

October 2004

**The Fire and Police Employees'
Retirement System of the City of
Baltimore**

Actuarial Valuation Report for June 30, 2004

MERCER

Human Resource Consulting

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Executive Summary

Mercer Human Resource Consulting is pleased to provide the annual actuarial valuation report of the **Fire and Police Employees' Retirement System of the City of Baltimore** as of June 30, 2004. We have identified some of the more significant results and changes from the 2003 valuation as follows:

Key Results and Changes
<ul style="list-style-type: none">▪ Investments other than the Paid Up Benefit Fund and Contingency Reserve Fund gained 16.2610%.▪ 1.9% increase in City's recommended contribution▪ Variable benefit increase of 4.05% assuming that the new funds can be invested at 6.8% or that surplus is available in the Paid Up Benefit Fund and will be used.

The 2004 valuation determines the City's recommended contribution for FY 2006. A key result of the valuation is a 1.9% increase in the City's contribution from \$48,321,205 for FY 2005 to \$49,248,316 for FY 2006 despite decreases in the number and payroll of active members. The increase primarily is due to the fact that the total contribution was not offset by any credit transfers from the Contingency Reserve Fund.

The net investment return during FY 2004 was a gain of 16.2610% compared to our long range assumption of 8.25%. There will be a variable benefit increase of 4.05% effective January 2005.

Executive Summary *(continued)*

Assets

The market value of assets increased \$130,245,489 (from \$1,769,796,311 to \$1,900,041,800) during the 2003-2004 fiscal year. The receipts and disbursements of the fund were as follows:

Adjusted fund balance at 7/1/2003		\$1,769,796,311
Contributions		\$58,120,321
Member	\$15,421,155	
Employer	42,699,166	
Investment income		\$225,149,684
Interest, dividends and realized capital gains	\$149,713,550	
Unrealized gains (losses)	82,099,924	
Expenses	(6,663,790)	
Benefit payments and refunds		(\$153,024,516)
Adjusted fund balance at 6/30/2004		\$1,900,041,800

Earnings above or below the valuation interest assumption are identified separately. The excess earnings are calculated by the "asset averaging method" referred to in Article 22(36)(j) of the Baltimore City Code. This method uses one-fifth of the excess earnings for the year to adjust the unfunded actuarial liability in the current year. The other four-fifths of the excess earnings have been used for purposes such as benefit improvements, contribution reductions and changes in actuarial assumptions.

Note that the smoothed, Actuarial Value of Assets for the June 30, 2004 valuation exceeds market value by \$377 million (the net of the negative balances in the Employer Reserve Fund (ERF) and Benefit Improvement Fund (BIF) and the positive balance in the Minimum Stabilization Fund (MSF)) or 24% of market value (other than the Paid Up Benefit Fund and Contingency Reserve Fund). Since the ERF, BIF and MSF expire on June 30, 2005, the negative balance must be dealt with in the next valuation.

For more details on assets, see pages 8 through 12.

Executive Summary *(continued)*

Valuation Summary

The major components of the City's costs, both as a dollar amount and a percentage of payroll, are shown below, together with the corresponding figures from the June 30, 2003 report for comparison:

	2003 Valuation Applies to FY2005		2004 Valuation Applies to FY2006	
	Amount	Percent ¹	Amount	Percent ¹
Normal cost	\$38,336,810	15.69%	\$38,321,393	15.98%
Amortization of unfunded actuarial liability over 20 years	7,767,452	3.18%	7,173,587	2.99%
Reduction due to transfer from Contingency Reserve Fund	(1,465,736)	(0.60%)	0	0%
Interest to 7/1/2004 (2005)	3,682,679	1.51%	3,753,336	1.56%
Total lump sum contribution	\$48,321,205	19.78%	\$49,248,316	20.53%

The above amounts are based on amortizing the unfunded actuarial liability over a rolling 20-year period, as approved by the Trustees in 1992.

The State has employees at BWI airport who participate in the plan. Contributions for the 26 airport employees are billed to the State. The State's cost increased from \$319,481 for FY 2005 to \$354,502 for FY 2006. The combined City and State contribution for FY 2006 is \$49,602,818. This amount is increased for interest if the payment is made after the first day of the 2006 fiscal year.

For more details on the valuation, see page 14.

¹ Payroll for City Members is \$244,299,234 at 6/30/2003 and \$239,850,414 at 6/30/2004.

Executive Summary *(continued)*

Variable Benefit Calculation

The retirement ordinance provides for an increase in benefits to certain retirees and beneficiaries whenever the investment performance² exceeds 7.5%. During FY 2004, the fund gained 16.2610%. As a result, there will be a 4.05% increase in benefits for this group of participants assuming that the new funds can be invested at 6.8% or higher or that surplus is available in the Paid Up Benefit Fund and will be used.

Future increases will depend on future investment performance.

For more details on the variable benefit calculation, see page 23.

Plan Membership

We have reconciled the plan membership from the previous year to this year.

Changes in active membership statistics from last year are as follows:

Plan Statistics	2003	2004	% change
# of active members	4,875	4,778	(1.99%)
Total payroll	\$245,711,363	\$241,245,198	(1.82%)
Average salary	\$50,402	\$50,491	0.18%
Average age	38.75	38.55	(0.52%)
Average service	12.88	12.56	(2.48%)

² Performance excludes earnings in Paid up Benefit Fund and Contingency Reserve Fund

Executive Summary *(continued)*

There were 5,430 persons receiving benefits from the plan at June 30, 2004, which is up from 5,253 at June 30, 2003. Average annual benefits have increased to \$24,170. The types of retirement and average benefits appear on the following chart:

Type of Retirement	Number of Retirees			Average Benefit Amount		
	2003	2004	% increase	2003	2004	% increase
Normal Service Retirement	2,987	3,155	6%	\$28,313	\$29,368	4%
Discontinued Service	6	6	0%	22,643	22,643	0%
Early Retirement	18	18	0%	18,130	18,130	0%
Non-Line-of-Duty Disability	323	314	(3%)	15,881	15,710	(1%)
Line-of-Duty Disability	641	634	(1%)	25,235	25,636	2%
Beneficiaries of Above	1,030	1,058	3%	10,872	11,086	2%
Non-Line-of-Duty Death	178	175	(2%)	15,850	16,147	2%
Line-of-Duty Death	70	70	(0%)	33,309	34,014	2%
Total	5,253	5,430	3%	\$23,356	\$24,170	3%

For more details on plan membership, see pages 16 through 21.

