621	1,223 \$70,984	390 \$75,568	10 \$86,396			3,018 \$68,091
55-59	18 \$48,461	32 \$53,614	64 \$54,374	114 \$61,550	157 \$61,689	312 \$65,799	436 \$72,703	140 \$74,951			1,273 \$67,157
60-64	4 \$47,638	9 \$54,093	13 \$50,420	17 \$56,665	27 \$55,850	27 \$63,788	78 \$70,408	89 \$71,674	12 \$71,498		276 \$66,142
Over 64	3 \$ 67,497	1 \$ 67,270	3 \$ 70,756	5 \$ 46,580	1 \$ 52,802	1 \$ 65,181	2 \$ 63,286	18 \$ 69,573	19 \$ 74,253		53 \$ 68,351
Total	4,719 \$48,730	6,505 \$58,716	5,461 \$61,879	4,535 \$65,018	3,116 \$67,884	2,332 \$70,848	928 \$73,875	257 \$73,885	31 \$73,187		27,884 \$61,370

IV – Participant Data

TABLE 7

CURRENT ENROLLMENT OF RETIRED PARTICIPANTS AS OF JANUARY 1, 2006

	Option 1				Option 2				Option 3				Prescription Drug Only	Total
	PPO	Aetna HMO	Kaiser HMO	Paramount HMO	PPO	Aetna HMO	Kaiser HMO	Paramount HMO	PPO	Aetna HMO	Kaiser HMO	Paramount HMO		
Level 1														
Not Eligible for Medicare														
Benefit Recipients	82	6	1	-	26	2	-	-	94	3	-	-	4	218
Spouses	41	1	-	-	10	1	-	-	45	-	-	-	4	102
Children	78	2	-	-	23	2	-	-	69	-	-	-	5	179
Level 2														
Not Eligible for Medicare														
Benefit Recipients	40	-	2	-	9	-	-	-	39	-	-	-	1	91
Spouses	22	-	1	-	6	-	-	-	20	-	-	-	-	49
Children	8	-	2	-	3	-	-	-	14	-	-	-	-	27
Level 3														
Not Eligible for Medicare														
Benefit Recipients	2,523	768	119	64	313	108	21	13	2,536	394	19	30	92	7,000
Spouses	1,628	506	74	42	230	58	18	10	1,813	243	10	24	70	4,726
Children	635	218	40	15	83	29	3	4	481	84	7	10	22	1,631
Eligible for Medicare														
Benefit Recipients	4,409	108	98	55	632	8	48	11	5,123	84	39	60	-	10,675
Spouses	1,422	31	43	25	266	4	23	6	1,946	28	12	22	-	3,828
Children	19	1	-	-	3	-	-	-	9	-	-	1	-	33
Total	10,907	1,641	380	201	1,604	212	113	44	12,189	836	87	147	198	28,559

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%

<u>Based on Percentage of ARC Contributed</u>		<u>Case 1</u>	<u>Case 2</u>
1. Contribution Allocated to Health Care	=	7.75%	6.75%
2. Annual Required Contribution (Estimate)	=	15.04%	15.04%
3. Portion of ARC Contributed: (1) / (2)	=	51.5%	44.9%
4. Multiplied by long-term investment return	=	4.25%	3.70%
5. Portion of ARC not Contributed: 100% - (3)	=	48.5%	55.1%
6. Multiplied by short-term investment return	=	1.94%	2.20%
7. Total: (4) + (6)	=	6.19%	5.90%

The current contribution to the health care fund is 7.75% of payroll as represented in Case 1. The Ohio Police & Fire Board has considered decreasing the contribution to 6.75% in conjunction with the plan design changes effective January 1, 2007 as represented in Case 2.

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. The starting per-capita costs are assumed to increase by the following percentages each year.

Year	Medical		Rx Drug	Medicare Part B
	Pre-Medicare	Post-Medicare		
2006	12.00	8.00	14.00	8.00
2007	11.50	7.75	13.00	7.75
2008	11.00	7.50	12.00	7.50
2009	10.00	7.25	11.00	7.25
2010	9.00	7.00	10.00	7.00
2011	8.50	6.75	9.00	6.75
2012	8.00	6.50	8.00	6.50
2013	7.50	6.25	7.50	6.25
2014	7.00	6.00	7.00	6.00
2015	6.50	5.75	6.50	5.75
2016	6.00	5.50	6.00	5.50
2017	5.50	5.25	5.50	5.25
2018 and Later	5.00	5.00	5.00	5.00

V – Assumptions and Methods

PER CAPITA HEALTH CARE COSTS: Based on the 2006 premium rates, the health care costs were analyzed in total. Underlying claim costs, therefore, reflect the weighted average cost based on the current enrollment, in each of the benefit plans described in Section III. Costs were assumed to follow Buck Consultants’ “standard” pattern of increases (and decreases) due to aging. All benefit recipients were assumed to be eligible for Medicare on attainment of age 65.

