
CITY OF DETROIT
GENERAL RETIREMENT SYSTEM
64TH ANNUAL ACTUARIAL VALUATION
June 30, 2002

GABRIEL, ROEDER, SMITH & COMPANY



ACTUARIES AND CONSULTANTS

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GABRIEL, ROEDER, SMITH & COMPANY

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December 6, 2002

The Board of Trustees
City of Detroit General Retirement System

Dear Board Members:

The results of the **64th Annual Actuarial Valuations** of the annuity and pension liabilities of the City of Detroit General Retirement System are presented in this report. The purpose of the valuations was to measure the system's funding progress and to determine contribution rates for the ensuing fiscal year in accordance with the established funding policy. Six divisions are evaluated separately.

The date of the valuations was **June 30, 2002**.

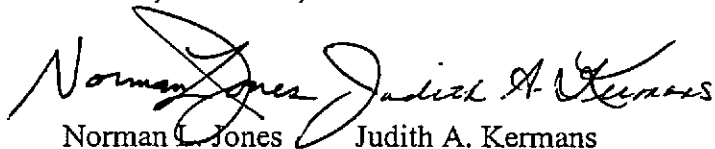
The valuations were based upon records maintained and furnished by the retirement system staff concerning active members, retirees and beneficiaries, and financial accounts. The assumptions used in the valuations concerning future financial experience are summarized in the Appendix of this report.

Your attention is directed particularly to the comments on page A-4 and the contribution rates on page A-1.

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 methods and assumptions produce results which are reasonable.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY


Norman L. Jones Judith A. Kermans

NLJ/rgs



SECTION A

Retirement System Totals

**SUMMARY OF COMPUTED EMPLOYER CONTRIBUTION RATES
2003-2004 FISCAL YEAR**

Contributions for	Contributions Expressed as a Percent of Payroll					
	General City	D.O.T.	Water	Sewage	Housing	Library
Normal Cost:						
Age & Service Pensions	7.36 %	6.72 %	7.02 %	6.91 %	7.61 %	7.53 %
Disability Pensions	1.77 %	1.04 %	1.84 %	1.78 %	1.50 %	1.81 %
Death-in-Service Pensions	0.33 %	0.31 %	0.39 %	0.40 %	0.35 %	0.25 %
Employer Normal Cost	9.46 %	8.07 %	9.25 %	9.09 %	9.46 %	9.59 %
Unfunded Actuarial Accrued Liabilities#	10.97 %	12.43 %	18.09 %	(8.35)%	2.68 %	7.07 %
Computed Employer Contribution Rates	20.43 %	20.50 %	27.34 %	0.74 %	12.14 %	16.66 %
(Change from last yr.)	4.51 %	5.14 %	8.22 %	0.74 %	2.89 %	7.46 %

Unfunded actuarial accrued liabilities (UAAL) were amortized over various periods of future years as described on page A-4.

COMMENT

The valuation results shown above do not include a provision for the potential financial effect of retroactive transfers to the 1998 Defined Contribution Plan, which will occur after that plan has been approved and implemented.

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2002
RETIREMENT SYSTEM TOTALS

Present Value, June 30	
Accrued Pension Liabilities	
Retirees and beneficiaries	
Future pensions	\$1,379,064,559
Mortality reserve	0
Total	1,379,064,559
Inactive members future deferred pensions	93,332,216
Active members	1,070,197,851
Total accrued pensions	2,542,594,626
Pension fund balances	2,029,234,153
Unfunded accrued pension liabilities	\$ 513,360,473
Accrued Annuity Liabilities	
Retirees and beneficiaries	
Future annuities	\$ 28,378,829
Mortality reserve	0
Total	28,378,829
Member annuities & future refunds	705,617,754
Total accrued annuity liabilities	733,996,583
Annuity fund balances	731,969,527
Unfunded accrued annuity liabilities	\$ 2,027,056
Totals	
Actuarial Accrued Liabilities	\$3,276,591,209
Accrued Assets	2,761,203,680
Unfunded Actuarial Accrued Liabilities	\$ 515,387,529



VALUATION RESULTS - COMPARATIVE STATEMENT
 ----- \$ IN MILLIONS -----
RETIREMENT SYSTEM TOTALS

June 30	Active Payroll		% of Payroll Contributions For			Actuarial Accrued Liabilities			Unfunded/ Active Pay
	Total	Average	Normal Cost	UAAL	Total	Computed Total	Accrued Assets	Unfunded	
1985	\$281.4	\$22,123	8.85%	8.37%	17.22%	\$1,545.3	\$1,227.9	\$317.4	1.13
1986	299.9	22,339	8.61%	7.21%	15.82%	1,625.9	1,342.4	283.5	0.95
1987	321.4	23,563	9.05%	5.82%	14.87%	1,718.1	1,471.7	246.4	0.77
1988(a)	326.2	24,403	9.33%	5.57%	14.90%	1,816.9	1,585.9	231.0	0.71
1989	331.6	24,462	9.26%	4.76%	14.02%	1,869.8	1,678.3	191.5	0.58
1990	352.6	26,700	9.22%	5.24%	14.46%	1,983.0	1,768.9	214.1	0.61
1991	362.5	27,997	8.80%	5.09%	13.89%	2,034.7	1,832.4	202.3	0.56
1992(a)#	344.3	28,369	8.48%	1.13%	9.61%	1,998.8	1,930.3	68.5	0.20
1993(a)	331.0	28,763	8.02%	2.08%	10.10%	2,114.2	1,983.8	130.4	0.39
1994	325.4	28,591	8.06%	2.73%	10.79%	2,192.8	2,041.9	150.9	0.46
1995	327.6	28,451	8.11%	4.80%	12.91%	2,275.2	2,043.4	231.8	0.71
1996	360.1	29,729	8.14%	3.44%	11.58%	2,382.8	2,193.2	189.6	0.53
1997(a)	382.8	30,951	7.91%	3.93%	11.84%	2,528.5	2,333.4	195.1	0.51
1998(a)#	387.0	31,565	9.30%	4.45%	13.75%	2,814.9	2,582.1	232.8	0.60
1999#	383.4	31,989	9.29%	3.97%	13.26%	2,900.4	2,756.6	143.8	0.38
2000	417.2	34,345	9.22%	4.15%	13.37%	3,077.0	2,902.4	174.6	0.42
2001	439.6	34,497	9.22%	5.05%	14.27%	3,179.6	2,912.1	267.5	0.61
2002	440.7	34,867	9.23%	9.83%	19.06%	3,276.6	2,761.2	515.4	1.17

After plan amendments.

(a) After changes in actuarial assumptions.

COMMENTS

Experience During the Past Year

During the year ended June 30, 2002, overall Retirement System experience was less favorable than assumed. The recognized rate of investment return was substantially less than assumed, including the recognition of gains and losses phased-in from prior years (see page A-7). This year's market value loss of \$381 million is scheduled to be phased in over a 3 year period. Consequently, additional contribution rate increases will occur over the next two years in the absence of offsetting market gains.

Pension Funding Policy

The Board policy for financing unfunded actuarial accrued liabilities (UAAL) is as follows:

1. The remaining portion of June 30, 1992 and June 30, 1998 unfunded actuarial accrued liabilities are financed over a closed amortization period with 19 years remaining as of June 30, 2002.
2. Actuarial experience gains and losses incurred after June 30, 1992 are over a 15 year open (perpetual) amortization period.
3. Changes in unfunded actuarial accrued liabilities due to increased benefits to present retired lives are amortized over a 15 year closed amortization period beginning with the effective date of the increase.
4. Changes in unfunded actuarial accrued liabilities due to increased benefits for active members are financed over a 25 year closed amortization period beginning with the effective date of the increase.

Overall Financial Condition

The Retirement System is in good actuarial condition in accordance with the principles of level percent-of-payroll financing.

SOLVENCY TESTS

The DGRS 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 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

June 30	Actuarial Accrued Liabilities			Valuation Assets	Portion of Accrued Liabilities Covered by Assets			
	(1) Active Member Contr.	(2) Retirees and Benef.	(3) Present Members (Employer-Financed Portion)		(1)	(2)	(3)	Total
	1998(a)#	\$ 626	\$ 1,211		\$ 978	\$ 2,582	100%	100%
1999#	706	1,214	981	2,757	100%	100%	85%	95%
2000	726	1,265	1,086	2,902	100%	100%	84%	94%
2001	721	1,292	1,167	2,912	100%	100%	77%	92%
2002	706	1,407	1,164	2,761	100%	100%	56%	84%

(a) After changes in actuarial assumptions

After plan amendments.