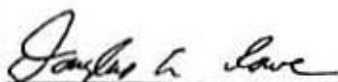
Actuarial Certification

The valuation is based on employee and financial data which were provided by the Retirement Systems Office and which are summarized in this report.

All costs, liabilities, and other factors under the Plan were determined in accordance with generally accepted actuarial principles and procedures, using an actuarial cost method which we believe is appropriate. In our opinion, the actuarial assumptions are reasonable and represent our best estimate of the anticipated experience under the Plan. This report fully and fairly discloses the actuarial position of the Plan on an ongoing basis.

There have been no changes in actuarial assumptions, plan provisions or actuarial methods since the last valuation of the Plan as of June 30, 2003.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.



Douglas L. Rowe, FSA, MAAA, EA

October 13, 2004

Date



Ann M. Sturner, ASA, MAAA, EA

October 13, 2004

Date

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Section 1: Assets

Highlights
<ul style="list-style-type: none">▪ Total fund increased by \$130 million during FY 2004▪ Total fund's investments earned \$225 million net of expenses during FY 2004; investment losses in the Paid Up Benefit Fund and Contingency Reserve Fund combined were almost \$4 million.▪ The Fund earned above the weighted average assumed return▪ The large deficits in the Employer Reserve Fund and Benefit Improvement Fund continued to grow because the investment gain was credited to the Minimum Stabilization Fund.

Section 1: Assets (continued)

The funds shown on the next page serve the following purpose:

- Annuity Savings Fund (ASF) – contains member contributions for active members
- Annuity Reserve Fund (ARF) – contains retired member contributions
- Pension Accumulation Fund (PAF) – contains City contributions for actives. The Minimum Stabilization Fund (MSF) is a portion of the PAF.
- Pension Reserve Fund (PRF) – contains City contributions for retired members; adjusted annually by transfers to/from PAF so that ARF plus PRF equals the actuarial present value of retiree benefits
- ³Paid Up Benefit Fund (PuBF) – contains assets to pay for variable benefit increases already granted
- ³Contingency Reserve Fund (CRF) – safety net for PuBF

³ These funds are invested in fixed income investments only. They generally receive a transfer annually based on ARF plus PRF returns in excess of 7.5%. The CRF never exceeds 2.5% of the ARF plus PRF.

Section 1: Assets (continued)

The Assets of the Plan as of June 30, 2004

Based upon unaudited financial data furnished by the Retirement Systems Office, the change in market value of assets of the six funds during the valuation year ending June 30, 2004 is summarized as follows:

	Annuity Savings Fund	Annuity Reserve Fund	Pension Accumulation Fund	Pension Reserve Fund	Paid Up Benefit Fund*	Contingency Reserve Fund*	Total
Fund Balance on 6/30/2003	\$197,937,018	\$169,260,242	\$260,178,042	\$813,051,928	\$301,873,331	\$27,495,750	\$1,769,796,311
Transfers	\$0	(\$143,298)	(\$56,957,567)	\$58,577,946	\$0	(\$1,477,081)	\$1
Adjusted Fund Balance on 6/30/2003	\$197,937,018	\$169,116,944	\$203,220,475	\$871,629,874	\$301,873,331	\$26,018,669	\$1,769,796,311
Contributions							
Member City and State	\$15,421,155	\$0	\$0	\$0	\$0	\$0	\$15,421,155
	\$0	\$0	\$42,699,166	\$0	\$0	\$0	\$42,699,166
Net Investment Income							
Interest, Dividends, and Realized Capital Gains	\$10,996,741	\$11,225,256	\$56,524,038	\$57,954,673	\$11,422,243	\$1,590,599	\$149,713,555
Unrealized Gains (Losses)	\$0	\$0	\$98,862,144	\$0	(\$15,299,771)	(\$1,462,449)	\$82,099,922
Expenses	\$0	\$0	(\$6,608,433)	\$0	(\$49,712)	(\$5,645)	(\$6,663,790)
Total Investment Income	\$10,996,741	\$11,225,256	\$148,777,749	\$57,954,673	\$(3,927,240)	\$122,505	\$225,149,666
Transfer for Member Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$
Transfer for Annuities Awarded and Military Leave	(\$23,105,339)	\$23,105,339	\$0	\$0	\$0	\$0	\$
Payments of Benefits & Refunds	(\$3,787,543)	(\$16,674,351)	(\$22,051,796)	(\$83,428,709)	(\$27,082,117)	\$0	(\$153,024,511)
Fund Balance on 6/30/2004	\$197,462,032	\$186,773,188	\$372,645,594	\$846,155,838	\$270,863,974	\$26,141,174	\$1,900,041,811
Transfers	\$0	\$1,772,052	(\$172,606,913)	\$113,613,604	\$54,654,564	\$2,566,693	\$
Adjusted Fund Balance on 6/30/2004	\$197,462,032	\$188,545,240	\$200,038,681	\$959,769,442	\$325,518,538	\$28,707,867	\$1,900,041,811

* Excluded from valuation

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Section 1: Assets *(continued)***Development of Investment Gain (Loss)**

