CITY OF DETROIT

Policemen and Firemen Retirement System

63rd Annual Actuarial Valuation

June 30, 2004

Gabriel, Roeder, Smith & Company

Actuaries & Consultants

OUTLINE OF CONTENTS

March 23, 2005

Board of Trustees
City of Detroit Policemen and Firemen
Retirement System

The results of the **63rd Annual Actuarial Valuation** of the annuity and pension liabilities of the City of Detroit Policemen and Firemen Retirement System are presented in this report. The purpose of the valuation was to measure the System's funding progress and to determine an appropriate contribution level for the next fiscal year.

The date of the valuation was **June 30, 2004**.

The actuarial assumptions used in the valuation are summarized in the appendix. Benefit provisions are summarized on pages 13-14. The statistical data concerning the active, inactive and retired persons covered by the System was furnished by the retirement system staff, together with needed financial information. Data was checked for year-to-year consistency, but was not otherwise audited by the actuary.

Your attention is directed particularly to the employer contribution rates on page 2 and the COMMENTS on page 12.

The valuation was completed using generally accepted actuarial principles and in accordance with standards of practice prescribed by the Actuarial Standards Board. To the best of our knowledge this report is complete and accurate and the actuarial method and assumptions produce results which are reasonable.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY

Norman L. Jones Judith A. Kermans

NLJ:rgs:lr

VALUATION RESULTS

EMPLOYER CONTRIBUTION RATES
COMPUTED PAYABLE LAST DAY OF FISCAL YEAR
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL

Contributions for	Contributions Expressed as Percents of Payroll for the Fiscal Year Ending June 30,	
	2006	**2005**
Normal Cost		
Age & service allowances	22.46 %	22.47 %
Disability allowances	5.56 %	5.57 %
Death-in-service allowances	0.48 %	0.49 %
Total	28.50 %	28.53 %
Members current contributions: #	4.06 %	4.07 %
(Future refunds)	(0.36)%	(0.36)%
Available for monthly benefits	3.70 %	3.71 %
Employer Normal Cost	**24.80 %**	**24.82 %**
Actuarial Accrued Liabilities		
Total ($ millions)	$3,857.5	$3,721.6
Funding Value of Assets	3,074.5	3,205.5
Unfunded Actuarial Accrued Liabilities		
- dollar (millions)	783.0	516.1
- amortization percent *	29.56 %	19.07 %
Computed Employer Rate	**54.36 %**	**43.89 %**

 # Member statutory contributions of 5% to the Annuity Savings Fund are not payable during all periods of covered employment. The rate shown is the equivalent rate if paid during all covered employment.

** Amortized over 13 years for the fiscal year ending in 2006 and 14 years for the year ending in 2005.*

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2004

Present Value, June 30	Amount
Accrued Pension Liabilities	
Retirees and beneficiaries	$2,500,929,070
Inactive members future deferred pensions	5,423,341
Active members	1,032,409,854
Total accrued pension liabilities	3,538,762,265
Pension fund balances	2,755,785,572
Unfunded accrued pension liabilities	$ 782,976,693
Accrued Annuity Liabilities	
Retirees and beneficiaries	
Future annuities	$ 8,242,435
Contingency reserve	7,167,904 *
Total	$ 15,410,339
Members annuities & future refunds	303,320,678
Total accrued annuity liabilities	318,731,017
Annuity fund balances	318,731,017
Unfunded accrued annuity liabilities	$ 0
System Totals	
Actuarial accrued liabilities	$3,857,493,282
Accrued assets	3,074,516,589
Unfunded actuarial accrued liabilities	$ 782,976,693

* *See comment on page 12.*

VALUATION RESULTS - COMPARATIVE STATEMENT
- - $ IN MILLIONS - -

June 30	Active Payroll		Actuarial Accrued Liabilities			Unfunded / Active Pays	Employer Contributions % of Pays
	Total	Average	Computed Total	Valuation Assets	Unfunded		
1975	$ 121.5	$16,670	$1,107.2	$ 369.8	$ 737.4	6.1	53.82%
1976	128.6	19,753	1,240.3	416.0	824.3	6.4	57.49%
1977	134.6	20,012	1,257.9	461.6	796.3	5.9	57.09%
1978	165.0	22,467	1,426.7	531.5	895.2	5.4	56.43%
1979	175.2	25,136	1,557.7	603.2	954.5	5.5	57.54%
1980	178.0	27,992	1,809.0	689.7	1,119.3	6.3	60.35%
1981	155.8	28,429	1,777.8	771.0	1,006.8	6.5	60.95%
1982(a)*	155.4	28,332	1,841.1	864.1	914.8	6.1	58.25%
1983	153.3	28,450	1,810.5	979.7	830.8	5.4	56.95%
1984(a)	148.2	28,455	1,887.2	1,090.2	797.0	5.4	58.16%
1985(a)	171.4	30,302	2,076.4	1,208.3	868.1	5.1	54.66%
1986	185.3	29,220	2,171.5	1,378.5	793.0	4.3	50.21%
1987	202.3	30,906	2,238.2	1,557.0	681.2	3.4	44.69%
1988	206.1	33,120	2,386.0	1,705.4	680.6	3.3	45.71%
1989(a)	208.4	33,179	2,327.9	1,848.9	479.0	2.3	36.52%
1990*	221.5	36,874	2,453.6	2,037.4	416.2	1.9	35.98%
1991	213.1	39,182	2,517.2	2,085.5	431.7	2.0	36.19%
1992(a)*	205.7	39,095	2,345.9	2,163.8	182.1	0.9	27.83%
1993(a)	204.3	38,846	2,493.2	2,256.0	237.2	1.2	28.97%
1994	199.7	38,693	2,486.2	2,304.4	181.8	0.9	27.64%
1995(a)	209.7	39,692	2,574.2	2,443.0	131.2	0.6	25.90%
1996	212.7	39,965	2,633.4	2,628.6	4.8	0.0	21.81%
1997(b)	217.6	40,145	2,724.1	2,944.2	(220.1)	-	7.32%
1998*#	217.5	40,772	2,976.8	3,325.9	(349.1)	-	26.16%
1999#@	216.0	40,542	3,274.1	3,668.4	(394.3)	-	26.17%
2000*#	237.7	43,376	3,342.1	3,964.2	(622.1)	-	27.25%
2001#	253.3	45,353	3,463.2	3,900.0	(436.8)	-	27.22%
2002(a)#	248.7	46,203	3,632.0	3,635.1	(3.1)	-	23.39%
2003#+	248.7	47,305	3,721.6	3,205.5	516.1	2.1	43.89%
2004#+	258.7	51,126	3,857.5	3,074.5	783.0	3.0	54.36%

(a) After changes in actuarial assumptions.
(b) After changes in actuarial assumptions and a temporary full funding credit.
** Plan amended.*
 # Employer normal cost before full funding credit.
@ After $55.4 million reserve for 1998-99 13th check and ASF distributions.
+ Based on amortization periods of 14 years in 2003 and 13 years in 2004.