**ASSET INFORMATION
FURNISHED FOR VALUATION
RETIREMENT SYSTEM TOTALS**

Reserve Accounts

Funds	Fund Balances	
	June 30, 2002	June 30, 2001
Annuity Savings	\$ 705,617,754	\$ 720,801,264
Annuity Reserve	26,351,773	24,085,096
Pension Accumulation	688,208,293	942,566,848
Pension Reserve	1,341,025,860	1,224,693,181
Total Fund Balances	\$2,761,203,680	\$2,912,146,389

Revenues and Expenditures

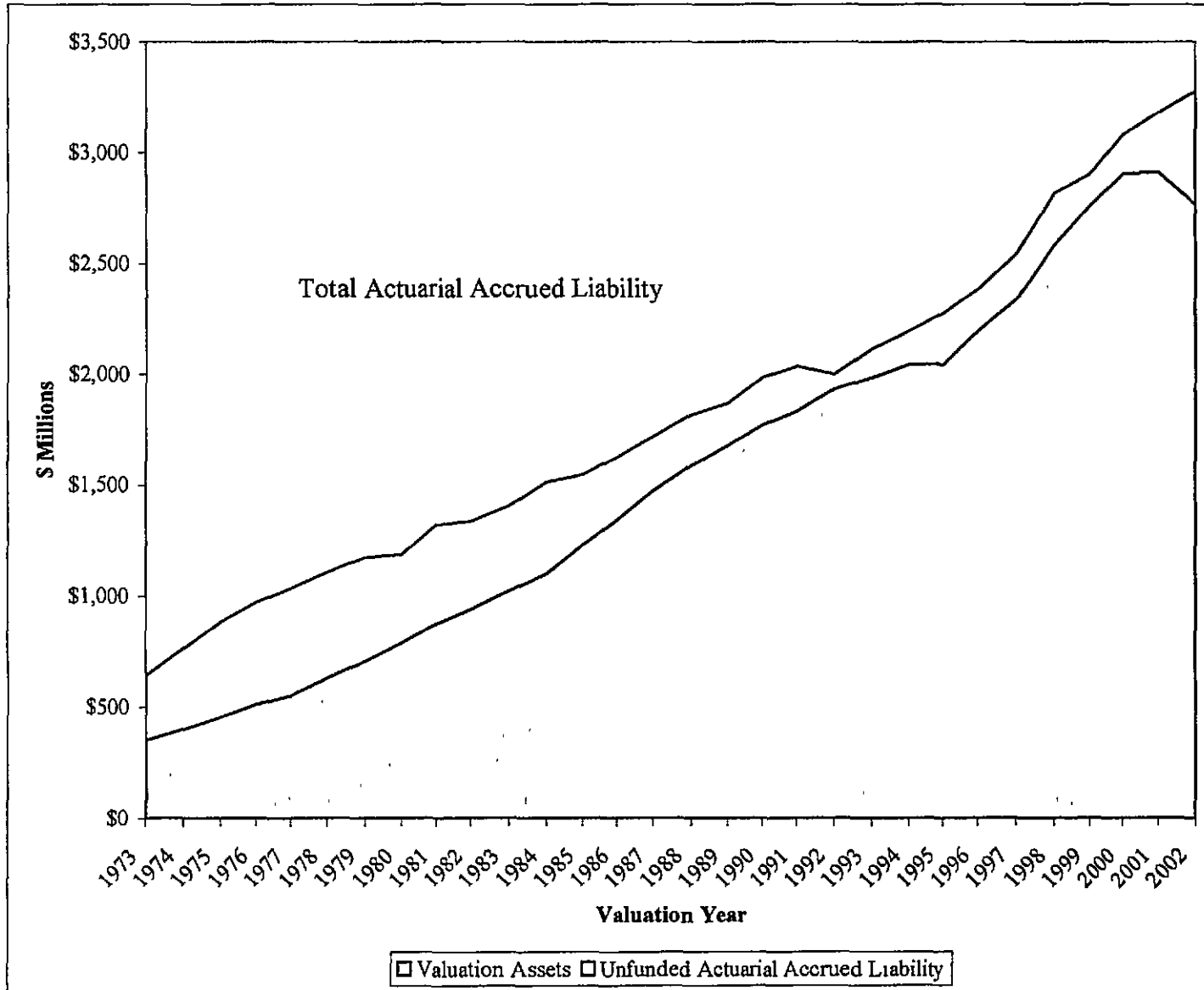
	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2001	\$2,167,260,029	\$744,886,360	\$2,912,146,389
Revenues			
Member contributions	55,770	25,426,515	25,482,285
Employer contributions	67,791,488	0	67,791,488
Recognized investment income	(59,243,155)	53,908,281	(5,334,874)
Transfers	(1,053,963)	231,853	(822,110)
Total	\$ 7,550,140	\$ 79,566,649	\$ 87,116,789
Expenditures			
Benefit payments	141,732,349	3,369,057	145,101,406
Refund of member contributions	956,286	89,114,425	90,070,711
Administrative expenses	2,887,381	0	2,887,381
Total	\$ 145,576,016	\$ 92,483,482	\$ 238,059,498
Balance, June 30, 2002	\$2,029,234,153	\$731,969,527	\$2,761,203,680
Funding Value Rate of Return	(2.9)%	7.6%	(0.3)%

FUNDING VALUE OF ASSETS

Year Ended June 30:	2000	2001	2002	2003	2004
A. Funding Value Beginning of Year	\$2,756,614,458	\$2,902,433,063	\$2,912,146,389		
B. Market Value End of Year	2,947,791,076	2,691,006,082	2,389,996,692		
C. Market Value Beginning of Year	2,845,862,826	2,947,791,076	2,691,006,082		
D. Non-Investment Net Cash Flow(Contribution-Benefits)	(153,124,675)	(125,556,767)	(141,898,344)		
E. Investment Income					
E1. Market Total: B - C - D	255,052,925	(131,228,227)	(159,111,046)		
E2. Amount for Immediate Recogn: (A+D/2) x .079	214,054,389	220,981,501	221,594,573		
E3. Amount for Phased-In Recognition: E1-E2	40,998,536	(352,209,728)	(380,705,619)		
F. Phased-In Recognition of Investment Income					
F1. Current Year: E3/3	13,666,179	(117,403,243)	(126,901,873)		
F2. First Prior Year	18,025,655	13,666,179	(117,403,243)	\$(126,901,873)	
F3. Second Prior Year	53,197,057	18,025,656	13,666,178	(117,403,242)	\$(126,901,873)
F4. Total Recognized Investment Gain	84,888,891	(85,711,408)	(230,638,938)	(244,305,115)	(126,901,873)
G. Total Recognized Investment Income: (E2+F4)	298,943,280	135,270,093	(9,044,365)		
H. Funding Value End of Year: A + D + G	2,902,433,063	2,912,146,389	2,761,203,680		
I. Difference between Market & Funding Value: B - H	45,358,013	(221,140,307)	(371,206,988)	(126,901,873)	0
J. Recognized Rate of Return: G / [1/2(A+H-G)]	11.2%	4.8%	(0.3)%		
K. Market Value Rate of Return (net)	9.2%	(4.5)%	(6.1)%		

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased in over a closed 3 year period. During periods when investment performance exceeds the assumed rate, the 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, it will become equal to Market Value.

ASSETS AND ACCRUED LIABILITIES



PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS
RETIREMENT SYSTEM TOTALS

Active Members

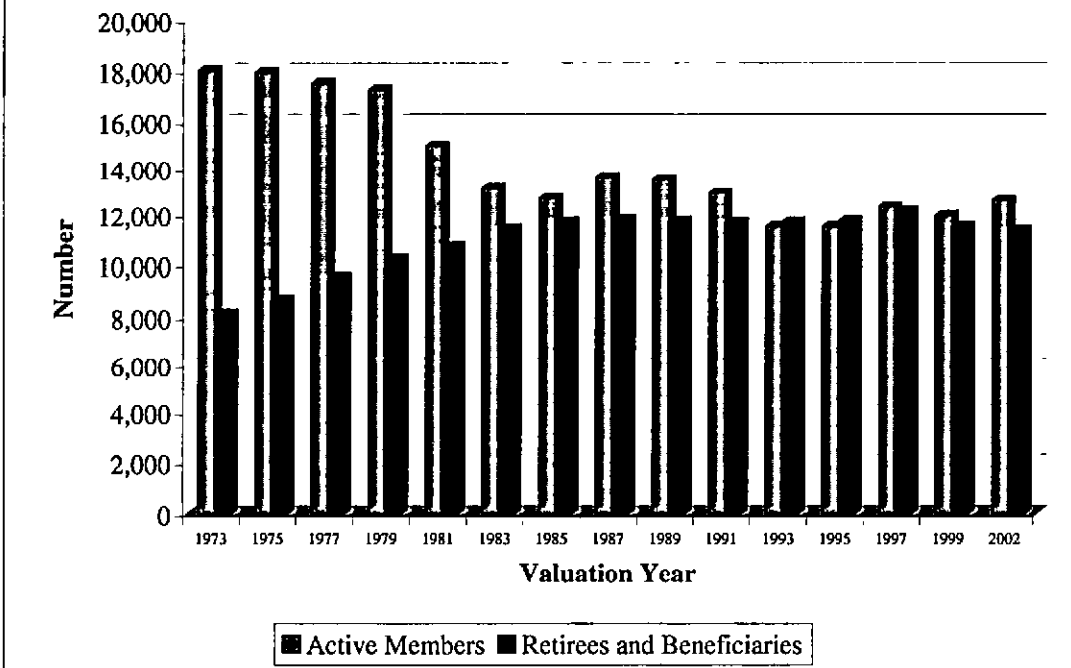
June 30	Active Members		Annual Payroll	Group Averages			
	No.	Change		Average Pay		Age Years	Service Years
				\$	Change		
1973	18,004	(7.1)%	\$198,377,179	\$11,019	7.8 %	43.1	14.2
1974	17,930	(0.4)%	213,255,078	11,894	7.9 %	42.6	13.9
1975	17,935	0.0 %	243,372,127	13,570	14.1 %	42.7	13.7
1976	16,102	(10.2)%	247,803,284	15,390	13.4 %	43.2	14.7
1977	17,508	8.7 %	274,950,896	15,704	2.0 %	41.8	13.2
1978	17,475	(0.2)%	297,680,389	17,035	8.5 %	41.3	12.3
1979	17,258	(1.2)%	310,683,375	18,002	5.7 %	41.5	12.3
1980	15,881	(8.0)%	293,624,360	18,489	2.7 %	41.7	12.6
1981	14,993	(5.6)%	301,243,225	20,092	8.7 %	42.0	13.0
1982	13,730	(8.4)%	283,677,869	20,661	2.8 %	42.0	13.1
1983	13,156	(4.2)%	272,369,708	20,703	0.2 %	41.6	12.6
1984	13,172	0.1 %	288,048,279	21,868	5.6 %	41.5	12.0
1985	12,719	(3.4)%	281,378,439	22,123	1.2 %	41.5	11.9
1986	13,423	5.5 %	299,859,070	22,339	1.0 %	41.1	11.3
1987	13,640	1.6 %	321,402,755	23,563	5.5 %	40.9	11.0
1988	13,368	(2.0)%	326,216,082	24,403	3.6 %	41.0	11.1
1989	13,554	1.4 %	331,555,458	24,462	0.2 %	41.1	11.0
1990	13,207	(2.6)%	352,622,639	26,700	9.1 %	41.5	11.4
1991	12,949	(2.0)%	362,532,918	27,997	4.9 %	41.8	11.7
1992	12,137	(6.3)%	344,320,379	28,369	1.3 %	42.2	12.1
1993	11,508	(5.2)%	331,009,921	28,763	1.4 %	43.0	12.9
1994	11,382	(1.1)%	325,427,813	28,591	(0.6)%	43.1	12.8
1995	11,515	1.2 %	327,615,936	28,451	(0.5)%	42.2	12.6
1996	12,086	5.0 %	360,068,578	29,792	4.7 %	42.8	11.9
1997	12,369	2.3 %	382,835,917	30,951	3.9 %	42.8	11.7
1998	12,261	(0.9)%	387,022,423	31,565	2.0 %	43.3	11.8
1999	11,987	(2.2)%	383,449,421	31,989	1.3 %	43.7	12.1
2000	12,147	1.3 %	417,187,666	34,345	7.4 %	43.5	12.0
2001	12,744	4.9 %	439,636,072	34,497	0.4 %	43.3	11.7
2002	12,639	(0.8)%	440,680,045	34,867	1.1 %	43.7	11.8

PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS
RETIREMENT SYSTEM TOTALS

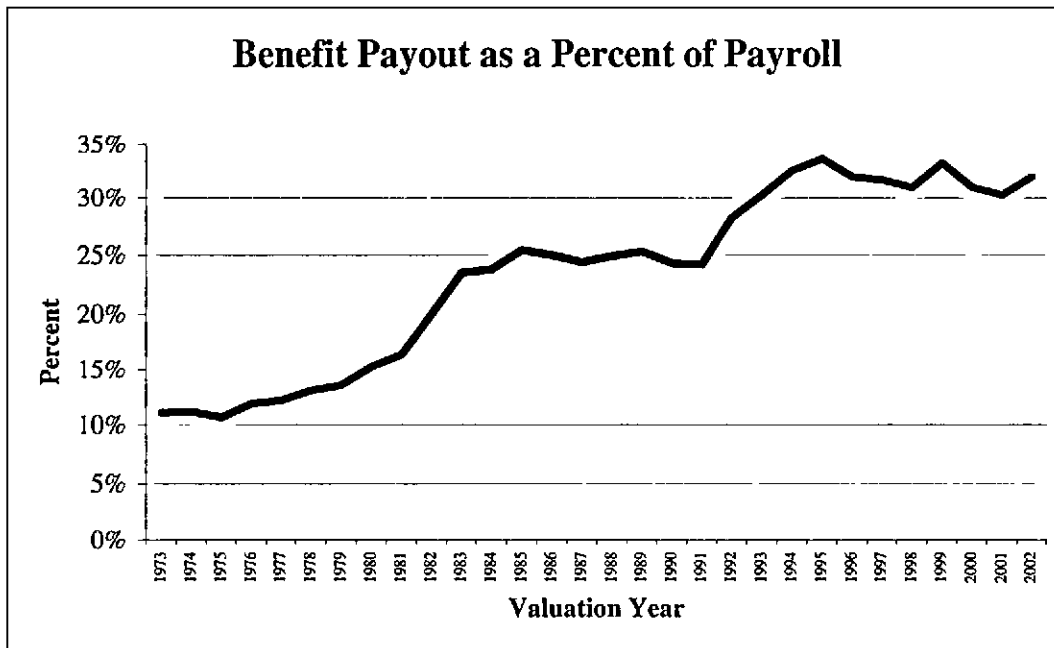
Retirees and Beneficiaries

June 30	No.	% of Current Allowances				Annual Allowances		
		Annuities	Initial Pensions	Escalators & Other Increases	Allow.	Total	Average	% of Payroll
1973	8,132	13.1%	72.8%	14.1%	100.0%	\$ 21,950,395	\$ 2,699	11.1%
1974	8,377	12.1%	74.1%	13.8%	100.0%	23,798,971	2,841	11.2%
1975	8,646	11.1%	74.2%	14.7%	100.0%	26,105,277	3,019	10.7%
1976	8,991	9.7%	76.2%	14.1%	100.0%	29,498,975	3,281	11.9%
1977	9,511	8.5%	78.3%	13.2%	100.0%	33,691,814	3,542	12.3%
1978	9,934	7.4%	79.6%	13.0%	100.0%	39,090,328	3,935	13.1%
1979	10,207	6.8%	82.4%	10.8%	100.0%	42,147,291	4,129	13.6%
1980	10,373	6.3%	81.0%	12.7%	100.0%	45,054,237	4,343	15.3%
1981	10,693	5.6%	81.7%	12.7%	100.0%	49,416,852	4,621	16.4%
1982	10,924	4.8%	77.7%	17.5%	100.0%	56,741,667	5,194	20.0%
1983	11,418	4.1%	79.6%	16.3%	100.0%	64,048,464	5,609	23.5%
1984	11,643	3.8%	80.4%	15.8%	100.0%	68,564,556	5,889	23.8%
1985	11,710	3.4%	80.6%	16.0%	100.0%	71,433,168	6,100	25.4%
1986	11,776	3.2%	80.7%	16.1%	100.0%	74,834,820	6,355	25.0%
1987	11,800	2.9%	80.2%	16.9%	100.0%	78,342,384	6,639	24.4%
1988	11,728	3.0%	80.0%	17.0%	100.0%	81,346,500	6,936	24.9%
1989	11,734	3.0%	79.8%	17.2%	100.0%	83,790,744	7,141	25.3%
1990	11,684	2.9%	79.1%	18.0%	100.0%	85,720,620	7,337	24.3%
1991	11,691	2.9%	78.7%	18.4%	100.0%	87,625,800	7,495	24.2%
1992	11,674	2.6%	76.5%	20.9%	100.0%	97,218,012	8,328	28.2%
1993	11,719	2.8%	77.7%	19.5%	100.0%	100,203,596	8,551	30.3%
1994	11,649	2.8%	76.9%	20.3%	100.0%	106,193,220	9,116	32.6%
1995	11,756	2.7%	76.7%	20.6%	100.0%	110,262,876	9,379	33.7%
1996	11,889	2.6%	75.5%	21.9%	100.0%	115,232,400	9,692	32.0%
1997	12,199	2.4%	74.4%	23.2%	100.0%	121,255,488	9,940	31.7%
1998	11,593	2.3%	73.7%	24.0%	100.0%	119,852,820	10,338	31.0%
1999	11,537	2.4%	76.6%	21.0%	100.0%	127,535,748	11,054	33.3%
2000	11,480	2.2%	77.7%	20.1%	100.0%	129,354,696	11,268	31.0%
2001	11,450	2.3%	77.7%	20.0%	100.0%	133,170,804	11,631	30.3%
2002	11,363	2.2%	78.2%	19.6%	100.0%	140,805,120	12,392	32.0%

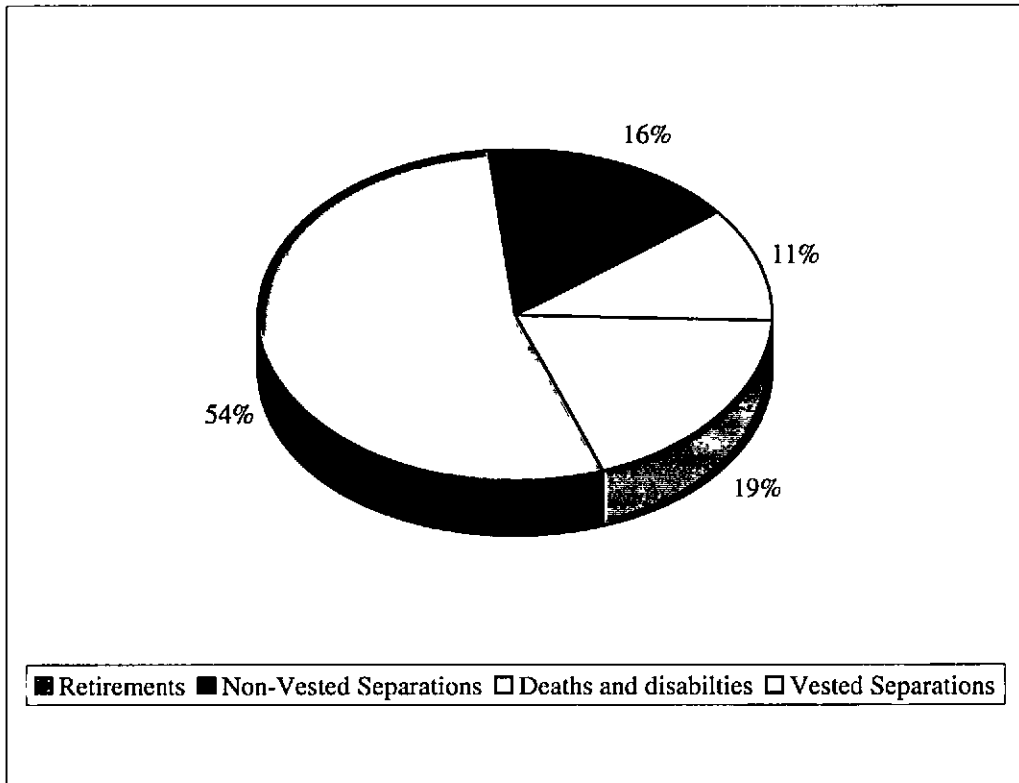
Active and Retired Members



Benefit Payout as a Percent of Payroll



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 12,639 active members. Eventually, 1,985 people are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 9,304 people are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 1,350 people are expected to become eligible for death-in-service or disability benefits.