1. Mean assets (see Section 4)	\$1,407,993,272
2. Investment return (see Section 4)	16.2610%
3. Investment gain (loss)	
a. Relative to 0.00%: [(2) - 0.00%] x (1)	\$228,953,786
b. Relative to 6.80%: [(2) - 6.80%] x (1)	\$133,210,243
c. Relative to 8.25%: [(2) - 8.25%] x (1)	\$112,794,341
4. Funds as a portion of market value of assets (excluding PuBF and CRF) at the beginning of the year	
a. MSF/MVA	0.000000
b. (ARF + PRF)/MVA	0.721786
c. (ASF + PAF - MSF)/MVA	0.278214
d. Total: (a) + (b) + (c)	1.000000
5. Gain (Loss) allocation (beginning of the year)	
a. MSF: (3a) x (4a)	\$0
b. ARF and PRF: (3b) x (4b)	\$96,149,288
c. ASF and (PAF - MSF): (3c) x (4c)	\$31,380,965
d. Total: (a) + (b) + (c)	\$127,530,253
6. Interest for Benefit Improvement and Employer Reserve Funds	(\$33,023,252)
7. Total investment gain (loss): (5d) + (6)	\$94,507,001

Section 1: Assets (continued)

Development of Unallocated Earnings

Ordinance 97-164 sets up two funds – the Employer Reserve Fund and the Benefit Improvement Fund – which are credited with unallocated earnings, beginning with the \$50 million excess earnings from the June 30, 1996 valuation. As of June 30, 1997, a minimum stabilization fund was established within each Fund. Ordinance 00-49 provides for increases in the minimum stabilization funds annually from 2000 through 2003. The details of these Funds are shown below.

Date of Valuation	6/30/2003	6/30/2004
Investment gain (loss)	(\$132,356,750)	\$94,507,001
Variable benefit funds	0	(57,221,257)
Interest for Benefit Improvement and Employer Reserve Funds	23,893,465	33,023,252
One-fifth (credit) charge	21,692,657	(14,061,799)
Unallocated earnings for year	(\$86,770,628)	\$56,247,197

Schedule of Unallocated Earnings

	Employer Reserve Fund	Benefit Improvement Fund	Total
Unallocated excess earnings as of 6/30/2003	(\$234,691,286)	(\$165,590,557)	(\$400,281,843)
Interest for one year at 8.25%	(19,362,031)	(13,661,221)	(33,023,252)
Reduction of FY 2004 City Contribution	0	0	0
Unallocated FY 2004 earnings	0	0	0
Cumulative unallocated excess earnings 6/30/2004	(\$254,053,317)	(\$179,251,778)	(\$433,305,095)

The large investment loss in FY 2001 wiped out the Minimum Stabilization Funds and created negative balances in the ERF and BIF. The positive unallocated FY 2004 earnings are first applied to the Minimum Stabilization Fund until the target amounts are met before being applied to the ERF and the BIF.

Any negative combined balance in the ERF, BIF and MSF "at June 30, 2005, shall be applied by the Board of Trustees in accordance with an appropriate asset valuation method, as recommended by the System's actuary."

Section 1: Assets (continued)**Minimum Stabilization Fund**

	Employer Reserve Fund	Benefit Improvement Fund	Total
Fund Balance 6/30/2003	\$ 0	\$ 0	\$ 0
Unallocated earnings	37,498,131	18,749,066	56,247,197
Fund Balance 6/30/2004	\$37,498,131 ⁴	\$18,749,066 ⁴	\$56,247,197

The actuarial value of assets used to calculate the unfunded actuarial liability is developed as follows:

Actuarial Value of Assets	
Assets in the Fund: 6/30/2004	\$1,900,041,800
Paid-up benefit fund	(325,518,538)
Contingency reserve fund	(28,707,867)
Net unallocated earnings as of 6/30/2004	433,305,095
Balance in minimum stabilization fund as of 6/30/2004	(56,247,197)
Reserve for future costs under Ordinance 98-319	(5,393,186)
Transfer from CRF for contribution reduction	0
Present value of prior year's contribution not yet paid	48,321,205
Actuarial value of assets on 6/30/2004	\$1,965,801,312

⁴ The target stabilization fund amounts at 6/30/2004 were \$66,700,000 for the ERF and \$33,300,000 for the BIF.

Section 2: Valuation Summary

Highlights
<ul style="list-style-type: none">▪ City contribution increased 1.9% from \$48.3 million in FY 2005 to \$49.2 million in FY 2006.▪ Total (City plus State) unfunded liability decreased from \$81.7 million on 6/30/2003 to \$75.5 million on 6/30/2004.▪ Total (City plus State) Net Normal Cost was unchanged at \$38.6 million.

Section 2: Valuation Summary (continued)**Valuation Summary**

As of June 30, 2004

	<u>Airport Members</u>	<u>City Members</u>	<u>Total</u>
Number of Participants			
Active	26	4,752	4,778
Service retired	N/A	N/A	3,179
Disabled	N/A	N/A	948
Beneficiaries	N/A	N/A	<u>1,303</u>
Total participants	N/A	N/A	10,208
Annual compensation of active participants	\$1,394,784	\$239,850,414	\$ 241,245,198
Development of Normal Cost and Actuarial Liability			
Actuarial liability			
Actives	\$7,698,178	\$885,283,434	\$ 892,981,612
Service retired	N/A	N/A	884,786,273
Disabled	N/A	N/A	154,817,143
Beneficiaries	N/A	N/A	<u>108,711,266</u>
Total	N/A	N/A	\$2,041,296,294
Less: actuarial value of assets	<u>N/A</u>	<u>N/A</u>	<u>1,965,801,312</u>
Unfunded actuarial liability	\$ 650,824	\$ 74,844,158	\$ 75,494,982
Net normal cost	\$ 265,105	\$ 38,321,393	\$ 38,586,498
Development of contribution payable for the fiscal year beginning July 1, 2005			
Net normal cost	\$ 265,105	\$ 38,321,393	\$ 38,586,498
Twenty-year amortization of Unfunded Actuarial Liability	\$ 62,380	\$ 7,173,587	\$ 7,235,967
Net plan cost at 7/1/2004	\$ 327,485	\$ 45,494,980	\$ 45,822,465
Interest to 7/1/2005	<u>27,017</u>	<u>3,753,336</u>	<u>3,780,353</u>
Net plan cost at 7/1/2005	\$ 354,502	\$ 49,248,316	\$ 49,602,818