SOLVENCY TESTS

The PFRS funding objective is to meet long-term benefit promises through contributions that remain approximately level from year to year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System will pay all promised benefits when due -- the ultimate test of financial soundness. Testing for level contribution rates is ***the long-term solvency test***.

A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the plan's present assets (cash and investments) are compared with:

1) Active member contributions on deposit;
2) The liabilities for future benefits to present retired lives;
3) The liabilities for service already rendered by active members.

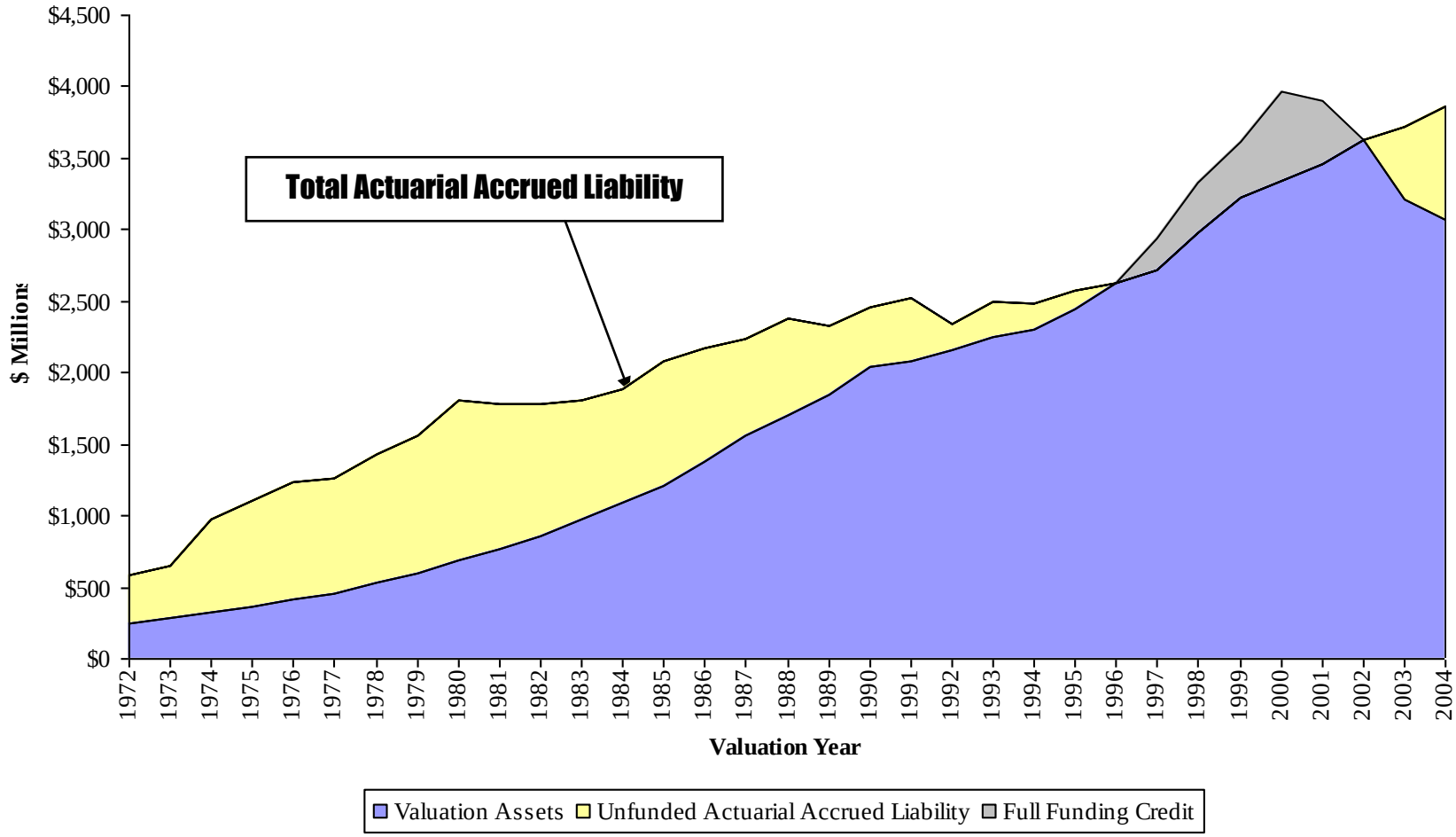
In a system that has been following the discipline of level percent-of-payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) will often be partially covered by the remainder of present assets. The larger the funded portion of liability 3, the stronger the condition of the System.

Short-Term Solvency Test
5 Year Comparative Statement
($ millions)

	Actuarial Accrued Liabilities				Portion of Accrued Liabilities Covered by Assets			
June 30	(1) Active Member Contr.	(2) Retirees and Benef.	(3) Present Members (Employer Financed Portion)	Assets	(1)	(2)	(3)	Total
2000*	$283	$2,192	$867	$3,964	100%	100%	172%	119%
2001	365	2,255	843	3,900	100%	100%	152%	113%
2002(a)	391	2,299	942	3,635	100%	100%	100%	100%
2003	341	2,400	980	3,206	100%	100%	47%	86%
2004	303	2,516	1,038	3,075	100%	100%	25%	80%

* *After changes in benefit provisions.*
(a) After changes in actuarial assumptions.

ASSETS AND ACCRUED LIABILITIES



DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED JUNE 30, 2004

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses will often cancel each other over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below.

(1)	UAAL* at start of year	$ 516,076,553
(2)	Employer normal cost from last valuation	61,722,739
(3)	Actual employer contributions	69,475,202
(4)	Interest accrual: (1) x .078	40,253,971
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	548,578,061
(6)	Change due to benefit provision modifications	0
(7)	Change due to revised actuarial assumptions	0
(8)	Expected UAAL after changes: (5) + (6) + (7)	548,578,061
(9)	Actual UAAL at end of year	782,976,693
(10)	Experience gain (loss): (8) - (9)	(234,398,632)
(11)	Experience gain (loss) as a % of beginning of year accrued liability	(6.3)%