RETIRES AND BENEFICIARIES JUNE 30, 2002
TABULATED BY ATTAINED AGES
RETIREMENT SYSTEM TOTALS

Attained Ages	Age & Service#		Disability		Death-in-Service		Totals	
	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances
Under 20*	22	\$ 30,550			5	\$ 1,918	27	\$ 32,468
20-24	1	407					1	407
25-29								
30-34	3	2,591	4	\$ 2,127			7	4,718
35-39	6	2,949	16	7,333	1	664	23	10,946
40-44	5	1,873	69	28,337	9	6,827	83	37,037
45-49	65	90,922	155	60,716	16	15,098	236	166,736
50-54	375	680,126	173	75,333	20	21,786	568	777,245
55-59	707	1,332,536	199	104,221	34	40,896	940	1,477,653
60-64	1,036	1,571,003	156	163,814	47	46,457	1,239	1,781,274
65-69	1,142	1,261,039	99	69,397	60	56,191	1,301	1,386,627
70-74	1,493	1,590,305	108	66,391	94	67,299	1,695	1,723,995
75-79	1,902	1,822,160	164	108,110	107	77,238	2,173	2,007,508
80-84	1,530	1,327,766	108	70,675	107	66,014	1,745	1,464,455
85-89	815	584,959	54	28,813	56	29,302	925	643,074
90-94	290	163,792	17	7,738	21	8,685	328	180,215
95-99	67	37,330	2	699	3	1,373	72	39,402
Totals	9,459	\$10,500,308	1,324	\$793,704	580	\$439,748	11,363	\$11,733,760

* May include records with defective birth dates.

Includes survivor beneficiaries of deceased retirees.

INACTIVE VESTED MEMBERS JUNE 30, 2002
BY ATTAINED AGES
RETIREMENT SYSTEM TOTALS

Attained Ages	No.	Estimated Annual Pensions
Under 25		
25-29	3	\$ 8,796
30-34	10	50,796
35-39	77	463,128
40-44	192	1,384,848
45-49	263	2,106,108
50-54	350	2,602,656
55-59	314	2,168,004
60-64	153	898,152
65-69	52	318,636
70-74	18	76,584
75-79	4	9,768
80 and Over	3	26,088
Totals	1,439	\$10,113,564

**ACTIVE MEMBERS AS OF JUNE 30, 2002
BY ATTAINED AGE AND YEARS OF SERVICE
RETIREMENT SYSTEM TOTALS**

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	178							178	\$ 2,942,227
20-24	446	9						455	9,342,037
25-29	496	160	4					660	17,519,461
30-34	712	407	106	17				1,242	38,396,762
35-39	597	524	337	203	5			1,666	54,772,777
40-44	540	447	412	475	213	25		2,112	73,602,419
45-49	476	377	323	503	512	230	7	2,428	87,802,859
50-54	279	259	233	315	417	355	129	1,987	77,294,138
55-59	142	163	140	209	235	201	172	1,262	52,319,658
60-64	67	82	51	57	89	54	73	473	19,401,230
65-69	15	23	15	13	17	8	30	121	5,221,688
70-74		10	3	6		0	13	36	1,302,818
75-79	1	1	2	3	1	1	10	19	761,971
Totals	3,952	2,462	1,626	1,801	1,490	874	434	12,639	\$440,680,045

Group Averages:

Age: 43.7 years
Service: 11.8 years
Annual Pay: \$34,867

RETIREES AND BENEFICIARIES JUNE 30, 2002
TABULATED BY YEAR OF RETIREMENT

Year of Retirement	No.	Monthly Allowances	
		Total	Average
1950 & before	9	\$ 3,375	\$375
1951-1955	30	11,285	376
1956-1960	20	7,377	369
1961-1965	88	35,105	399
1966-1970	294	128,866	438
1971-1975	850	480,228	565
1976-1980	1,814	1,324,237	730
1981-1985	2,214	2,124,452	960
1986-1990	1,650	1,656,219	1,004
1991-1995	1,974	2,280,315	1,155
1996-2000	1,940	2,825,751	1,457
2001	317	541,798	1,709
2002	163	314,752	1,931
Totals	11,363	\$11,733,760	\$1,033

SUMMARY OF BENEFIT PROVISIONS EVALUATED

Age and Service Pension

Eligibility - Any age (minimum age 55 for members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount - Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: \$150 after 5 years, \$300 after 10 years, \$450 after 15 years, \$600 after 20 years, and \$750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (minimum age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - *Non-Union, SAAA, APTE and lawyers hired prior to June 30, 1986:* Benefit begins at the age the member would have become eligible for regular retirement if service had continued. *Others:* Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

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

Duty Disability Retirement

Eligibility - Service related disability before age 60. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is \$9,000. At the earliest of when the member would have accrued 30 years service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years service credit) with no maximum.

SUMMARY OF BENEFIT PROVISIONS EVALUATED (CONTINUED)

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is \$6,000. Benefit is recomputed at age 60 with no maximum.

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is \$9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of \$600 annually.

Non-Duty Death Before Retirement

Eligibility - Death in service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: \$9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service (\$6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the original pension amount at retirement.

Member Contributions

Members have the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation.

SECTION B

Divisions Separately Experience Rated

**SUMMARY OF MEMBER DATA
JUNE 30, 2002**

Active Members

	General	D.O.T.	Water	Sewage	Housing	Library	Totals
Number	7,320	1,705	1,797	1,106	262	449	12,639
% Change in active members	(0.1)%	1.7 %	(2.1)%	1.1 %	(19.4)%	(7.8)%	(0.8)%
Annual payroll (\$ millions)	\$256.2	\$52.3	\$61.8	\$45.0	\$10.7	\$14.7	\$440.7
Average pay	\$35,006	\$30,677	\$34,376	\$40,719	\$40,661	\$32,676	\$34,867
% Change in average pay	0.8 %	0.1 %	2.4 %	0.5 %	2.8 %	5.1 %	1.1 %

Retired Members and Survivor Beneficiaries

	General	D.O.T.	Water	Sewage	Housing	Library	Totals
Number	7,392	1,667	1,446	227	327	304	11,363
Annual payroll (\$ millions)	\$92.0	\$19.6	\$20.3	\$2.8	\$4.2	\$5.0	\$143.9
Average benefits	\$12,440	\$11,761	\$14,036	\$12,529	\$12,833	\$16,493	\$12,665
% Change in average benefit	6.2 %	4.7 %	9.0 %	4.0 %	6.2 %	9.3 %	6.5 %

**ALLOCATION OF ASSETS USED FOR VALUATION
RESERVE ACCOUNTS**

	June 30, 2002	June 30, 2001
Annuity Savings Fund		
General	\$ 360,219,841	\$ 373,487,145
D.O.T.	102,872,467	105,589,118
Water	149,797,386	149,345,035
Sewage	56,294,072	53,201,196
Housing	15,111,602	17,121,722
Library	21,322,386	22,057,048
Totals	705,617,754	720,801,264
Annuity Reserve Fund		
General	14,680,920	13,234,997
D.O.T.	3,584,507	3,228,334
Water	3,476,256	3,501,010
Sewage	1,584,574	1,542,599
Housing	1,316,302	1,316,157
Library	1,709,214	1,261,999
Totals	26,351,773	24,085,096
Pension Accumulation Fund		
General	333,143,338	472,951,834
D.O.T.	68,368,394	92,874,467
Water	46,697,856	81,089,764
Sewage	187,185,171	221,320,084
Housing	21,445,482	29,375,668
Library	31,368,052	44,955,031
Totals	688,208,293	942,566,848
Pension Reserve Fund		
General	854,410,673	784,503,263
D.O.T.	172,771,674	161,209,825
Water	201,634,182	175,400,075
Sewage	27,309,997	27,537,007
Housing	39,376,352	36,136,389
Library	45,522,982	39,906,622
Totals	1,341,025,860	1,224,693,181
Retirement System Totals	\$2,761,203,680	\$2,912,146,389

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2002
BY DIVISION
(\$ IN THOUSANDS)

City of Detroit General Retirement System

Present Value, June 30 of	General	D.O.T.	Water	Sewage	Housing	Library	Totals
Accrued Pension Liabilities							
Retirees and beneficiaries	\$877,271	\$177,072	\$209,092	\$27,561	\$40,539	\$47,529	\$1,379,064
Inactive members future deferred pensions	58,014	12,225	13,727	4,276	2,745	2,346	93,333
Active members	592,689	129,725	156,756	131,268	21,028	38,731	1,070,197
Total accrued pension liabilities	1,527,974	319,022	379,575	163,105	64,312	88,606	2,542,594
Pension fund balances	1,187,554	241,140	248,332	214,495	60,822	76,891	2,029,234
Unfunded accrued pension liabilities	340,420	77,882	131,243	(51,390)	3,490	11,715	513,360
Accrued Annuity Liabilities							
Retirees and beneficiaries	17,082	3,670	4,253	695	966	1,712	28,378
Members annuities & future refunds	360,220	102,872	149,797	56,294	15,112	21,322	705,617
Total accrued annuity liabilities	377,302	106,542	154,050	56,989	16,078	23,034	733,995
Annuity fund balances	374,901	106,457	153,274	57,879	16,428	23,032	731,971
Unfunded accrued annuity liabilities	2,401	85	776	(890)	(350)	2	2,024
Totals							
Actuarial Accrued Liabilities	1,905,276	425,564	533,625	220,094	80,390	111,640	3,276,589
Accrued Assets	1,562,455	347,597	401,606	272,374	77,250	99,923	2,761,205
Unfunded Actuarial Accrued Liabilities	\$342,821	\$77,967	\$132,019	\$(52,280)	\$3,140	\$11,717	\$515,384

Note: Totals may be off slightly due to rounding.

DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED JUNE 30, 2002
(\$ IN MILLIONS)

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses may 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.