Section 3: Plan Membership

Highlights
<ul style="list-style-type: none"><li>▪ Active membership decreased 2.0% from 4,875 to 4,778<li>▪ Active payroll decreased 1.8% from \$246 million to \$241 million<li>▪ Average salary increased 0.18% from \$50,402 to \$50,491<li>▪ Inactive participants increased from 108% to 114% of active membership

Section 3: Plan Membership *(continued)*

Plan Membership

This section contains tables which summarize the data used in the valuation. The data, which was supplied by the Retirement System office, has been edited by Mercer to ensure as high a degree of accuracy as possible.

A reconciliation chart is included on page 17, which traces the active membership through the year, showing the exits and entrances by category. The members are grouped by age and service in a chart on page 18.

The retired member data are displayed in charts on pages 19, 20 and 21.

Section 3: Plan Membership (continued)**Reconciliation of Active F&P Members**

A.	Active members as of June 30, 2003	4,875
B.	Exits:	
	1. Terminations: Non-vested	103
	2. Transfers Out	0
	3. Leaves: Other	1
	4. Prior Incorrect Inclusions	0
	5. Deaths: Ordinary with no Survivor	1
	Accidental with Survivor	0
	Ordinary with Survivor	1
	6. Retirements: Service	235
	7. Disablements: Ordinary	3
	Special	20
	Special - 100%	0
	Pending	0
	8. Other Exits Hired and Terminated During Year	0
	9. Subtotal (all exits):	<u>364</u>
C.	Remaining Active (A - B.9)	4,511
D.	Entrances:	
	1. New Entrants	257
	2. Prior Omissions	0
	3. Transfers In	2
	4. Restorations: Pending	1
	Leave	0
	Retirement	0
	Disability-Ordinary	0
	Disability-Special	0
	Other Termination	<u>7</u>
	5. Subtotal (all entrances):	<u>267</u>
E.	Active Members as of June 30, 2004 (C + D.5)⁵	4,778
F.	Members included in valuation as of June 30, 2004 (E + Pending disablements in B.7)	4,778

⁵ Includes 13 participants on military leave.

Section 3: Plan Membership *(continued)***Average Earnings for Active Service Groups by Age Groups**

Age Group	Service Group									TOTAL	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
0-19											0
20-24	174 34,859	1 44,663									175 34,915
25-29	424 38,239	168 47,598	3 48,097								595 40,932
30-34	289 39,282	400 49,016	274 52,474	2 53,393							965 47,092
35-39	136 39,427	225 48,988	429 52,274	232 56,187	5 55,156						1,027 50,750
40-44	58 40,832	71 48,464	194 51,223	289 55,237	170 59,815	5 61,063					787 53,601
45-49	27 45,711	31 48,576	60 49,923	117 53,691	266 59,185	86 63,593	13 62,548				600 56,738
50-54	5 46,087	12 48,130	25 51,976	45 52,296	105 56,867	118 60,855	104 64,136	2 72,058			416 58,718
55-59	2 42,044	3 54,125	3 55,621	11 53,757	30 55,879	22 60,097	71 62,893	27 66,272			169 60,698
60-64		1 51,464	3 51,489		4 53,994	1 8,971	12 51,638	7 59,471	5 57,848		33 53,214
65-69						1 8,971	1 57,983	4 60,304	3 57,983		9 53,569
70-74								1 9,175	1 57,983		2 33,579
75+											0
TOTAL	1,115 38,485	912 48,693	991 51,969	696 55,075	580 58,708	233 61,353	201 62,818	41 63,418	9 57,908		4,778 50,491

Total Earnings: \$241,245,198

Average Age: 38.55

Average Service: 12.56

Section 3: Plan Membership *(continued)***Reconciliation of Retired Fire and Police Members and their Beneficiaries**

	<u>Retired</u>		<u>Disabled</u>		<u>Total</u>
	<u>Primary</u>	<u>Beneficiary</u>	<u>Primary</u>	<u>Beneficiary</u>	
A. Members as of June 30, 2003	3,011	851	964	427	5,253
B. Exits:					
1. Beneficiary Payments Ceased	0	0	0	0	0
2. Returned to Active Membership	0	0	0	0	0
3. Prior Incorrect Inclusion	0	0	0	0	0
4. Deaths:					
Primary with no Survivor	11	0	10	0	21
Beneficiary	0	33	0	22	55
Primary with Survivor	<u>56</u>	<u>0</u>	<u>26</u>	<u>0</u>	<u>82</u>
5. Subtotal (all exits)	67	33	36	22	158
C. Remaining Members (A - B.5)	2,944	818	928	405	5,095
Adjustments	(2)	(3)	(5)	0	(10)
Adjusted Remaining Members	2,942	815	923	405	5,085
D. Entrances:					
1. New Entrants: Primary	235	0	23	0	258
2. Active Death: Beneficiary	0	1	0	0	1
3. Beneficiary Assumes Payments	0	56	0	26	82
4. Prior Omissions	2	0	2	0	4
5. Ex-Spouse Receiving Payments	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
6. Subtotal (all entrances):	237	57	25	26	345
E. Members as of June 30, 2004 (C + D.6)	3,179	872	948	431	5,430