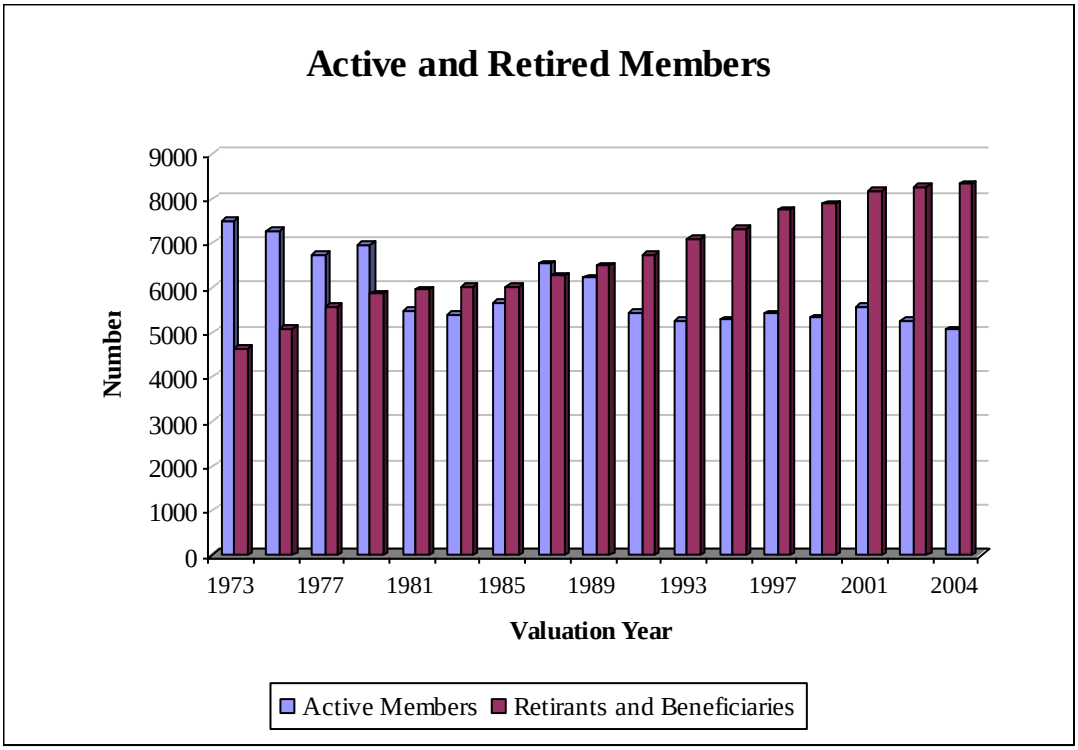
* *Unfunded actuarial accrued liability.*

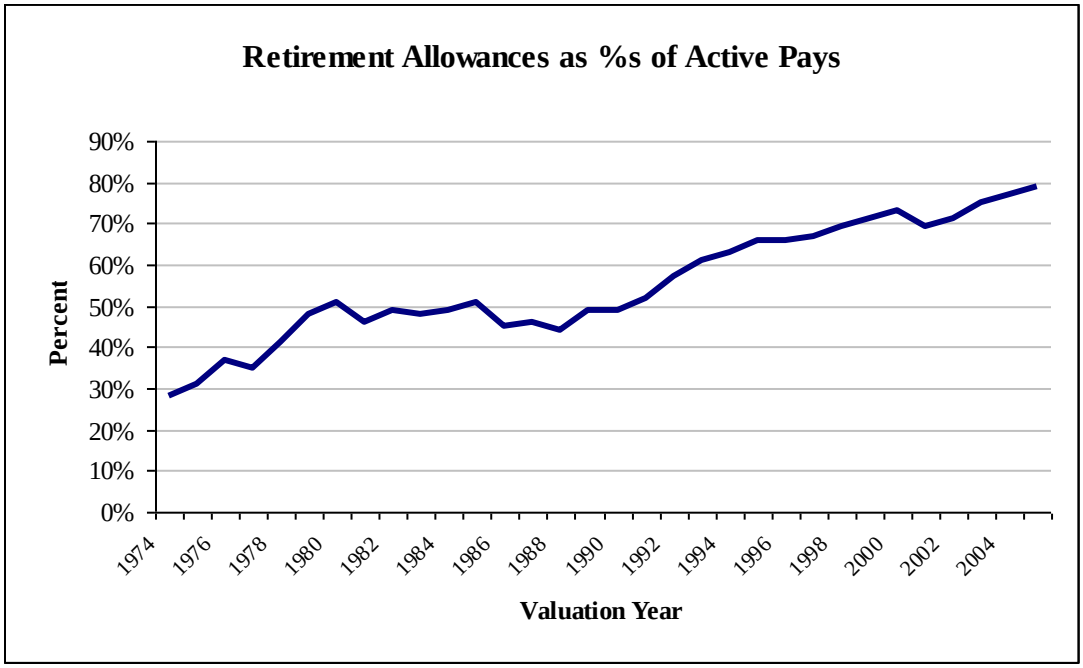
COMPARATIVE STATEMENT OF ACTIVE MEMBERS AND VALUATION PAYROLL

June 30	No. Members 1969 Plan	No. Members Pre-1969	Total Members No.	% Change	Ratio of Active to Retired	Annual Payroll	Average Pay $	Average Pay Change
1973	2,796	4,712	7,508	2 %	1.6	$101,084,327	$13,463	7.1 %
1974	3,065	4,291	7,356	(2)%	1.5	112,925,940	15,352	14.0 %
1975	3,298	3,993	7,291	(1)%	1.4	121,540,470	16,670	8.6 %
1976	2,900	3,610	6,510	(11)%	1.2	128,594,291	19,753	18.5 %
1977	3,463	3,265	6,728	3 %	1.2	134,639,135	20,012	1.3 %
1978	4,432	2,911	7,343	9 %	1.3	164,975,236	22,467	12.3 %
1979	4,230	2,739	6,969	(5)%	1.2	175,174,674	25,136	11.9 %
1980	3,719	2,640	6,359	(9)%	1.1	178,004,349	27,993	11.4 %
1981	2,991	2,491	5,482	(14)%	0.9	155,849,804	28,429	1.6 %
1982	3,185	2,299	5,484	0 %	0.9	155,372,732	28,332	(0.3)%
1983	3,176	2,214	5,390	(2)%	0.9	153,347,716	28,450	0.4 %
1984	3,070	2,139	5,209	(3)%	0.9	148,223,416	28,455	0.0 %
1985	3,657	1,998	5,655	9 %	0.9	171,357,741	30,302	6.5 %
1986	4,463	1,879	6,342	12 %	1.0	185,312,563	29,220	(3.6)%
1987	4,918	1,627	6,545	3 %	1.0	202,277,028	30,906	5.8 %
1988	4,776	1,447	6,223	(5)%	1.0	206,107,980	33,120	7.2 %
1989	4,942	1,338	6,280	1 %	1.0	208,361,567	33,179	0.2 %
1990	4,834	1,174	6,008	(4)%	0.9	221,538,387	36,874	11.1 %
1991	4,372	1,066	5,438	(9)%	0.8	213,072,553	39,182	6.3 %
1992	4,411	850	5,261	(3)%	0.8	205,681,412	39,095	(0.2)%
1993	4,534	725	5,259	0 %	0.7	204,289,195	38,846	(0.6)%
1994	4,578	584	5,162	(2)%	0.7	199,734,550	38,693	(0.4)%
1995	4,779	505	5,284	2 %	0.7	209,733,734	39,692	2.6 %
1996	4,889	432	5,321	1 %	0.7	212,656,401	39,965	0.7 %
1997	5,049	371	5,420	2 %	0.7	217,585,229	40,145	0.5 %
1998	5,018	316	5,334	(2)%	0.7	217,479,443	40,772	1.6 %
1999	5,099	230	5,329	0 %	0.7	216,049,687	40,542	(0.6)%
2000	5,291	190	5,481	3 %	0.7	237,741,560	43,376	7.0 %
2001	5,453	132	5,585	2 %	0.7	253,297,027	45,353	4.6 %
2002	5,290	92	5,382	(4)%	0.7	248,663,133	46,203	1.9 %
2003	5,181	76	5,257	(2)%	0.6	248,681,461	47,305	2.4 %
2004	5,007	53	5,060	(4)%	0.6	258,699,581	51,126	8.1 %