	General	D.O.T.	Water	Sewage	Housing	Library	Totals
(1) UAAL* at start of year	\$216.4	\$51.5	\$94.3	\$(91.1)	\$(1.7)	\$(2.0)	\$267.4
(2) Normal cost from last valuation	24.2	4.2	5.7	4.1	1.0	1.4	40.6
(3) Employer contributions	41.7	10.0	12.2	1.6	1.2	1.1	67.8
(4) Interest accrual: $[(1) + 1/2 [(2) - (3)]] \times .079$	16.4	3.8	7.2	(7.1)	(0.1)	(0.1)	20.1
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	215.3	49.5	95.0	(95.7)	(2.0)	(1.8)	260.3
(6) Increase due to active member plan amendments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(7) Increase due to ad hoc increase for retirees	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(8) Expected UAAL after changes: (5) + (6) + (7)	215.3	49.5	95.0	(95.7)	(2.0)	(1.8)	260.3
(9) Actual UAAL at end of year	342.8	78.0	132.0	(52.3)	3.1	11.7	515.3
(10) Experience gain (loss): (8) - (9)	\$(127.5)	\$(28.5)	\$(37.0)	\$(43.4)	\$(5.1)	\$(13.5)	\$(255.0)
(11) Gain (loss) as % of beginning of year accrued liability	(8.6)%	(9.2)%	(10.5)%	(27.2)%	(7.9)%	(16.1)%	(10.4)%

* Unfunded actuarial accrued liabilities.

Note: Totals may be off slightly due to rounding.

**ACTIVE AND RETIRED MEMBERS
INCLUDED IN VALUATION
HISTORIC COMPARISONS**

*Active Members
by Valuation Division*

June 30	General	D.O.T.	Water	Sewage	Housing	Library	Totals
1987	7,936	1,994	1,687	1,163	317	543	13,640
1988	7,855	1,928	1,631	1,127	296	531	13,368
1989	7,899	2,022	1,646	1,156	305	526	13,554
1990	7,658	1,974	1,648	1,153	296	478	13,207
1991	7,301	1,935	1,737	1,193	281	502	12,949
1992	6,739	1,736	1,657	1,181	299	525	12,137
1993	6,274	1,694	1,586	1,132	298	524	11,508
1994	6,289	1,596	1,592	1,108	308	489	11,382
1995	6,377	1,585	1,604	1,091	369	489	11,515
1996	6,620	1,724	1,681	1,134	461	466	12,086
1997	6,717	1,845	1,727	1,185	436	459	12,369
1998	6,659	1,764	1,785	1,184	430	439	12,261
1999	6,527	1,669	1,768	1,173	414	436	11,987
2000	6,941	1,606	1,770	1,064	334	432	12,147
2001	7,325	1,677	1,836	1,094	325	487	12,744
2002	7,320	1,705	1,797	1,106	262	449	12,639

*Retired Members & Beneficiaries
by Valuation Division*

June 30	General	D.O.T.	Water	Sewage	Housing	Library	Totals
1987	7,829	2,208	1,063	167	272	261	11,800
1988	7,793	2,123	1,083	176	284	269	11,728
1989	7,820	2,076	1,102	180	292	264	11,734
1990	7,803	2,020	1,114	195	297	255	11,684
1991	7,834	1,960	1,135	210	297	255	11,691
1992	7,842	1,887	1,152	234	299	260	11,674
1993	7,866	1,837	1,189	256	309	262	11,719
1994	7,827	1,789	1,203	268	304	258	11,649
1995	7,883	1,788	1,256	254	310	265	11,756
1996	7,910	1,823	1,312	257	323	264	11,889
1997	8,086	1,858	1,377	254	347	277	12,199
1998	7,665	1,738	1,334	247	337	272	11,593
1999	7,599	1,719	1,360	243	338	278	11,537
2000	7,522	1,706	1,387	242	330	293	11,480
2001	7,483	1,684	1,418	235	327	303	11,450
2002	7,392	1,667	1,446	227	327	304	11,363

EMPLOYER COMPUTED CONTRIBUTIONS - HISTORIC COMPARISON

City of Detroit General Retirement System

Valuation Date June 30	As Percents of Valuation Payroll						
	General	D.O.T.	Water	Sewage	Housing	Library	Totals
1973	23.52%	50.41%	23.25%	14.88%	20.77%	22.88%	26.30%
1974(a)	17.46%	33.07%	17.13%	14.19%	16.87%	16.79%	19.37%
1975*	18.43%	35.34%	18.41%	14.33%	17.76%	18.59%	20.29%
1976	19.09%	34.77%	18.36%	13.80%	17.84%	19.03%	20.77%
1977	18.77%	33.88%	18.26%	12.99%	17.97%	19.04%	20.29%
1978	18.85%	31.62%	18.23%	12.18%	17.57%	19.26%	19.99%
1979	18.81%	30.35%	18.27%	11.44%	17.09%	19.19%	19.71%
1980	18.58%	25.56%	18.02%	10.85%	16.81%	18.24%	18.92%
1981*	20.67%	30.27%	19.41%	12.52%	17.81%	20.24%	20.89%
1982(a)	19.39%	27.36%	18.12%	10.97%	16.94%	19.07%	19.08%
1983	19.19%	28.30%	17.57%	9.86%	16.10%	17.33%	19.01%
1984(a)	20.27%	27.45%	18.36%	9.48%	17.22%	18.15%	19.78%
1985	17.81%	24.64%	16.35%	6.52%	14.45%	13.75%	17.22%
1986*	16.39%	23.17%	15.28%	5.04%	12.29%	11.46%	15.82%
1987	15.62%	21.67%	14.74%	3.26%	11.24%	10.10%	14.87%
1988(a)*	15.96%	19.82%	15.03%	2.98%	11.54%	10.47%	14.90%
1989	15.18%	18.54%	14.49%	1.58%	11.33%	8.80%	14.02%
1990	15.72%	18.62%	15.10%	2.02%	11.08%	9.04%	14.46%
1991	15.31%	17.73%	14.45%	1.80%	10.51%	8.42%	13.89%
1992(a)*	11.21%	10.08%	10.49%	0.76%	6.94%	6.15%	9.61%
1993(a)	11.57%	10.80%	12.31%	0.59%	8.14%	5.51%	10.10%
1994	12.31%	11.35%	13.42%	0.25%	8.55%	7.65%	10.79%
1995	14.71%	12.65%	15.68%	0.98%	10.74%	10.28%	12.91%
1996	13.23%	12.52%	15.83%	0.00%	9.74%	7.64%	11.58%
1997(a)	13.47%	12.94%	15.32%	0.00%	9.34%	7.09%	11.84%
1998(a)*	15.80%	14.23%	17.16%	0.00%	11.38%	9.73%	13.75%
1999*	15.31%	13.70%	16.95%	0.00%	10.48%	8.04%	13.26%
2000	15.19%	14.37%	17.12%	0.00%	9.01%	6.97%	13.37%
2001	15.92%	15.36%	19.12%	0.00%	9.25%	9.20%	14.27%
2002	20.43%	20.50%	27.34%	0.74%	12.14%	16.66%	19.06%

(a) After changes in actuarial assumptions.

* After plan amendments.

SECTION C

Actuarial Disclosures Required
by Statement No. 25 of the
Governmental Accounting
Standards Board

GASB STATEMENT NO. 25 REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Funding Progress

Actuarial Valuation Date June 30	Actuarial Value of Assets (a)	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*#	\$1,930,339,963	\$1,998,966,965	\$ 68,527,002	96.6%	\$344,320,379	19.9%
1993#	1,983,829,832	2,114,227,938	130,398,106	93.8%	331,009,921	39.4%
1994	2,041,914,572	2,192,846,039	150,931,467	93.1%	325,427,813	46.4%
1995	2,043,397,183	2,275,210,040	231,812,857	89.8%	327,615,936	70.8%
1996	2,193,234,516	2,382,866,954	189,632,438	92.0%	360,068,578	52.7%
1997#	2,333,412,893	2,528,504,057	195,091,164	92.3%	382,835,917	51.0%
1998#*	2,582,099,884	2,814,878,226	232,778,342	91.7%	387,022,423	60.1%
1999*	2,756,614,458	2,900,404,223	143,789,765	95.0%	383,449,421	37.5%
2000	2,902,433,063	3,077,001,129	174,568,066	94.3%	417,187,666	41.8%
2001	2,912,146,389	3,179,601,214	267,454,825	91.6%	439,636,072	60.8%
2002	2,761,203,680	3,276,591,209	515,387,529	84.3%	440,680,045	117.0%

* After all plan amendments.

After changes in actuarial assumptions.

Schedule of Employer Contributions

Valuation Year Ended June 30	Contribution Rates as Percents of Valuation Payroll	Annual Required Contribution Based on Actual Payroll	Percentage Contributed
1992	9.74%	\$35,760,351	100%
1993	10.10%	36,553,164	100%
1994	10.79%	42,473,029	100%
1995	12.91%	54,655,929	100%
1996	11.58%	52,707,172	100%
1997	12.30%	55,683,125	100%
1998	13.75%	66,681,049	100%
1999	13.26%	68,139,535	100%
2000	13.37%	67,791,488	100%
2001	14.27%	-	-
2002	19.06%	-	-

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, 2002
Actuarial cost method	Entry Age
Amortization method	Level percent
Remaining amortization period for unfunded accrued liabilities	19 years (see page A-4)
Perpetual amortization period for gain/loss	15 years
Asset valuation method	3 year smoothed market
Actuarial assumptions:	
Investment rate of return	7.9%
Projected salary increases*	4.0% - 10.0%
*Includes inflation at	4.0%
Cost-of-living adjustments	2.25% of original pension amount at retirement.