Section 3: Plan Membership *(continued)*

**Schedule of Benefit Recipients by Attained Age and Type of Retirement
F&P
June 30, 2004 - PRIMARY MEMBERS**

AGE	Total	Type of Retirement ⁶					
		NR	ER	DS	ODis	SD	S100
0-24	0	0	0	0	0	0	0
25-29	2	0	0	0	0	2	0
30-34	13	0	0	0	2	11	0
35-39	42	2	0	1	17	21	1
40-44	93	40	0	2	15	36	0
45-49	188	139	0	1	13	35	0
50-54	441	370	0	1	23	47	0
55-59	811	697	0	1	26	87	0
60-64	652	536	0	0	37	79	0
65-69	574	438	9	0	48	77	2
70-74	551	393	6	0	55	96	1
75-79	450	312	2	0	44	91	1
80-84	223	161	1	0	27	34	0
85 and up	<u>87</u>	<u>67</u>	<u>0</u>	<u>0</u>	<u>7</u>	<u>13</u>	<u>0</u>
Totals	4,127	3,155	18	6	314	629	5
Average Annual Benefit	\$27,697	\$29,368	\$18,130	\$22,643	\$15,710	\$25,471	\$46,455

⁶ Type of Retirement

NR	Normal Retirement for age and service
ER	Early Retirement
DS	Discontinued Service
ODis	Non-Line-of-Duty Disability
SD	Line-of-Duty Disability
S100	Line-of-Duty Disability 100% of Compensation

Section 3: Plan Membership *(continued)*

Schedule of Benefit Recipients by Attained Age and Type of Retirement
F&P
June 30, 2004 - BENEFICIARIES

AGE	Total	Type of Retirement									
		NR	ER	DS	ODis	SD	ODR ⁷	OD ⁸	OD ⁹	SDth ¹⁰	S100
0-19 ¹¹	25	2	0	0	2	6	1	1	10	3	0
20-24	4	1	0	0	0	0	0	0	2	1	0
25-29	0	0	0	0	0	0	0	0	0	0	0
30-34	3	0	0	0	0	0	0	0	1	2	0
35-39	3	0	0	0	0	0	0	0	0	3	0
40-44	18	10	0	0	0	2	2	1	1	2	0
45-49	36	13	0	0	5	5	5	4	1	3	0
50-54	75	41	0	1	10	4	9	5	1	4	0
55-59	102	52	0	0	11	10	7	9	2	11	0
60-64	122	57	1	0	18	16	9	13	0	8	0
65-69	150	61	1	0	24	35	14	8	0	7	0
70-74	214	91	1	0	52	44	19	3	0	4	0
75-79	227	105	0	0	39	50	17	5	1	10	0
80-84	198	114	1	0	31	29	11	2	0	9	1
85 and up	126	75	0	0	16	21	9	2	0	3	0
Totals	1,303	622	4	1	208	222	103	53	19	70	1
Average Annual Benefit	\$12,998	\$11,855	\$8,032	\$10,416	\$8,897	\$11,012	\$19,488	\$9,864	\$15,562	\$34,014	\$17,699

⁷ Non-Line-of-Duty Death member eligible for Service Retirement

⁸ Non-Line-of-Duty Death prior to 7/1/91.

⁹ Non-Line-of-Duty Death with 25% of compensation.

¹⁰ Line-of-Duty Death

¹¹ Beneficiaries in this age group are children of deceased members.

Section 4: Variable Benefit Calculation

Highlights
<ul style="list-style-type: none">▪ Increase of 4.05% in January 2005 assuming that the new funds can be invested at 6.8% or that surplus is available in the Paid Up Benefit Fund and will be used.▪ Members and beneficiaries retired before July 1, 2002 are eligible. For members who retire from DROP, date of DROP participation is used to measure length of time retired.

Abbreviations used in the following table:

MV = Market Value
PuBF = Paid-up Benefit Fund
CRF = Contingency Reserve Fund
ARF = Annuity Reserve Fund
PRF = Pension Reserve Fund

Section 4: Variable Benefit Calculation *(continued)***Variable Benefit Calculation**

1.	MV of assets as of 6/30/2003 after transfers (excluding PuBF and CRF)	\$1,441,904,311
2.	MV of assets as of 6/30/2004 before transfers (excluding PuBF and CRF)	\$1,603,036,652
3.	Earnings during 7/1/2003 to 6/30/2004 (excluding PuBF and CRF) (includes expenses)	\$228,954,419
4.	Mean Assets Half of [(1) + (2) - (3)]	\$1,407,993,272
5.	Investment return 2003-2004	16.2610%
6.	Earnings between 7.5% and 10% (Excess of (5) over 7.5%) divided by (5) times (3)	\$35,199,929
7.	One half of earnings above 10% Half of [(5) less 10%] divided by (5) times (3)	\$44,077,351
8.	Retired Life Reserve on 6/30/2003 (ARF) \$169,116,944 (PRF) \$871,629,874	\$1,040,746,818
9.	MV of assets as of 6/30/2003 (excluding PuBF and CRF)	\$1,441,904,311
10.	Assets available for Variable Benefit Funds ((6) plus (7)) times ((8) divided by (9))	\$57,221,257
11.	Retired Life Reserve on 6/30/2004 (ARF) \$188,545,240 (PRF) \$959,769,442	\$1,148,314,682
12.	Amount to transfer to the Contingency Reserve Fund on 6/30/2004 (2.5% of (11)) less current assets in CRF \$26,141,174	\$2,566,693
13.	Amount available for Paid up Benefit Fund (10) less [the greater of (12) and \$0]	\$54,654,564
14.	Cost to provide each additional 1%	\$13,510,498
15.	Compound Increase (13) + (14) x 1% (assuming that the new funds can be invested at 6.8% or that surplus is available in the Paid Up Benefit Fund and will be used)	4.05%

Section 5: Actuarial Basis

Highlights
<ul style="list-style-type: none">▪ There were no changes in actuarial assumptions from the 2003 valuation.