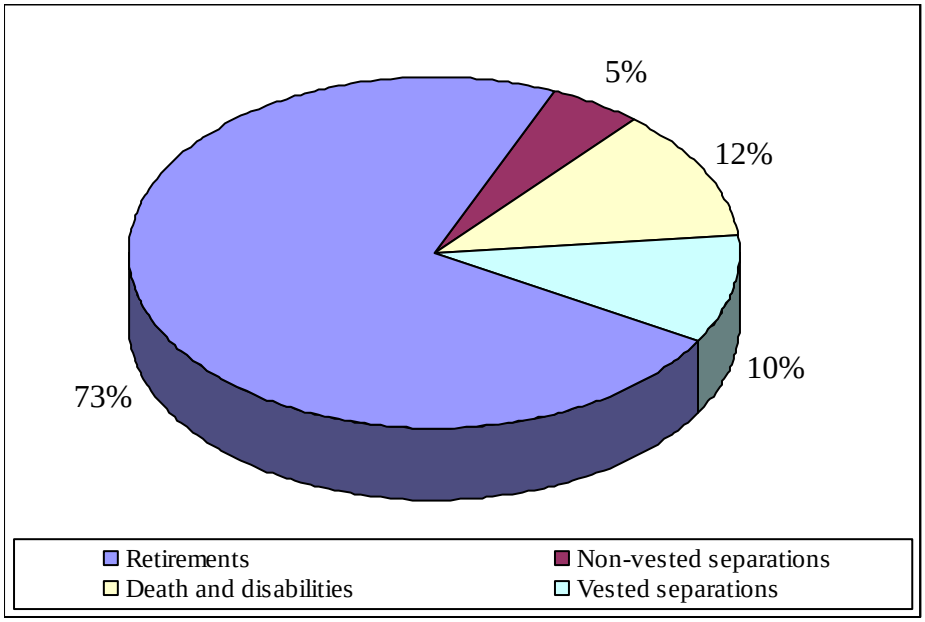
COMPARATIVE STATEMENT OF ANNUAL RETIREMENT ALLOWANCES BEING PAID RETIREES AND BENEFICIARIES

June 30	No. Retired		% of Current Allowances			Current Allowances		Allowances as a % of Payroll
	Pre-69	Total	Annuities	Pensions	Escalators	Total	Average	
1973	4,626	4,626	5.2%	56.2%	38.6%	$ 28,461,146	$ 6,152	28%
1974	4,873	4,873	4.7%	51.3%	44.0%	34,888,040	7,159	31%
1975	5,075	5,075	4.0%	48.3%	47.7%	41,808,416	8,238	34%
1976	5,325	5,325	3.5%	48.1%	48.4%	47,479,044	8,916	37%
1977	5,576	5,576	3.2%	52.0%	44.8%	51,040,761	9,154	38%
1978	5,760	5,760	2.8%	44.2%	53.0%	58,117,007	10,090	35%
1979	5,869	5,869	2.6%	51.3%	46.1%	61,355,273	10,454	35%
1980	5,676	5,911	2.1%	45.3%	52.6%	72,671,386	12,294	41%
1981	5,691	5,951	2.0%	46.7%	51.3%	74,565,233	12,530	48%
1982	5,709	6,006	2.0%	49.0%	49.0%	75,348,490	12,545	48%
1983	5,705	6,038	2.0%	50.8%	47.2%	75,774,552	12,550	49%
1984	5,641	5,986	1.9%	51.7%	46.4%	76,126,476	12,717	51%
1985	5,581	6,011	1.9%	54.0%	44.1%	70,776,660	12,773	45%
1986	5,585	6,117	1.6%	52.5%	45.9%	85,409,280	13,962	46%
1987	5,486	6,264	1.5%	53.5%	45.0%	88,608,492	14,146	44%
1988	5,442	6,416	1.3%	53.9%	44.8%	100,659,780	15,689	49%
1989	5,415	6,496	1.3%	55.7%	43.0%	103,122,696	15,875	49%
1990	5,412	6,660	1.1%	54.3%	44.6%	114,650,196	17,215	52%
1991	5,361	6,754	1.1%	54.3%	44.6%	121,715,028	18,021	57%
1992	5,342	6,899	1.0%	57.0%	42.0%	124,835,208	18,095	61%
1993	5,349	7,091	1.0%	59.5%	39.5%	129,027,970	18,196	63%
1994	5,249	7,169	0.9%	61.7%	37.4%	131,595,379	18,356	66%
1995	5,161	7,311	0.9%	61.3%	37.8%	138,959,417	19,007	66%
1996	5,049	7,469	0.8%	62.6%	36.6%	143,536,485	19,218	67%
1997	5,012	7,743	0.8%	63.3%	35.9%	150,843,744	19,481	69%
1998	4,719	7,750	0.7%	65.8%	33.5%	154,226,437	19,900	71%
1999	4,573	7,883	0.7%	68.4%	30.9%	158,523,816	20,110	73%
2000	4,498	8,079	0.6%	70.0%	29.4%	164,279,376	20,334	69%
2001	4,394	8,166	0.6%	67.4%	32.0%	180,239,652	22,072	71%
2002	4,229	8,179	0.5%	68.4%	31.1%	185,658,396	22,699	75%
2003	4,104	8,277	0.5%	69.8%	29.7%	191,634,636	23,153	77%
2004	3,961	8,328	0.4%	68.5%	31.1%	203,083,524	24,386	79%


Active and Retired Members
Number
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1973
1977
1981
1985
1989
1993
1997
2001
2004
Valuation Year
Active Members
Retirants and Beneficiaries


Retirement Allowances as %s of Active Pays
Percent
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
Valuation Year

EXPECTED TERMINATIONS FROM ACTIVE EMPLOYMENT FOR CURRENT ACTIVE MEMBERS



The chart shows the expected future development of the present population in simplified terms. The retirement system presently covers 5,060 active members. Eventually, 260 members are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 4,188 members are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 612 members are expected to become eligible for death-in-service or disability benefits.

COMMENTS

Experience During the Past Year

Investment experience for the year ended June 30, 2004 was very favorable with a market rate of return of 14.79%. However, under the asset valuation method, market gains and losses are spread over a 3-year period and prior years' investment results were much less favorable. Because of the favorable market return, the market value of assets now exceeds the funding value by $48 million. If market returns average 7.8% or more in future years, the excess will ultimately be recognized and provide some contribution rate relief.

Annuity Reserve Fund

The contingency reserve in the Annuity Reserve Fund is $7.2 million and the ratio of the ARF balance to computed liabilities is over 180% (see page 3). The size of the contingency is likely to increase further unless a balance is restored. The Board approved a transfer of $12 million from the Annuity Reserve Fund to the Pension Accumulation Fund in May 2001. An additional transfer of $5 million at this time would reduce the funded ratio 120% which would still provide an ample margin for unforeseen contingencies.