Membership of the plan consisted of the following at June 30, 2002, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	11,363
Terminated plan members entitled to but not yet receiving benefits	1,439
Active plan members	12,639
Total	25,441

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
JUNE 30, 2002

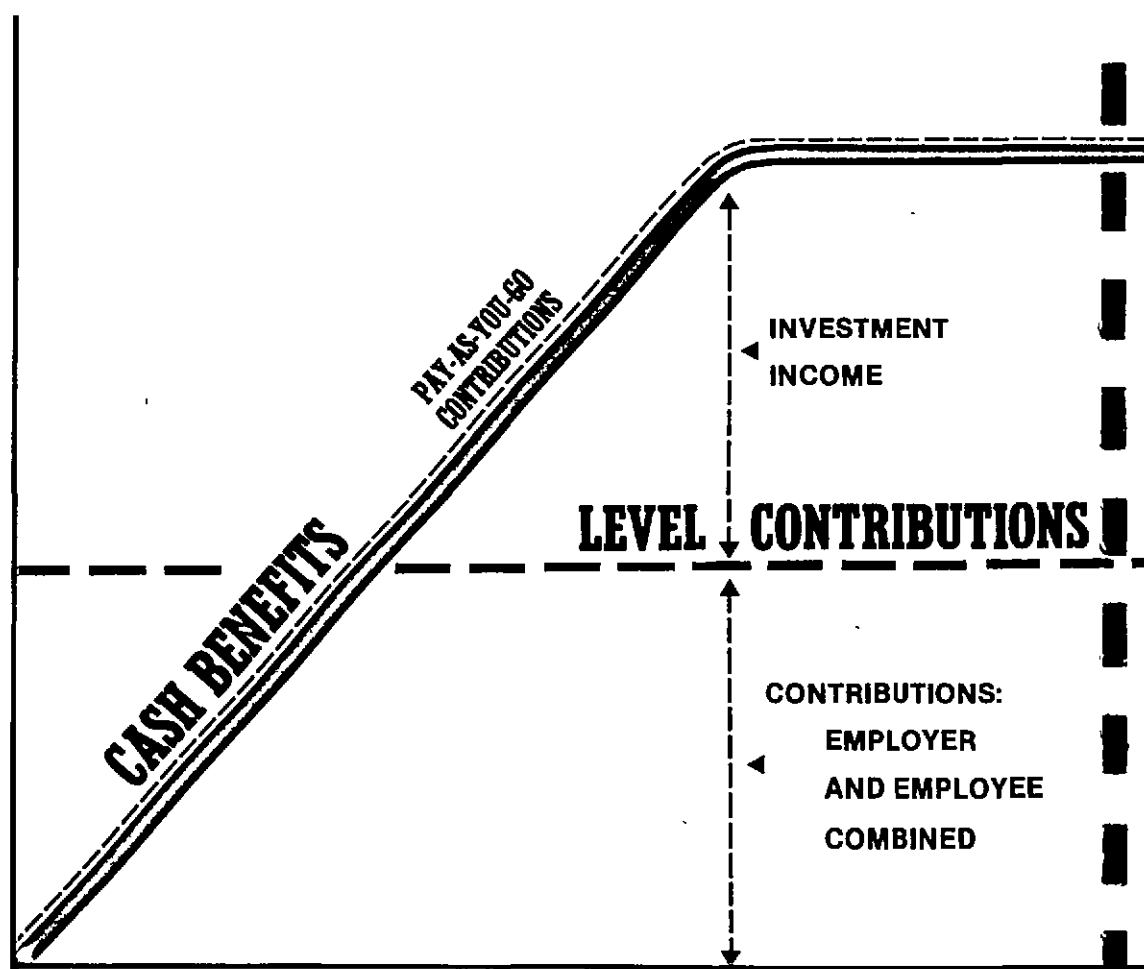
Marriage Assumption:	100% of members are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Pay increases are assumed to occur at the beginning of the valuation.
Decrement Timing:	Decrements of all types are assumed to occur at the middle of the year
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Mortality and disability decrements do not operate during the first 5 years of service. Disability also does not operate after normal retirement eligibility.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Normal Form of Benefit:	Straight Life.

SECTION D

Financial Principles

**% OF
ACTIVE
EMPLOYEE
PAYS**

START



50 ±

YEARS OF TIME

CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

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) and is an *increasing contribution method*; and the *level contribution method* which seeks to balance contribution rates between generations.

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

A. *Member Census Data:*

Retired lives now receiving benefits

Former employees with vested benefits not yet payable

Active employees

B. *Benefit provisions* governing future payments from the plan

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 ...

Interest 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.

SECTION E

Appendix

**SUMMARY OF ASSUMPTIONS USED FOR DGRS ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES
AFTER CONSULTING WITH ACTUARY**

Economic Assumptions

The investment return rate used in making the valuation was 7.9% 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 economic assumptions, the 7.9% total investment return rate translates to an assumed real rate of return of 3.9%.

Pay increase assumptions for individual active members are shown on page E-3. Part of the assumption for each age is for a merit and/or seniority increase, and the other 4.0% recognizes inflation.

Total active member payroll is assumed to increase 4.0% annually, which is the portion of the individual pay increase assumptions attributable to 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 80% the 1983 Group Annuity Mortality Table. Related values are shown on page E-3. This table was first used for the June 30, 1998 valuation.

The probabilities of retirement for members eligible to retire are shown on page E-4. These probabilities were revised for the June 30, 1998 valuation.

The probabilities of separation from service (including *death-in-service* and *disability*) are shown for sample ages on page E-5. These probabilities were revised for the June 30, 1998 valuation.

Funding Methods

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

Differences between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities and are amortized over a 15 year period.

Unfunded actuarial accrued liabilities (net of actuarial gains and losses after 6/30/92 and 6/30/98) are amortized over a 19 year period (see page A-4), to produce contribution amounts (principal & interest) which are level percent of payroll contributions.

Employer contribution dollars were assumed to be paid in equal monthly installments throughout the employer fiscal year.

Present assets were reported to be valued using a three year smoothing of the difference between expected and actual investment income.

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

Sample Ages	Salary Increase Assumptions For an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	6.0%	4.0%	10.0%
25	5.0%	4.0%	9.0%
30	2.4%	4.0%	6.4%
35	1.3%	4.0%	5.3%
40	0.8%	4.0%	4.8%
45	0.7%	4.0%	4.7%
50	0.4%	4.0%	4.4%
55	0.2%	4.0%	4.2%
60	0.0%	4.0%	4.0%
Ref	128		

SINGLE LIFE RETIREMENT VALUES

Sample Attained Ages	Present Value of \$1 Monthly for Life Increasing 2.25% Annually		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	\$165.06	\$176.50	31.33	36.92
55	154.62	168.18	26.89	32.19
60	141.89	157.66	22.60	27.57
65	126.80	144.71	18.52	23.10
70	110.42	129.13	14.85	18.83
75	93.49	111.69	11.64	14.94
80	76.91	93.92	8.93	11.57
Ref:	30 x 0.80	31 x 0.80		

**PROBABILITIES OF AGE/SERVICE RETIREMENT
FOR MEMBERS ELIGIBLE TO RETIRE**

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year	
	General	D.O.T.
50-54	25%	50%
55	25%	50%
56	25%	50%
57	25%	50%
58	25%	50%
59	25%	50%
60	25%	50%
61	25%	50%
62	25%	50%
63	25%	40%
64	25%	40%
65	40%	30%
66	35%	30%
67	25%	30%
68	25%	30%
69	25%	30%
70	25%	100%
71	25%	100%
72	25%	100%
73	25%	100%
74	25%	100%
75	25%	100%
76	25%	100%
77	25%	100%
78	25%	100%
79	25%	100%
80	100%	100%
Ref	536	535

**SAMPLE RATES OF SEPARATION FROM ACTIVE
EMPLOYMENT BEFORE RETIREMENT**

Sample Ages	Years of Service	% of Active Members Separating Within Next Year				
		Withdrawal			Death	
		Men	Women	D.O.T	Men	Women
ALL	0	15.00%	20.00%	19.00%		
	1	11.00%	14.00%	13.00%		
	2	9.00%	12.00%	10.00%		
	3	8.00%	9.50%	9.00%		
	4	7.00%	9.00%	8.50%		
25	5 & Over	7.00%	9.00%	8.00%	0.03%	0.02%
30		7.00%	7.50%	8.00%	0.05%	0.03%
35		6.10%	6.20%	6.30%	0.06%	0.04%
40		4.30%	4.30%	4.60%	0.09%	0.05%
45		2.90%	2.90%	3.60%	0.16%	0.08%
50		2.50%	2.50%	2.80%	0.29%	0.12%
55		2.50%	2.50%	2.50%	0.46%	0.19%
60	2.50%	2.50%	2.50%	0.69%	0.32%	
Ref		205 360	206 361	204 359	30 x .75	31 x .75

Sample Ages	% of Active Members Becoming Disabled Within Next Year			
	General		D.O.T.	
	Ordinary	Duty	Ordinary	Duty
25	0.01%	0.50%	0.02%	0.02%
30	0.04%	0.50%	0.05%	0.07%
35	0.11%	0.50%	0.12%	0.18%
40	0.21%	0.50%	0.24%	0.36%
45	0.40%	0.50%	0.45%	0.68%
50	0.51%	0.50%	0.59%	0.88%
55	0.59%	0.50%	0.68%	1.01%
60	0.67%	0.00%	0.77%	1.15%
Ref	23 x 0.35	218 x 1.00	23 x 0.40	23 x 0.60

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. Inflation is a very destructive force on financial stability.

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 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. Generally based on market value plus a portion of unrealized appreciation or depreciation.

**CITY OF DETROIT
GENERAL RETIREMENT SYSTEM
64TH ANNUAL ACTUARIAL VALUATION
June 30, 2002**

**PRELIMINARY REPORT
NOVEMBER 14, 2002**

GABRIEL, ROEDER, SMITH & COMPANY



Actuaries and Consultants

**SUMMARY OF COMPUTED EMPLOYER CONTRIBUTION RATES
2003-2004 FISCAL YEAR**

Contributions for	Contributions Expressed as a Percent of Payroll					
	General City	D.O.T.	Water	Sewage	Housing	Library
Normal Cost:						
Age & Service Pensions	7.36 %	6.72 %	7.02 %	6.91 %	7.61 %	7.53 %
Disability Pensions	1.77 %	1.04 %	1.84 %	1.78 %	1.50 %	1.81 %
Death-in-Service Pensions	0.33 %	0.31 %	0.39 %	0.40 %	0.35 %	0.25 %
Employer Normal Cost	9.46 %	8.07 %	9.25 %	9.09 %	9.46 %	9.59 %
Unfunded Actuarial Accrued Liabilities#	10.69 %	12.15 %	17.51 %	(8.35)%	2.02 %	6.89 %
Computed Employer Contribution Rates	20.15 %	20.22 %	26.76 %	0.74 %	11.48 %	16.48 %
(Change from last yr.)	4.23 %	4.86 %	7.64 %	0.74 %	2.23 %	7.28 %

Unfunded actuarial accrued liabilities (UAAL) were amortized over various periods of future years as described on page A-4.