Section 5: Actuarial Basis *(continued)*

Projected Unit Credit Method

Liabilities and contributions shown in this report are computed using the Projected Unit Credit method of funding.

The objective under this method is to fund each participant's benefits under the Plan as they would accrue, taking into consideration future salary increases. The total pension, to which each participant is expected to become entitled, is broken down into units, each associated with a year of past or future credited service. When this method is introduced, there will be an initial liability for benefits credited for service prior to that date, and to the extent that the liability is not covered by assets of the Plan, there is an unfunded liability to be funded over a chosen period in accordance with an amortization schedule.

A description of the calculation follows:

An individual's **accrued benefit** for valuation purposes related to a particular separation date is the accrued benefit described under the Plan but determined using the projected salary that would be used in the calculation of the benefit on the expected separation date.

The **benefit** deemed to accrue for an individual during a plan year is the prorated portion of the projected benefit attributable to one year of service. The projected benefit is calculated at the various anticipated separation dates.

An individual's **accrued liability** is the present value of the accrued benefit for valuation purposes at the beginning of the plan year, and the normal cost is the present value of the benefit deemed to accrue in the plan year. If multidecrements are used, the accrued liability and the normal cost for an individual are the sum of the component accrued liabilities and normal costs associated with the various anticipated separation dates. Such accrued liabilities and normal costs reflect the accrued benefits as modified to obtain the benefits payable on those dates and the probability of the individual separating on those dates.

The Plan's **normal cost** is the sum of the individual normal costs, and the Plan's **accrued (actuarial) liability** is the sum of the accrued liabilities for all participants under the Plan.

Section 5: Actuarial Basis *(continued)*

Actuarial Assumptions and Methods

Method of funding: Effective June 30, 1988, the Projected Unit Credit Funding Method is used.

The current Unfunded Actuarial Liability is amortized over 20 years. This 20-year period is restarted each year. (Effective 7/1/1992)

Asset valuation: The actuarial value of assets is equal to the market value, adjusted for investment surpluses and deficits over a five-year period. This calculation is done in the following steps:

- 1) The investment gain or loss for the current year is calculated; this equals the actual investment earnings during the year minus the expected earnings. Expected earnings are calculated using a weighted average of the pre- and post-retirement interest rate assumptions multiplied by the mean market value of assets during the year. Market value for this purpose excludes the PuBF and CRF.
- 2) The amount allocated to the variable benefit fund is deducted from this total.
- 3) Of this difference, 20% is used in the current actuarial value of assets. The remaining 80% was originally held in reserve. It currently is allocated as follows: 2/3 to the Employer Reserve Fund and 1/3 to the Benefit Improvement Fund.

The actuarial value of assets is the market value (excluding the PuBF and CRF) less cumulative unallocated earnings less the balance in the Minimum Stabilization Fund. Any contribution receivable for the upcoming fiscal year (as determined in the prior year's valuation) is added to the result.

Investment return: 8.25% compounded annually until retirement. 6.0% compounded annually after retirement. (Effective 6/30/1995)

Section 5: Actuarial Basis *(continued)*

Salary increases: Salary increases are assumed to vary with age. Sample rates are as follows:

Age	Annual Rate of Salary Increase
20	.0850
25	.0775
30	.0550
35	.0500
40	.0450
45	.0425
50	.0400
55	.0400
60	.0400
64	.0400

(effective 6/30/2002)

Post-retirement mortality: Retirees and beneficiaries:
Male and Females - 1994 Uninsured Pensioners Generational Mortality table increased by a 13-year projection in 2002 (effective 6/30/2002)

With a generational mortality table, mortality rates will be slightly lower each year to reflect anticipated improvements in mortality.

Disabled Members:
Male and Females – GAM 1983 (M&F) set forward 4 years and reduced by 5% (effective 6/30/2002)

Sample rates are shown on the next page.

Section 5: Actuarial Basis *(continued)*

Retirees and Beneficiaries				
Age	Male*	Female*	Disabled Members	
			Male	Female
55	0.005876	0.002694	0.007965	0.003630
60	0.010241	0.005044	0.013175	0.006066
65	0.018251	0.009812	0.023576	0.010375
70	0.030131	0.015600	0.038369	0.020036
75	0.046724	0.026646	0.063769	0.036622
80	0.074493	0.045764	0.100745	0.060617

*Rates for individuals who are the age shown as of 6/30/2004.

- Percent married:** Males 75%, Females 75%
- Spouse age:** A husband is assumed to be 4 years older than his wife.
- Remarriage rates:** None
- Children:** All benefits with Joint & Survivor Forms of Payments for retirees had their survivor benefits increased by 4% to account for children's benefits.
- Benefit loads:** Benefits to certain types of beneficiaries receiving Line-of-Duty death benefits were increased by 3.0% to allow for contingent beneficiaries.
- Benefits to certain types of members receiving Line-of-Duty disability benefits were increased by 1.5% to allow for possible conversion to Line-of-Duty death benefits.
- Expenses:** All expenses are paid from the fund. It is assumed that fund earnings will be sufficient to pay these expenses and meet the interest assumption.

Section 5: Actuarial Basis *(continued)*

Actuarial Assumptions and Methods

Mortality and Morbidity Rates for Active Members: Sample rates of all decrements applicable to active participants are as follows:

Age	Withdrawal ¹² and Early Retirement	Non-Line-of-Duty Disability	Line-of-Duty Disability	Non-Line-of-Duty Death	Line-of-Duty Death ¹³
20	.060942	.000228	.000494	.000354	.000085
25	.047330	.000232	.000650	.000358	.000133
30	.027140	.000594	.001024	.000487	.000182
35	.016472	.001914	.002011	.000739	.000281
40	.009415	.002300	.002850	.001117	.000428
45	.002631	.003314	.004515	.002575	.000481
50	.062621	.003500	.004600	.003981	.000413
55	.080055	.001807	.004664	.005505	.000333
60	.140564	.001453	.006208	.007514	.000177
64	.168072	.001015	.006353	.008186	.000069

The above rates were effective 6/30/02.