Funding Policy

The computed employer contribution shown on page 2 is based on the Board of Trustees funding policy of 13 years.

Conclusion and Recommendation

The Retirement System continues in sound actuarial condition in accordance with the principles of level percent-of-payroll financing. Based upon the funding policy established by the Board, the data furnished by the Retirement System and the actuarial assumptions shown in the Appendix, the recommended employer contribution rate for the 2005-2006 fiscal year is 54.36% of covered payroll.

DATA FURNISHED FOR VALUATION

Age and Service Retirement

Eligibility - 25 years of service regardless of age.

Annual Amount - An annuity equal to the actuarial equivalent of the member's accumulated contribution account plus a defined benefit, which, when added to the annuity will provide the following:

Pre-1969 Members - 2.5% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer's or firefighter's annual rate of compensation.

1969 Plan Members - 2.5% of AFC times the first 25 years of service plus 2.1% of AFC times each of the next 10 years of service.

Members may elect to receive their accumulated contribution account in a lump sum after 25 years of service. The defined benefit at retirement is then reduced by the actuarial equivalent of the amount of principal withdrawn. No reduction is made with regard to the interest portion of the withdrawal.

Pre-1969 plan members may elect 1969 plan benefits at the time of retirement.

Type of Average Final Compensation (AFC) - Average of the current compensation for the ranks held in each of last 5 years (last 3 years for DPCOA, Executive Members and their Fire equivalents). Pension benefits for non-union employees may not be diminished due to a reduction in compensation because of fiscal emergency. AFC includes prior longevity distributions during the averaging period in accordance with the following schedule: 1% of compensation after 5 years of service, 2% after 11 years, 3% after 16 years and 4% after 21 years.

Deferred Retirement (vested benefit)

Eligibility - 10 years of service for DPOA and Fire equivalents, age 40 with 8 years of service for all others.

Annual Amount - Same as regular retirement but based on average final compensation and credited service at the time of termination.

Benefit Commencement - DPOA and Fire equivalent members hired after 6/30/85: Unreduced benefit begins at age 62. ***All other members***: Unreduced benefit begins at the age when the member would have first been eligible for regular retirement had the member continued in City service. **All** members may elect a reduced benefit payable immediately.

Duty Disability Retirement

Eligibility - No age or service requirement.

Annual Amount – A basic benefit of 50% of final compensation and a supplemental benefit of 16-2/3% of final compensation is payable for 24 months. After 24 months, members disabled from any occupation continue to receive both benefits; otherwise, only the 50% benefit is then payable. Upon attaining 25 years of service, the disability benefit is 50% of final compensation. Members convert to regular retirement benefit at age 65. Worker's compensation payments are offset. Members who have already filed under old duty disability plan will receive 66-2/3% of final compensation payable to eligibility date for regular retirement.

Non-Duty Disability Retirement

Eligibility - 5 years of service.

Annual Amount - Computed as a regular retirement benefit, but based on average final compensation and credited service at the time of disability. Minimum benefit is 20% of average final compensation.

Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount – Surviving spouse receives 5/11 of police officer's or firefighter's compensation and each child under age 18 receives 1/10 of such compensation with a maximum total of 7/33 of such compensation. If there is no surviving spouse, each child receives 1/4 of such compensation with a maximum total of 1/2 of such compensation. If there is no surviving spouse or children, each dependent parent receives 1/6 of such compensation. Worker's compensation payments are offset.

Non-Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount - Same as a regular retirement benefit to a surviving spouse, but reduced in accordance with a 100% joint and survivor option election. Minimum benefit is 20% of average final compensation. Each child under 18 receives 1/7 of police officer's or firefighter's compensation with a maximum total of 2/7 of such compensation. If there is no spouse or children, each dependent parent receives 1/7 of such compensation.

Post-Retirement Cost-of-Living Adjustments

Pre-1969 Members - Allowances increase in proportion to active member compensation for the corresponding rank.

1969 Plan Members - Pensions increase by 2.25% of the **current** pension amount each July 1.

Member Contributions

5% of covered compensation payable until first eligible for regular retirement.

Reserve Accounts

Funds	Fund Balances	
	June 30, 2004	June 30, 2003
Annuity Savings	$ 303,320,678	$ 341,313,266
Annuity Reserve	15,410,339	14,728,243
Total Annuity Funds	318,731,017	356,041,509
Pension Accumulation	416,794,522	487,494,405
Pension Reserve	2,313,734,450	2,334,895,268
Survivor Benefit	25,266,194	27,085,475
Total Pension Funds	2,755,795,166	2,849,475,148
Total Fund Balances	$3,074,526,183	$3,205,516,657

Revenues and Expenditures

	2003-2004	2002-2003
Balance - June 30	$3,205,516,657	$3,635,106,581
Revenues		
Employes' contributions	10,318,299	10,143,948
Employer contributions	69,475,202	66,843,029
Recognized investment income	40,446,043	(240,379,198)
Total	120,239,544	(163,392,221)
Expenditures		
Regular benefit payments	200,381,990	190,516,952
13th Check payments	0	0
Withdrawal of member contributions	47,129,942	72,193,981
Administrative expenses	3,727,680	3,486,770
Total	251,239,612	266,197,703
Balance - June 30	$3,074,516,589	$3,205,516,657
Ratio of Net Investment Income to Mean Assets	**1.2 %**	**(6.9)%**

DEVELOPMENT OF FUNDING VALUE OF ASSETS

	2002	2003	2004	2005	2006
A. Funding Value Beginning of Year	$3,900,020,703	$3,635,106,581	$3,205,516,657		
B. Market Value End of Year	2,988,906,988	2,878,264,946	3,122,510,425		
C. Market Value Beginning of Year	3,483,625,219	2,988,906,988	2,878,264,946		
D. Contributions During Year					
D1. City Contributions (End of Year)	8,449,645	66,843,029	69,475,202		
D2. Member Contributions	10,301,295	10,143,948	10,318,299		
E. Benefits Paid During Year	220,857,844	262,710,933	247,511,932		
F. Investment Income					
F1. Market Total: B - C - D + E	(292,611,327)	75,081,914	411,963,910		
F2. Amount for Immediate Recog(A-E/2+D2/2)x.078 or actual	291,736,913	273,785,362	240,621,434		
F3. Amount for Phased-In Recognition: F1-F2	(584,348,240)	(198,703,448)	171,342,476		
G. Phased-In Recognition of Investment Income					
G1. Current Year: F3/3	(194,782,747)	(66,234,483)	57,114,159		
G2. 1st Prior Year:	(256,634,100)	(194,782,747)	(66,234,483)	$ 57,114,159	
G3. 2nd Prior Year:	96,872,716	(256,634,100)	(194,782,747)	(66,234,482)	$57,114,159
G4. Total Recognized Investment Gain	(354,544,131)	(517,651,329)	(203,903,071)	(9,120,323)	57,114,159
H. Total Interest Distributed - Current Year (F2 + G4)	(62,807,218)	(243,865,967)	36,718,363		
I. Funding Value End of Year: A + D - E + H	3,635,106,581	3,205,516,657	3,074,516,589		
J. Difference Between Market & Funding Value (B - I)	(646,199,593)	(327,251,711)	47,993,836	57,114,159	0
K. Recognized Rate of Return: H / [1/2 (A + I - H)]	(1.7)%	(6.9)%	1.2%		
L. Market Rate of Return: F1 / [C - 1/2 (E - D)]	(8.7)%	2.6%	14.7%		

The Funding Value of Assets recognizes assumed investment income (line F2) fully each year. Differences between actual and assumed investment income (line F3) are phased in over a closed 3-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. The Funding Value of Assets is unbiased with respect to Market Value. At any time it may be either greater or less than Market Value. If assumed rates are exactly realized for 2 consecutive years, the Funding Value will become equal to Market Value.