COMMENT

The valuation results shown above do not include a provision for the potential financial effect of retroactive transfers to the 1998 Defined Contribution Plan, which will occur after that plan has been approved and implemented.

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2002
RETIREMENT SYSTEM TOTALS

Present Value, June 30	
Accrued Pension Liabilities	
Retirees and beneficiaries	
Future pensions	\$1,379,064,559
Mortality reserve	0
Total	1,379,064,559
Inactive members future deferred pensions	78,162,584
Active members	1,070,197,851
Total accrued pensions	2,527,424,994
Pension fund balances	2,028,960,116
Unfunded accrued pension liabilities	\$ 498,464,878
Accrued Annuity Liabilities	
Retirees and beneficiaries	
Future annuities	\$ 28,378,829
Mortality reserve	0
Total	28,378,829
Member annuities & future refunds	705,617,754
Total accrued annuity liabilities	733,996,583
Annuity fund balances	731,969,527
Unfunded accrued annuity liabilities	\$ 2,027,056
Totals	
Actuarial Accrued Liabilities	\$3,261,421,577
Accrued Assets	2,760,929,643
Unfunded Actuarial Accrued Liabilities	\$ 500,491,934

VALUATION RESULTS - COMPARATIVE STATEMENT
----- \$ IN MILLIONS -----
RETIREMENT SYSTEM TOTALS

June 30	Active Payroll		% of Payroll Contributions For			Actuarial Accrued Liabilities			Unfunded/ Active Pay
			Normal Cost	UAAL	Total	Computed Total	Accrued Assets	Unfunded	
	Total	Average							
1985	\$281.4	\$22,123	8.85%	8.37%	17.22%	\$1,545.3	\$1,227.9	\$317.4	1.13
1986	299.9	22,339	8.61%	7.21%	15.82%	1,625.9	1,342.4	283.5	0.95
1987	321.4	23,563	9.05%	5.82%	14.87%	1,718.1	1,471.7	246.4	0.77
1988(a)	326.2	24,403	9.33%	5.57%	14.90%	1,816.9	1,585.9	231.0	0.71
1989	331.6	24,462	9.26%	4.76%	14.02%	1,869.8	1,678.3	191.5	0.58
1990	352.6	26,700	9.22%	5.24%	14.46%	1,983.0	1,768.9	214.1	0.61
1991	362.5	27,997	8.80%	5.09%	13.89%	2,034.7	1,832.4	202.3	0.56
1992(a)#	344.3	28,369	8.48%	1.13%	9.61%	1,998.8	1,930.3	68.5	0.20
1993(a)	331.0	28,763	8.02%	2.08%	10.10%	2,114.2	1,983.8	130.4	0.39
1994	325.4	28,591	8.06%	2.73%	10.79%	2,192.8	2,041.9	150.9	0.46
1995	327.6	28,451	8.11%	4.80%	12.91%	2,275.2	2,043.4	231.8	0.71
1996	360.1	29,729	8.14%	3.44%	11.58%	2,382.8	2,193.2	189.6	0.53
1997(a)	382.8	30,951	7.91%	3.93%	11.84%	2,528.5	2,333.4	195.1	0.51
1998(a)#	387.0	31,565	9.30%	4.45%	13.75%	2,814.9	2,582.1	232.8	0.60
1999#	383.4	31,989	9.29%	3.97%	13.26%	2,900.4	2,756.6	143.8	0.38
2000	417.2	34,345	9.22%	4.15%	13.37%	3,077.0	2,902.4	174.6	0.42
2001	439.6	34,497	9.22%	5.05%	14.27%	3,179.6	2,912.1	267.5	0.61
2002	440.7	34,867	9.23%	9.53%	18.76%	3,261.4	2,760.9	500.5	1.14

After plan amendments.

(a) After changes in actuarial assumptions.

COMMENTS

Experience During the Past Year

During the year ended June 30, 2002, overall Retirement System experience was less favorable than assumed. The recognized rate of investment return was substantially less than assumed, including the recognition of gains and losses phased-in from prior years (see page A-7). This year's market value loss of \$382 million is scheduled to be phased in over a 3 year period. Consequently, additional contribution rate increases will occur over the next two years in the absence of offsetting market gains.

Pension Funding Policy

The Board policy for financing unfunded actuarial accrued liabilities (UAAL) is as follows:

1. The remaining portion of June 30, 1992 and June 30, 1998 unfunded actuarial accrued liabilities are financed over a closed amortization period with 19 years remaining as of June 30, 2002.
2. Actuarial experience gains and losses incurred after June 30, 1992 are over a 15 year open (perpetual) amortization period.
3. Changes in unfunded actuarial accrued liabilities due to increased benefits to present retired lives are amortized over a 15 year closed amortization period beginning with the effective date of the increase.
4. Changes in unfunded actuarial accrued liabilities due to increased benefits for active members are financed over a 25 year closed amortization period beginning with the effective date of the increase.

Overall Financial Condition

The Retirement System is in good actuarial condition in accordance with the principles of level percent-of-payroll financing.

SOLVENCY TESTS

The DGRS 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 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

June 30	Actuarial Accrued Liabilities			Valuation Assets	Portion of Accrued Liabilities Covered by Assets			
	(1) Active Member Contr.	(2) Retirees and Benef.	(3) Present Members (Employer-Financed Portion)		(1)	(2)	(3)	Total
	1998(a)#	\$ 626	\$ 1,211		\$ 978	\$ 2,582	100%	100%
1999#	706	1,214	981	2,757	100%	100%	85%	95%
2000	726	1,265	1,086	2,902	100%	100%	84%	94%
2001	721	1,292	1,167	2,912	100%	100%	77%	92%
2002	706	1,407	1,148	2,761	100%	100%	56%	85%

(a) After changes in actuarial assumptions.

After plan amendments.

**ASSET INFORMATION
FURNISHED FOR VALUATION
RETIREMENT SYSTEM TOTALS**

Reserve Accounts

Funds	Fund Balances	
	June 30, 2002	June 30, 2001
Annuity Savings	\$ 705,617,754	\$ 720,801,264
Annuity Reserve	26,351,773	24,085,096
Pension Accumulation	687,934,256	942,566,848
Pension Reserve	1,341,025,860	1,224,693,181
Total Fund Balances	\$2,760,929,643	\$2,912,146,389

Revenues and Expenditures

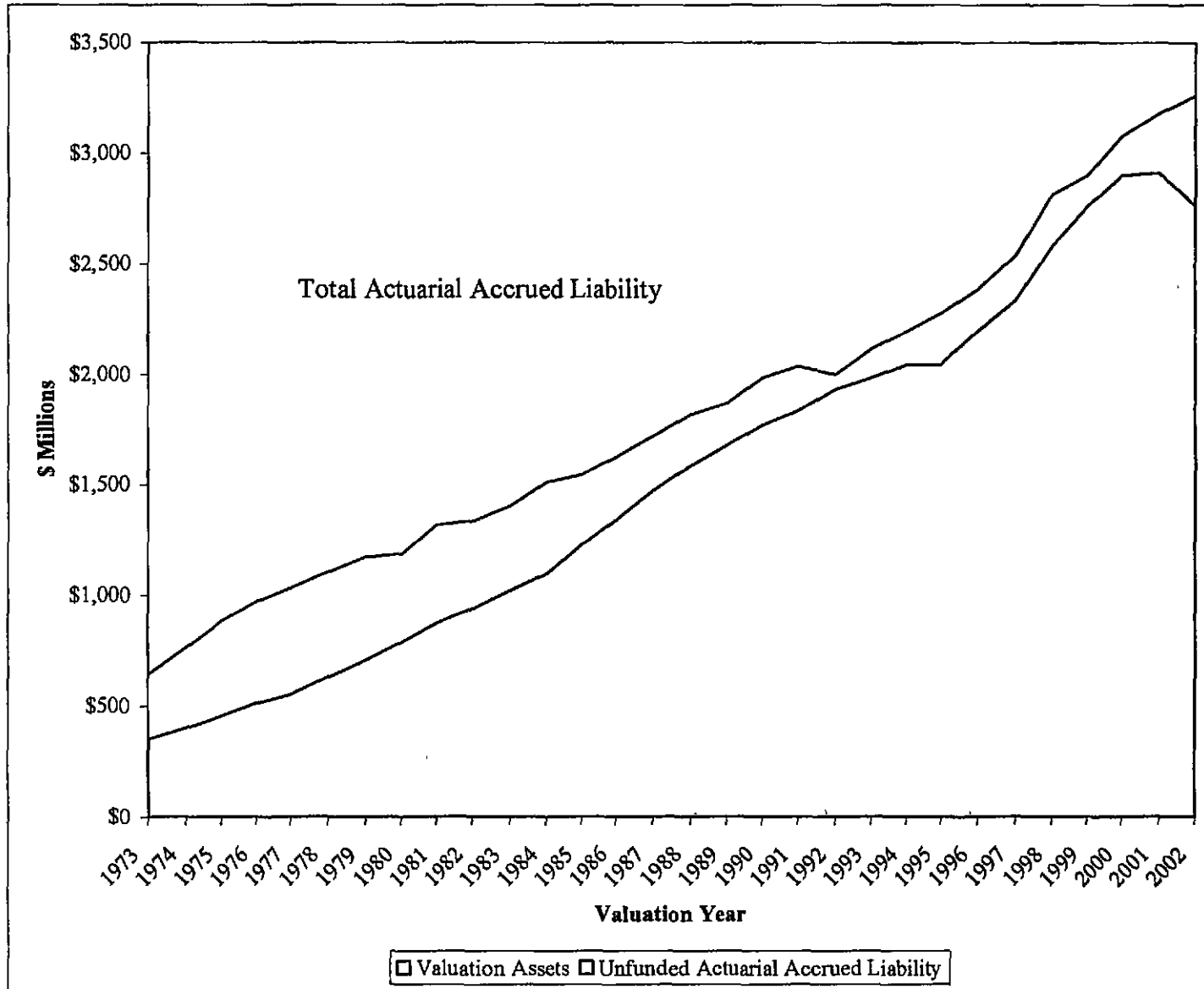
	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2001	\$2,167,260,029	\$744,886,360	\$2,912,146,389
Revenues			
Member contributions	55,770	25,426,515	25,482,285
Employer contributions	67,791,488	0	67,791,488
Recognized investment income	(59,517,191)	53,908,281	(5,608,910)
Transfers	(231,853)	231,853	0
Total	\$ 8,098,214	\$ 79,566,649	\$ 87,664,863
Expenditures			
Benefit payments	141,732,349	3,369,057	145,101,406
Refund of member contributions	956,286	89,114,425	90,070,711
Administrative expenses	3,709,492	0	3,709,492
Total	\$ 146,398,127	\$ 92,483,482	\$ 238,881,609
Balance, June 30, 2002	\$2,028,960,116	\$731,969,527	\$2,760,929,643
Funding Value Rate of Return	(3.0)%	7.6%	(0.3)%