¹² Withdrawal decrements are reduced to zero when participant is eligible to retire.

¹³ Benefit loaded ½% for post-disability line-of-duty death benefit.

Section 5: Actuarial Basis (continued)

Fire and Police Retirement Rates

The retirement rates are assumed to be affected by whether or not a member participates in the DROP. Members that do not join DROP are assumed to have retirement rates that vary by service until age 50. After age 50 they are assumed to vary solely by age.

Members that join DROP are assumed to have rates that vary solely by service from the time they join and leave the DROP. Key points of DROP service include 3 years (maximum time under DROP) and 4.5 years (time to restore Average Final Compensation). We have assumed that 85% of members will elect the DROP. Retirement rates for members are as follows and reflect possibilities of retirement with and without DROP rates:

Non-Drop Rates Until Age 50 (with 85% reduction)	
Years of Service	Non-DROP Retirement Rate
20	6.00%
21	1.13%
22	1.13%
23	1.46%
24	1.69%
25 or later	1.69%

Non-DROP Rates After Age 50 (with 85% reduction)	
Age	Non-DROP Retirement Rate
50	1.91%
51	1.39%
52	1.39%
53	1.41%
54	1.76%
55	2.19%
56	2.07%
57	2.07%
58	2.07%
59	2.09%
60	3.18%
61	2.58%
62	3.83%
63	3.83%
64	4.85%
65	100%

Full DROP Rates	
Years after electing DROP	DROP Retirement Rate
1	4.00%
2	4.00%
3	15.00%
4	4.00%
4.5	20.00%
6	20.00%
7	40.00%
8	40.00%
9+	40.00%

After we know a member has elected the DROP, only DROP rates will be used. If a member has more than 20 years of service and has not elected the DROP, only non-DROP rates without the 85% reduction will be used.

The above rates were effective 6/30/2002.

Section 6: Summary of Plan Provisions

Highlights
<ul style="list-style-type: none">• There were no changes in plan provisions from the 2003 valuation.

Section 6: Summary of Plan Provisions (continued)

1. Effective Date

The System was effective July 1, 1962 and has periodically been amended. The most recent amendment was contained in Ordinance 03-576.

2. Eligibility

Any officer or employee of the Police Department or the Fire Department and certain Department of Aviation employees shall become a member as a condition of employment. Any officer or employee for whom the City makes contributions to Social Security shall be excluded.

3. Member Contributions

Members contribute at the rate of 6% of regular compensation for their entire period of service. Contributions are treated as made by the employer and are made to the system pre-tax according to Section 414(h)(2) of the Internal Revenue Code. Members of the ERS who transferred to this System after July 1, 1967 and did not make up the contributions which would have been made from July 1, 1962 are to have their retirement allowance reduced by the actuarial equivalent of the deficient contributions with interest. Interest is credited on contributions at a rate of 5.5% per annum. Members' contributions have been reduced in several recent years by a specific ordinance for each year. For purposes of calculating benefits that depend on the amount of member contributions (e.g., DROP accounts), members are deemed to have contributed the full amount.

4. Compensation

Earnable compensation is all usual compensation including lodging, subsistence, etc. When compensation is not paid in money, the Board of Trustees shall fix the value of that part of compensation. This definition excludes overtime.

Average Final Compensation is the average annual compensation during any eighteen consecutive month period of service during which earnable compensation was highest or, if less than eighteen months, the average during total service.

Section 6: Summary of Plan Provisions *(continued)*

5. Military Service Credit

- A. **Military Service Prior to Employment:** A maximum of three years of service credit is granted provided the member has acquired 10 years of service and attained age 50, or has acquired 20 years of service regardless of age.
- B. **Military Service Within Employment:** Upon retirement or death, any member who, because of military duty, had a break in employment shall receive credit for the period of absence as provided by the Veterans Reemployment Rights Act.

6. Retirement Allowance Eligibility

- A. **Service Retirement:** Age 50 or 20 years of service.
Membership commencing on or after July 1, 2003: Age 50 with 10 years of service as a contribution member, or 20 years of service with 10 years of service as a contribution member.
- B. **Non-Line-of-Duty Disability Retirement:** Five years of service and certified by a member of the Panel of Hearing Examiners to be mentally or physically incapacitated for the performance of duty and that incapacity is likely to be permanent.
- C. **Line-of-Duty Disability Retirement:** No service or age constraints apply. The benefit is awarded when a participant becomes totally and permanently incapacitated for duty as the result of an injury while in performance of duty and certified by a Hearing Examiner as incapacitated for the performance of duty where such incapacity is likely to be permanent. Should such disability further result in extensive brain damage causing total incapacity or in the loss of or the loss of use of both hands or both arms or both feet or both legs or both eyes or any two thereof, an additional pension will be payable.

7. Termination of Employment

- A. Eligible for a Termination Retirement Allowance payable immediately upon completion of 15 years of service if removed from a position without fault. Presently, this benefit is not reflected in the valuation.
- B. Eligible for a refund of accumulated contributions if not eligible for any other benefits.

Section 6: Summary of Plan Provisions *(continued)*

8. Retirement Allowances

A. Service Retirement:

The retirement allowance shall be the sum of:

- (1) An annuity of the actuarial equivalent of a member's accumulated contributions.
- (2) A pension, which together with the annuity in (1), equals 2.5% of Average Final Compensation times the first 20 years of service, plus 2.0% of Average Final Compensation times service in excess of 20 years.

DROP Benefits

Members with more than 20 years of service can elect to participate in DROP. A member's DROP participation period can be for one, two or three years. During that time the member will accrue no additional service. A member who continues employment at the end of his/her DROP participation period shall begin to earn additional service credit.