RETIREES AND BENEFICIARIES JUNE 30, 2004
TABULATED BY ATTAINED AGE

Attained Age	Age & Service		Disability		Death-in-Service		Totals	
	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances
Under 20*	8	$ 13,901			75	$ 34,999	83	$ 48,900
20-24					2	2,046	2	2,046
25-29	2	1,240	3	$ 5,326	2	2,592	7	9,158
30-34	3	2,293	18	46,246	4	4,208	25	52,747
35-39	6	6,938	61	158,438	6	8,769	73	174,145
40-44	25	21,303	106	258,799	13	16,626	144	296,728
45-49	151	223,496	142	332,662	21	29,660	314	585,818
50-54	596	1,178,923	347	750,174	33	37,555	976	1,966,652
55-59	1,058	2,315,761	508	1,031,067	51	72,279	1,617	3,419,107
60-64	914	2,107,566	300	584,028	33	47,944	1,247	2,739,538
65-69	555	1,235,320	124	255,752	18	26,037	697	1,517,109
70-74	549	1,141,268	102	211,015	29	45,546	680	1,397,829
75-79	904	1,811,519	169	362,194	48	80,333	1,121	2,254,046
80-84	694	1,281,843	96	198,879	35	56,535	825	1,537,257
85-89	335	600,209	35	79,573	14	24,449	384	704,231
90-94	96	160,551	3	6,368	6	9,632	105	176,551
95 & Over	26	38,095			2	3,670	28	41,765
Totals	**5,922**	**$12,140,226**	**2,014**	**$4,280,521**	**392**	**$502,880**	**8,328**	**$16,923,627**

* *May include records with defective birth dates.*

INACTIVE VESTED MEMBERS JUNE 30, 2004
TABULATED BY ATTAINED AGE

Attained Age	No.	Estimated Annual Allowances
45-49	7	$138,792
50-54	9	138,636
55-59	11	153,408
60-64	5	62,340
Totals	**32**	**$493,176**

PRE 1969 RETIREES AND BENEFICIARIES JUNE 30, 2004
TABULATED BY ATTAINED AGE

Attained Age	Age & Service#		Disability		Death-in-Service		Totals	
	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances
Under 20*	5	$ 5,966			1	$ 1,009	6	$ 6,975
20-24								
25-29								
30-34								
35-39	1	942					1	942
40-44	2	2,380					2	2,380
45-49	4	2,498			1	1,489	5	3,987
50-54	8	10,200			4	6,652	12	16,852
55-59	133	224,059	65	$ 130,340	16	27,503	214	381,902
60-64	385	720,358	165	319,955	19	28,628	569	1,068,941
65-69	351	683,905	101	197,872	16	23,741	468	905,518
70-74	365	679,540	84	162,690	26	39,188	475	881,418
75-79	721	1,374,340	153	322,012	45	72,945	919	1,769,297
80-84	655	1,189,865	94	196,015	33	54,255	782	1,440,135
85-89	333	595,969	34	77,246	13	23,302	380	696,517
90-94	92	155,594	3	6,368	6	9,632	101	171,594
95 & Over	25	37,383			2	3,670	27	41,053
Totals	**3,080**	**$5,682,999**	**699**	**$1,412,498**	**182**	**$292,014**	**3,961**	**$7,387,511**

* *May include records with defective birth dates.*
\# *Includes survivor beneficiaries of service retirees.*

ACTIVE MEMBERS JUNE 30, 2004
BY ATTAINED AGE AND YEARS OF SERVICE

Police Members

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	1							1	$ 29,259
20-24	148	5						153	5,575,226
25-29	331	232	1					564	24,478,382
30-34	205	531	61	3				800	37,804,887
35-39	87	283	161	95				626	31,272,822
40-44	43	94	69	288	5			499	26,421,824
45-49	14	31	30	227	90	21	2	415	22,963,095
50-54	4	3	11	117	141	71	80	427	24,466,726
55-59	3	1	5	8	46	36	133	232	13,773,939
60				1	2	2	8	13	804,808
61					2		11	13	736,415
62					6	1	9	16	996,081
63					1	1	3	5	289,207
64							3	3	200,763
65							8	8	447,813
66							1	1	47,763
68							1	1	90,800
69							3	3	179,674
Totals	**836**	**1180**	**338**	**739**	**293**	**132**	**262**	**3,780**	**$190,579,484**

Fire Members

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20									
20-24	25	1						26	$ 971,690
25-29	109	20						129	5,354,618
30-34	80	87	26	1				194	8,787,718
35-39	33	54	91	73				251	12,599,696
40-44	21	25	49	100	18	1		214	11,226,115
45-49	3	5	18	65	42	26		159	9,215,872
50-54			4	16	23	77	57	177	11,102,311
55-59				5	8	24	89	126	8,597,807
60			1			1	2	4	264,270
Totals	**271**	**192**	**189**	**260**	**91**	**129**	**148**	**1,280**	**$68,120,097**

TOTAL ACTIVE MEMBERS JUNE 30, 2004
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	1							1	$ 29,259
20-24	173	6						179	6,546,916
25-29	440	252	1					693	29,833,000
30-34	285	618	87	4				994	46,592,605
35-39	120	337	252	168				877	43,872,518
40-44	64	119	118	388	23	1		713	37,647,939
45-49	17	36	48	292	132	47	2	574	32,178,967
50-54	4	3	15	133	164	148	137	604	35,569,037
55-59	3	1	5	13	54	60	222	358	22,371,746
60			1	1	2	3	10	17	1,069,078
61					2		11	13	736,415
62					6	1	9	16	996,081
63					1	1	3	5	289,207
64							3	3	200,763
65							8	8	447,813
66							1	1	47,763
68							1	1	90,800
69							3	3	179,674
Totals	**1,107**	**1,372**	**527**	**999**	**384**	**261**	**410**	**5,060**	**$258,699,581**

	Group Averages		
	Police	Fire	Total
Age:	39.0 years	41.2 years	39.5 years
Service:	12.5 years	15.3 years	13.3 years
Annual Pay:	$50,418	$53,219	$51,126