FUNDING VALUE OF ASSETS

Year Ended June 30:	2000	2001	2002	2003	2004
A. Funding Value Beginning of Year	\$2,756,614,458	\$2,902,433,063	\$2,912,146,389		
B. Market Value End of Year	2,947,791,076	2,691,006,082	2,389,174,582		
C. Market Value Beginning of Year	2,845,862,826	2,947,791,076	2,691,006,082		
D. Non-Investment Net Cash Flow(Contribution-Benefits)	(153,124,675)	(125,556,767)	(141,898,344)		
E. Investment Income					
E1. Market Total: B - C - D	255,052,925	(131,228,227)	(159,933,156)		
E2. Amount for Immediate Recogn: (A+D/2) x .079	214,054,389	220,981,501	221,594,573		
E3. Amount for Phased-In Recognition: E1-E2	40,998,536	(352,209,728)	(381,527,729)		
F. Phased-In Recognition of Investment Income					
F1. Current Year: E3/3	13,666,179	(117,403,243)	(127,175,910)		
F2. First Prior Year	18,025,655	13,666,179	(117,403,243)	\$(127,175,910)	
F3. Second Prior Year	53,197,057	18,025,656	13,666,178	(117,403,242)	\$(127,175,910)
F4. Total Recognized Investment Gain	84,888,891	(85,711,408)	(230,912,975)	(244,579,152)	(127,175,910)
G. Total Recognized Investment Income: (E2+F4)	298,943,280	135,270,093	(9,318,402)		
H. Funding Value End of Year: A + D + G	2,902,433,063	2,912,146,389	2,760,929,643		
I. Difference between Market & Funding Value: B - H	45,358,013	(221,140,307)	(371,755,061)	(127,175,910)	0
J. Recognized Rate of Return: $G / [1/2(A+H-G)]$	11.2%	4.8%	(0.3)%		
K. Market Value Rate of Return (net)	9.2%	(4.5)%	(6.1)%		

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased in over a closed 3 year period. During periods when investment performance exceeds the assumed rate, the 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, it will become equal to Market Value.

ASSETS AND ACCRUED LIABILITIES



PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS
RETIREMENT SYSTEM TOTALS

Active Members

June 30	Active Members		Annual Payroll	Group Averages			
	No.	Change		Average Pay		Age Years	Service Years
				\$	Change		
1973	18,004	(7.1)%	\$198,377,179	\$11,019	7.8 %	43.1	14.2
1974	17,930	(0.4)%	213,255,078	11,894	7.9 %	42.6	13.9
1975	17,935	0.0 %	243,372,127	13,570	14.1 %	42.7	13.7
1976	16,102	(10.2)%	247,803,284	15,390	13.4 %	43.2	14.7
1977	17,508	8.7 %	274,950,896	15,704	2.0 %	41.8	13.2
1978	17,475	(0.2)%	297,680,389	17,035	8.5 %	41.3	12.3
1979	17,258	(1.2)%	310,683,375	18,002	5.7 %	41.5	12.3
1980	15,881	(8.0)%	293,624,360	18,489	2.7 %	41.7	12.6
1981	14,993	(5.6)%	301,243,225	20,092	8.7 %	42.0	13.0
1982	13,730	(8.4)%	283,677,869	20,661	2.8 %	42.0	13.1
1983	13,156	(4.2)%	272,369,708	20,703	0.2 %	41.6	12.6
1984	13,172	0.1 %	288,048,279	21,868	5.6 %	41.5	12.0
1985	12,719	(3.4)%	281,378,439	22,123	1.2 %	41.5	11.9
1986	13,423	5.5 %	299,859,070	22,339	1.0 %	41.1	11.3
1987	13,640	1.6 %	321,402,755	23,563	5.5 %	40.9	11.0
1988	13,368	(2.0)%	326,216,082	24,403	3.6 %	41.0	11.1
1989	13,554	1.4 %	331,555,458	24,462	0.2 %	41.1	11.0
1990	13,207	(2.6)%	352,622,639	26,700	9.1 %	41.5	11.4
1991	12,949	(2.0)%	362,532,918	27,997	4.9 %	41.8	11.7
1992	12,137	(6.3)%	344,320,379	28,369	1.3 %	42.2	12.1
1993	11,508	(5.2)%	331,009,921	28,763	1.4 %	43.0	12.9
1994	11,382	(1.1)%	325,427,813	28,591	(0.6)%	43.1	12.8
1995	11,515	1.2 %	327,615,936	28,451	(0.5)%	42.2	12.6
1996	12,086	5.0 %	360,068,578	29,792	4.7 %	42.8	11.9
1997	12,369	2.3 %	382,835,917	30,951	3.9 %	42.8	11.7
1998	12,261	(0.9)%	387,022,423	31,565	2.0 %	43.3	11.8
1999	11,987	(2.2)%	383,449,421	31,989	1.3 %	43.7	12.1
2000	12,147	1.3 %	417,187,666	34,345	7.4 %	43.5	12.0
2001	12,744	4.9 %	439,636,072	34,497	0.4 %	43.3	11.7
2002	12,639	(0.8)%	440,680,045	34,867	1.1 %	43.7	11.8

PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS
RETIREMENT SYSTEM TOTALS

Retirees and Beneficiaries

June 30	No.	% of Current Allowances				Annual Allowances		
		Annuities	Initial Pensions	Escalators & Other Increases	Allow.	Total	Average	% of Payroll
1973	8,132	13.1%	72.8%	14.1%	100.0%	\$ 21,950,395	\$ 2,699	11.1%
1974	8,377	12.1%	74.1%	13.8%	100.0%	23,798,971	2,841	11.2%
1975	8,646	11.1%	74.2%	14.7%	100.0%	26,105,277	3,019	10.7%
1976	8,991	9.7%	76.2%	14.1%	100.0%	29,498,975	3,281	11.9%
1977	9,511	8.5%	78.3%	13.2%	100.0%	33,691,814	3,542	12.3%
1978	9,934	7.4%	79.6%	13.0%	100.0%	39,090,328	3,935	13.1%
1979	10,207	6.8%	82.4%	10.8%	100.0%	42,147,291	4,129	13.6%
1980	10,373	6.3%	81.0%	12.7%	100.0%	45,054,237	4,343	15.3%
1981	10,693	5.6%	81.7%	12.7%	100.0%	49,416,852	4,621	16.4%
1982	10,924	4.8%	77.7%	17.5%	100.0%	56,741,667	5,194	20.0%
1983	11,418	4.1%	79.6%	16.3%	100.0%	64,048,464	5,609	23.5%
1984	11,643	3.8%	80.4%	15.8%	100.0%	68,564,556	5,889	23.8%
1985	11,710	3.4%	80.6%	16.0%	100.0%	71,433,168	6,100	25.4%
1986	11,776	3.2%	80.7%	16.1%	100.0%	74,834,820	6,355	25.0%
1987	11,800	2.9%	80.2%	16.9%	100.0%	78,342,384	6,639	24.4%
1988	11,728	3.0%	80.0%	17.0%	100.0%	81,346,500	6,936	24.9%
1989	11,734	3.0%	79.8%	17.2%	100.0%	83,790,744	7,141	25.3%
1990	11,684	2.9%	79.1%	18.0%	100.0%	85,720,620	7,337	24.3%
1991	11,691	2.9%	78.7%	18.4%	100.0%	87,625,800	7,495	24.2%
1992	11,674	2.6%	76.5%	20.9%	100.0%	97,218,012	8,328	28.2%
1993	11,719	2.8%	77.7%	19.5%	100.0%	100,203,596	8,551	30.3%
1994	11,649	2.8%	76.9%	20.3%	100.0%	106,193,220	9,116	32.6%
1995	11,756	2.7%	76.7%	20.6%	100.0%	110,262,876	9,379	33.7%
1996	11,889	2.6%	75.5%	21.9%	100.0%	115,232,400	9,692	32.0%
1997	12,199	2.4%	74.4%	23.2%	100.0%	121,255,488	9,940	31.7%
1998	11,593	2.3%	73.7%	24.0%	100.0%	119,852,820	10,338	31.0%
1999	11,537	2.4%	76.6%	21.0%	100.0%	127,535,748	11,054	33.3%
2000	11,480	2.2%	77.7%	20.1%	100.0%	129,354,696	11,268	31.0%
2001	11,450	2.3%	77.7%	20.0%	100.0%	133,170,804	11,631	30.3%
2002	11,363	2.2%	78.2%	19.6%	100.0%	140,805,120	12,392	32.0%