If a member retires during his/her DROP participation period or immediately at the end of this period, he/she shall be entitled to a Basic DROP Retirement Benefit. This shall equal:

- (1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP participation, plus
- (2) A lump sum equal to the member's DROP account. This equals the accumulation of the annuity payments the member would have received had he/she retired at the time his/her DROP participation began receiving benefits, plus the member contributions paid during his/her DROP participation period, plus interest at 8.25%.

Section 6: Summary of Plan Provisions *(continued)*

If a member retires later but less than 18 months after the conclusion of his/her DROP participation period, he/she is entitled to an Intermediate DROP Retirement Benefit. This shall equal:

- (1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP participation, plus
- (2) Benefit accrual of 2% plus an extra 1.5% per year (not to exceed 18 months) for service after the DROP participation period.
- (3) A lump sum equal to the DROP account. No additions (other than interest) are added after the conclusion of the DROP participation period.

If a member retires more than 18 months after the conclusion of his/her DROP participation period, he/she is entitled to a Full DROP Retirement Benefit. This shall equal:

- (1) The retirement benefit based on current average final compensation and all service excluding service while a participant in DROP.
 - (2) Benefit accrual includes an extra 1.5% per year (not to exceed four years) for service after the DROP participation period.
 - (3) A lump sum equal to the DROP account. No additions (other than interest) are added after the conclusion of the DROP participation period.
- B. **Non-Line-of-Duty Disability Retirement:** A member shall receive an annuity of the actuarial equivalent of a member's accumulated contributions plus a pension which, together with the annuity, shall equal 2.5% of his/her Average Final Compensation times service up to 20 years, plus 2.0% of his/her Average Final Compensation times service in excess of 20 years, but in no event less than 25% of Average Final Compensation.

NOTE: This allowance is offset by workers' compensation, if the member entered the system after July 1, 1970.

Section 6: Summary of Plan Provisions *(continued)*

- C. **Line-of-Duty Disability Retirement:** An annuity of the actuarial equivalent of a member's accumulated contributions, plus a pension equal to 66-2/3% of Average Final Compensation. An additional pension is paid for certain disabilities so that the retirement allowance is equal to 100% of compensation at the time of retirement.

Note: The same offsets apply as in Non-Line-of-Duty Disability.

- D. **Termination Retirement Allowance:** Determined the same as if the member had retired on a Non-Line-of-Duty Disability Allowance.

9. Optional Methods of Receiving Benefit Payments

These options are available for Service, Termination, Non-Line-of-Duty Disability and Line-of-Duty Disability Retirement. The option and/or beneficiary may be changed within 30 days after retirement.

- A. Joint and 50% to unmarried spouse or dependent children until the last marries, dies or attains age 18 (age 22 if a full-time student) (this is known as the maximum service allowance)
- B. Cash refund to designated beneficiary with refund based on present value of allowance at retirement less payments made
- C. Joint and 100% to Contingent beneficiary
- D. Joint and 50% to Contingent beneficiary
- E. Some other periodic benefit subject to the approval of the Board of Trustees

Section 6: Summary of Plan Provisions *(continued)*

10. Non-Line-of-Duty Death Benefits

Upon the non-duty related death of a member in service, benefits are payable as follows:

- A. The member's accumulated contributions shall be payable to the member's designated beneficiary or estate.
- B. If a member had one or more years of service, 50% of the greater of his/her current annual compensation or Average Final Compensation will be payable as a lump-sum.
- C. In lieu of the A and B above, if the member had at least two years of continuous service, the benefit is an annual sum equal to 25% of the member's regular gross compensation, plus 1.5% of regular gross compensation times years of service in excess of 2 years, up to a maximum benefit of 50% of regular gross compensation. The death benefit shall be payable to:
 - (1) the widow(er), if the beneficiary so elects, during widowhood only, or
 - (2) if no eligible widow(er), the child or children until the last marries, dies or attains age 18 (age 22 if a full-time student).
- D. If the member was eligible for a service retirement or, if retired on account of service or non-line-of-duty disability and dies within 30 days of retirement, and the member's designated beneficiary is the member's spouse with whom the member had been living for at least one year or the member's surviving parent(s), such beneficiary may elect, in lieu of (A) and (B) above, an allowance equal to the amount that would have been paid under the Joint and 100% Contingent Option.

These benefits are offset by workers' compensation, if the member entered the system after July 1, 1970. If no beneficiary and if intestate without heirs, then the benefit shall remain part of the System.

Section 6: Summary of Plan Provisions *(continued)*

11. Line-of-Duty Death Benefits

If a member's death arose out of and in the performance of duty as certified by a Hearing Examiner, or if the member dies within five years as a result of the last injury which resulted in a Line-of-Duty Disability Retirement, a refund of accumulated contributions shall be paid, plus a pension of 100% of current compensation (not less than \$15,000) shall be payable to:

- A. the surviving spouse, or
- B. if no eligible spouse or if the spouse dies, any children, equally, until age 18 (or age 22 if full-time student(s)), or
- C. if no eligible spouse or children, any dependent father or dependent mother for their lifetime.

This benefit is offset by workers' compensation, if the member entered the system after July 1, 1970. If no beneficiary and if intestate without heirs, then the benefit shall remain part of the System.

12. Post-Retirement Benefit Increase (Variable Benefits)

Post-retirement benefit increases are automatically provided to certain retirees and beneficiaries when investment performance, as determined each June 30, exceeds 7.5%. Only retirees and beneficiaries, who have been receiving periodic benefit payments for two or more years as of the June 30 determination date, are eligible for the increase. For a member who retires during or at the end of the DROP participation period, the member's DROP participation period shall count toward the eligibility requirement for post-retirement benefit increases. Earnings on the Pension and Annuity Reserve Funds between 7.5% and 10% and one-half of the earnings above 10% are available for the variable benefit funds. For further details see the City code.