ACTUARIAL DISCLOSURES
REQUIRED BY STATEMENT NO. 25
OF THE GOVERNMENTAL ACCOUNTING BOARD

GASB STATEMENT NO. 25 REQUIRED SUPPLEMENTARY INFORMATION

Actuarial Valuation Date	Actuarial Value of Assets (a)	Schedule of Funding Progress: Actuarial Accrued Liability (AAL) -- Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b - a) / c)
1992*#	$2,163,797,445	$2,345,918,889	$ 182,121,444	92.2 %	$205,681,412	88.5 %
1993#	2,255,955,423	2,493,225,379	237,269,956	90.5 %	204,289,195	116.1 %
1994	2,304,360,431	2,486,218,878	181,858,447	92.7 %	199,734,550	91.1 %
1995#	2,443,016,319	2,574,189,310	131,172,991	94.9 %	209,733,734	62.5 %
1996	2,628,627,790	2,633,394,644	4,766,854	99.8 %	212,656,401	2.2 %
1997#	2,944,208,105	2,820,330,323	(123,877,782)	104.4 %	217,585,229	-
1998#*	3,325,929,721	2,976,770,662	(349,159,059)	111.7 %	217,479,443	-
1999	3,668,362,979	3,274,050,127	(394,312,852)	112.0 %	216,049,687	-
2000*	3,964,231,470	3,342,123,550	(622,107,920)	118.6 %	237,741,560	-
2001	3,900,020,703	3,463,248,393	(436,772,310)	112.6 %	253,297,027	-
2002	3,635,106,581	3,523,446,635	(111,659,946)	103.2 %	248,663,133	-
2002#	3,635,106,581	3,631,971,448	(3,135,133)	100.1 %	248,663,133	-
2003	3,205,516,657	3,721,593,210	516,076,553	86.1 %	248,681,461	207.5 %
2004	3,074,516,589	3,857,493,282	782,976,693	79.7 %	258,699,581	302.7 %

* *Plan amended.*

\# *After changes in actuarial assumptions.*

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ended June 30	Reported City Contribution
1994	$54,898,990
1995	57,328,033
1996	55,010,539
1997	54,572,561
1998	48,120,578
1999	15,709,799
2000	19,972,058
2001	14,443,382
2002	8,449,645
2003	66,843,029
2004	69,475,202

GASB STATEMENT NO. 25 REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date:	June 30, 2004
Actuarial cost method	Entry Age
Amortization method	Level percent
Remaining amortization period	13 years
Asset valuation method	3 year smoothed market
Actuarial assumptions:	
Investment rate of return	7.8%
Projected salary increases*	5.8% - 10.8%
*Includes inflation at	4.8%
Cost-of-living adjustments	Pre-1969 Plan Members: Allowances increase in proportion to active member compensation for corresponding rank. 1969 Plan Members: Pensions increase by 2.25% of current pension amount each July 1.

Membership of the plan consisted of the following at June 30, 2004, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	8,328
Terminated plan members entitled to but not yet receiving benefits	32
Active plan members	5,060
Total	**13,420**

FINANCIAL PRINCIPLES

THE ACTUARIAL VALUATION PROCESS

The financing diagram on the opposite page shows the relationship between two different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (as in the Federal Social Security program) is an ***increasing contribution method***; and the ***level contribution method*** which seeks to balance contributions between generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

A. ***Member Census Data:***

Retired lives now receiving benefits

Former members with vested benefits

Active members

B. ***Benefit provisions*** that establish eligibility and amounts of payments to members

C. ***Asset Data*** (cash & investments)

D. ***Assumptions concerning future experience in various risk areas***, which are established by the Board of Trustees and the City Council after consulting with the actuary

E. ***The funding method*** for employer contributions (the long-term, planned pattern for employer contributions)

F. ***Mathematically combining the assumptions, the funding method, and the data***

G. ***Determination*** of:

Plan Financial position and

New Employer Contribution Rate

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit they are, in effect, handed an "IOU" which reads: **"The Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."**

The principal related financial question is: When shall the money required to cover the "IOU" be contributed? This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The **Constitution of the State of Michigan** is directed to the question:

> **"Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."**

This retirement system meets this constitutional requirement by having the following ***Financial Objective: To establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level*** from year to year and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

> ***Normal Cost*** (the value of benefits likely to be paid which is assigned to service being rendered in the current year)
>
> . . . plus . . .
>
> ***Interest on the Unfunded Actuarial Accrued Liability*** (the difference between the actuarial accrued liability and current system assets).

If contributions to the retirement program are less than the preceding amount, the difference, plus investment earnings not realized thereon, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate; that is:

B = C + I - E

Benefit payments to any group of members and their beneficiaries cannot exceed the sum of:

Contributions received over time on behalf of the group

. . . plus . . .

Investment earnings on contributions received and not required for immediate payment of benefits

. . . minus . . .

Expenses incurred in operating the program.

There are retirement programs designed to defer the bulk of contributions far into the future. Contributions in early years are low, but the inevitable consequence is a relentlessly increasing contribution rate – to a level greatly in excess of the level percent of payroll rate. ***This method of financing is prohibited in Michigan by the state constitution***.

A by-product of the level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Investment income becomes the major contributor to the retirement program, and the amount is directly related to the amount of past contributions and investment performance.

Computed Contribution Rate Needed To Finance Benefits. From a given schedule of benefits and from the data furnished, the contribution rate is calculated ***by means of an actuarial valuation*** – the technique of assigning monetary values to the risks assumed in operating a retirement program.

APPENDIX

SUMMARY OF ASSUMPTIONS USED FOR DPFRS ACTUARIAL VALUATION
ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES
AFTER CONSULTING WITH ACTUARY

ECONOMIC ASSUMPTIONS

The investment return rate used in the valuation was 7.8% per year, compounded annually (net after administrative expenses). The real rate of return is the portion of total investment return which is more than the inflation rate. Considering other financial assumptions, the 7.8% total investment return rate translates to an assumed real rate of return of 3%.

Pay increase assumptions for individual active members are shown on page 29. Part of the assumption for each age is for a merit and/or seniority increase, and the other 4.8% recognizes wage inflation.

Total active member payroll is assumed to increase 4.8% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation.

NON-ECONOMIC ASSUMPTIONS

The number of active members is assumed to continue at the present number.

The mortality table used to measure retired life mortality was 90% of the 1983 Group Annuity Mortality Table. Related values are shown on page 29. This table was first used for the June 30, 1998 valuation.

The probabilities of age/service retirement for members eligible to retire are shown on page 30. These probabilities were last revised for the June 30, 2003 valuation.

The probabilities of separation from service (including *death-in-service*) are shown for sample ages on page 30. These probabilities were last revised for the June 30, 2003 valuation.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
JUNE 30, 2004

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service nearest the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Disability also does not operate during retirement eligibility.
Incidence of Contributions:	Member contributions are assumed to be received continuously throughout the year. Employer contributions are assumed to be received on the last day of the fiscal year.
Longevity in AFC:	Longevity payments included in the computation of Average Final Compensation were assumed to increase age and service costs by 4% and disability and death-in-service costs by 2%.