	2006 Gross Monthly Costs at Age 65			2007 Gross Monthly Costs at Age 65		
	Benefit Recipient	Spouse	Children	Benefit Recipient	Spouse	Children
PPO						
Non-Medicare						
• Option 1	\$ 520	\$ 375	\$ 92	\$ 738	\$ 505	\$ 423
• Option 2	754	538	128			
• Option 3	1,162	820	193			
Medicare						
• Option 1	61	51	56	\$ 86	\$ 76	\$ 72
• Option 2	96	81	82			
• Option 3	145	120	122			
Composite HMO						
Non-Medicare						
• Option 1	454	318	210	N/A	N/A	N/A
• Option 2	475	331	207	N/A	N/A	N/A
• Option 3	493	345	226	N/A	N/A	N/A
Medicare						
• Option 1	208	187	229	N/A	N/A	N/A
• Option 2	195	197	189	N/A	N/A	N/A
• Option 3	232	209	216	N/A	N/A	N/A
Rx						
Non-Medicare						
• Option 1	206	183	26	\$ 250	\$ 238	\$ 110
• Option 2	282	251	38			
• Option 3	438	390	60			
Medicare						
• Option 1	168	174	169	\$ 182	\$ 195	\$ 186
• Option 2	197	204	197			
• Option 3	300	309	300			

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	0.02440	0.02440	0.02475	0.02031	0.01745	0.01511	0.01420	0.01384	0.01218	0.01311	0.01311
30	0.02056	0.02056	0.02113	0.02012	0.01824	0.01608	0.01452	0.01355	0.01211	0.01168	0.01168
35	0.02309	0.02309	0.02400	0.02376	0.02158	0.01863	0.01601	0.01405	0.01230	0.01059	0.00959
40	0.03017	0.03017	0.03130	0.03043	0.02715	0.02279	0.01866	0.01532	0.01271	0.00969	0.00590
45	0.04104	0.04104	0.04204	0.03944	0.03458	0.02846	0.02247	0.01742	0.01337	0.00919	0.00311
50	0.05501	0.05501	0.05546	0.05012	0.04339	0.03543	0.02737	0.02041	0.01449	0.00957	0.00299
55	0.07155	0.07155	0.07112	0.06199	0.05322	0.04350	0.03327	0.02436	0.01621	0.01124	0.00737
60	0.09038	0.09038	0.08881	0.07480	0.06390	0.05259	0.04013	0.02931	0.01860	0.01438	0.01438

Firefighters

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	0.00530	0.00749	0.00864	0.00903	0.00858	0.00749	0.00607	0.00510	0.00453	0.00434	0.00434
30	0.00912	0.00882	0.00824	0.00749	0.00684	0.00632	0.00588	0.00549	0.00515	0.00483	0.00483
35	0.01145	0.00989	0.00866	0.00767	0.00714	0.00699	0.00699	0.00679	0.00631	0.00547	0.00417
40	0.01277	0.01082	0.00978	0.00931	0.00916	0.00923	0.00925	0.00893	0.00799	0.00628	0.00359
45	0.01308	0.01159	0.01161	0.01242	0.01293	0.01307	0.01269	0.01193	0.01022	0.00729	0.00312
50	0.01242	0.01218	0.01412	0.01700	0.01846	0.01851	0.01731	0.01581	0.01302	0.00850	0.00282
55	0.01082	0.01257	0.01728	0.02306	0.02575	0.02557	0.02310	0.02057	0.01640	0.00993	0.00272
60	0.00831	0.01275	0.02109	0.03060	0.03480	0.03423	0.03008	0.02623	0.02038	0.01159	0.00285

V – Assumptions and Methods

RATES OF DISABILITY AND DEATH BEFORE RETIREMENT: Rates of death are based on the 1994 Group Annuity Mortality Table (sex distinct) set back five years for male police officers and seven years for male firefighters and set forward three years for female police officers and female firefighters. The following sample rates apply to active members.

Age	Annual Rate of:		
	Death Male	Death Female	Disability
<u>POLICE</u>			
20	.034%	.029%	.002%
30	.066	.042	.124
40	.085	.088	.708
50	.158	.191	2.533
55	.258	.336	4.270
60	.442	.668	6.546
62	.558	.864	7.662
65	.798	1.176	
<u>FIREFIGHTERS</u>			
20	.025%	.029%	.004%
30	.059	.042	.067
40	.085	.088	.379
50	.135	.191	2.939
55	.210	.336	5.270
60	.358	.668	7.610
62	.442	.864	8.530
65	.630	1.176	

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%	30%
49	20	20
50	20	20
51	20	20
52	20	20
53	20	25
54	20	25
55	20	25
56	20	25
57	20	25
58	20	25
59	25	30
60	25	30
61	25	30
62	25	35
63	25	35
64	25	35
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: 0%, 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: All members who do not retire when first eligible are assumed to elect DROP.

V – Assumptions and Methods

DEATH AFTER RETIREMENT: According to the 1994 Group Annuity Mortality Table (male only) with one-year set forward for all pensioners. 1994 Group Annuity Mortality Table (female only) with two-year set forward for all beneficiaries. 1994 Group Annuity Mortality Table (male only) for disableds, with six-year set forward for police and five-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: Male spouses are assumed to be three years older than female spouses.

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% plus productivity increase rate of 1%.

DATA

CENSUS AND ASSETS: The valuation was based on members of the Fund as of January 1, 2006 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.”
Optional Allowance	Payment of the retirement benefit in a joint and survivor form of benefit or an annuity certain form of benefit. The joint and survivor annuity provides monthly income to the retired member and to a beneficiary upon the member’s death. The annuity certain provides a monthly benefit for the life of the retiree and for a guaranteed minimum number of years. If the retiree dies before the guaranteed period expires, monthly benefits are paid to a beneficiary for the balance of the time remaining.
Pension Normal Cost Rate	The annual cost of the pension benefits that accrue during the year. The normal cost is the amount necessary to be contributed to pay for the pension 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).

VI – Glossary of Terms

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.
Setback in Age	Used in applying rates of mortality. Setback 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.