FUNDING METHODS

The entry age actuarial cost method was used in determining age and service liabilities and normal cost, vesting liabilities and normal cost, and casualty liabilities and normal cost.

Differences between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities, if any, are amortized over periods of future years to produce contribution amounts (principal & interest) which are level percent of payroll contributions.

Employer contribution dollars were assumed to be *paid in a single sum on the last day* of the employer fiscal year. (Adopted for the 6-30-79 actuarial valuation.)

Valuation assets recognize investment return above or below the actuarial assumed rate over a three year period. (Adopted for the 6-30-95 actuarial valuation.)

The effect of changes in eligibility for normal retirement due to service purchases was approximated by increasing computed actuarial accrued liabilities by 3%. In addition, active member accrued liabilities were increased by 2% to approximate the effect of incomplete service data.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.).

SAMPLE SALARY ADJUSTMENT RATES

Service	Salary Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
5	6.00%	4.80%	10.80%
10	2.00%	4.80%	6.80%
15	1.00%	4.80%	5.80%
20	1.00%	4.80%	5.80%
25	1.00%	4.80%	5.80%
30	1.00%	4.80%	5.80%
35	1.00%	4.80%	5.80%
Ref			21 + 4.80%

SINGLE LIFE RETIREMENT VALUES
BASED ON 1983 GROUP ANNUITY MORTALITY & 7.8% INTEREST

Sample Attained Ages	Present Value of $1.00 Monthly Increasing "X"% Annually After Retirement						Future Life Expectancy (years)	
	4.8% Compound		2.25% Simple		2.25% Compound			
	Men	Women	Men	Women	Men	Women	Men	Women
45	$251.08	$276.66	$173.68	$183.84	$180.93	$192.80	34.78	40.65
50	229.39	257.20	164.33	176.80	170.22	184.37	30.19	35.86
55	206.16	235.52	153.16	167.82	157.74	173.98	25.79	31.15
60	181.12	211.60	139.67	156.56	143.05	161.34	21.55	26.56
65	154.72	185.69	123.81	142.81	126.15	146.31	17.54	22.13
70	128.80	158.13	106.82	126.42	108.33	128.82	13.96	17.93
75	104.33	130.47	89.48	108.30	90.39	109.81	10.84	14.10
80	82.29	104.80	72.72	90.12	73.24	91.01	8.23	10.84
Ref:	30 x 0.90	31 x 0.90	30 x 0.90	31 x 0.90	30 x 0.90	31 x 0.90		

PROBABILITIES OF SERVICE RETIREMENT

Service	Percent of Eligible Active Members Retiring Within Next Year			Retirement Ages
	Police	Fire	Police & Fire	
24	35%	20%	25%	60
25	25%	20%	25%	61
26	20%	15%	25%	62
27	20%	15%	22%	63
28	20%	15%	20%	64
29	18%	15%	18%	65
30	18%	15%	15%	66
31	18%	15%	15%	67
32	20%	15%	15%	68
33	25%	20%	15%	69
34	30%	25%	15%	70
35	30%	30%	15%	71
36	30%	30%	15%	72
37	30%	30%	15%	73
38	30%	30%	15%	74
39	30%	30%	40%	75
40	100%	100%	30%	76
			30%	77
			30%	78
			30%	79
			30%	80
			30%	81
			30%	82
			30%	83
			30%	84
			100%	85
Ref	823	824	537	

PROBABILITIES OF SEPARATION

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal		Death	
		Police	Fire	Male	Female
ALL	0	7.00%	5.00%		
	1	5.50%	4.00%		
	2	4.00%	3.00%		
	3	4.00%	2.00%		
	4	3.50%	2.00%		
25	5 & Over	4.50%	2.30%	0.02%	0.01%
30		3.30%	1.90%	0.03%	0.02%
35		2.30%	1.30%	0.04%	0.02%
40		1.70%	0.90%	0.06%	0.03%
45		1.50%	0.70%	0.11%	0.05%
50		1.10%	0.60%	0.20%	0.08%
55		0.80%	0.60%	0.31%	0.13%
60		0.80%	0.60%	0.46%	0.21%
Ref		154 207	230 113	30 x .50	31 x .50

Sample Ages	% of Active Members Becoming Disabled Within Next Year			
	Police		Fire	
	Ordinary	Duty	Ordinary	Duty
25	0.08%	0.15%	0.08%	0.31%
30	0.09%	0.22%	0.09%	0.46%
35	0.11%	0.38%	0.11%	0.80%
40	0.14%	0.55%	0.14%	1.16%
45	0.21%	0.81%	0.21%	1.71%
50	0.62%	1.29%	0.62%	2.72%
55	0.97%	2.19%	0.97%	4.61%
60	1.10%	3.15%	1.10%	6.64%
Ref	105 x 1.00	90 x 0.95	105 x 1.00	90 x 2.00

MEANING OF "UNFUNDED ACTUARIAL ACCRUED LIABILITIES"

Actuarial accrued liabilities are ***the portion of the present value of plan promises to pay benefits in the future not covered by future normal cost contributions***
--- a liability has been established ("accrued") because the service has been rendered, but the resulting monthly cash benefit may not be payable until years in the future.

If actuarial accrued liabilities at any time exceed the plan's accrued assets (cash & investments), the difference is ***unfunded actuarial accrued liabilities***. If the plan's assets equal the plan's actuarial accrued liabilities, the plan would be termed "fully funded."

Each time a plan adds a new benefit which applies to service already rendered, an actuarial accrued liability is created. If assets are insufficient to cover the value of the new benefit promises, an additional unfunded actuarial accrued liability is also created. Payment for such unfunded accrued liabilities is generally spread over a period of years, commonly in the 15-30 year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual financial experience is less favorable than assumed financial experience, the difference is added to unfunded actuarial accrued liabilities. For example, during periods of high inflation, unfunded actuarial accrued liabilities generally increase because unexpected rates of pay increase will create additional liabilities which may not be matched by investment performance.

The existence of unfunded actuarial accrued liabilities is not bad, but the changes from year to year in the amount of unfunded actuarial accrued liabilities are important -- "bad" or "good" or somewhere in between.

Unfunded actuarial accrued liabilities do not represent a bill payable immediately, but it is important that policy-makers prevent the amount from becoming unreasonably high and ***it is vital that there is a sound method in place for making payments toward them***, so that they are controlled.

GLOSSARY

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of 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. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

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.

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.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.

March 23, 2005

Mr. Walter Stampor
Executive Secretary
City of Detroit Policemen and Firemen
Retirement System
2 Woodward Avenue – Suite 908
Detroit, Michigan 48226

Re: June 30, 2004 Actuarial Valuation

Dear Walter:

Enclosed are 20 copies of the report of the June 30, 2004 annual actuarial valuation.

Sincerely,

Norman L. Jones

NLJ:lr
Enclosures

cc: Cynthia Thomas
Judith A. Kermans