

**THE GENERAL RETIREMENT SYSTEM OF  
THE CITY OF DETROIT**  
72<sup>ND</sup> ANNUAL ACTUARIAL VALUATION - REVISED  
JUNE 30, 2010

## OUTLINE OF CONTENTS

---

<b>Section</b>	<b>Pages</b>	<b>Items</b>
	1-2	Cover Letter
<b>A</b>		<b>Retirement System Totals</b>
	1	Computed employer contributions
	2-3	Actuarial accrued liabilities
	4	Comparative schedule of valuation results
	5-6	Comments
	7	Solvency tests
	8	Experience gain (loss)
	9	Asset information furnished for valuation
	10	Reported funding value of assets
	11	History of assets and accrued liabilities (graph)
	12-18	Member data included in valuation
	19-20	Summary of benefit provisions
<b>B</b>		<b>Divisions Separately Experience Rated</b>
	1	Member data included in valuation
	2	Assets included in valuation
	3	Actuarial accrued liabilities
	4	Member data - historical schedule
	5	Computed contributions - historical comparison
<b>C</b>		<b>Financial Disclosures</b>
	1-2	GASB Statement No. 25
<b>D</b>		<b>Financial Principles</b>
	1	Financing diagram
	2	Actuarial valuation process
	3-4	Financial objective
<b>E</b>		<b>Appendix</b>
	1-7	Summary of assumptions used in actuarial valuations
	8	Meaning of unfunded actuarial accrued liabilities
	9-10	Glossary

June 23, 2011

The Board of Trustees  
The General Retirement System of the City of Detroit

Dear Board Members:

The results of the **72nd Annual Actuarial Valuations** of the annuity and pension liabilities of the General Retirement System of the City of Detroit are presented in this report. The purpose of the valuations was to measure the system's funding progress, to determine contribution rates for the 2012 fiscal year in accordance with the established funding policy, and to determine actuarial information for Governmental Accounting Standards Board (GASB) Statements No. 25 and No. 27. The results of the valuation may not be applicable for other purposes. Four divisions are evaluated separately.

The date of the valuations was **June 30, 2010**.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The valuations were based upon records maintained and furnished by the retirement system staff concerning active members, retirees and beneficiaries, and financial accounts as of the valuation date. 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-5 and A-6 and the contribution rates on page A-1.

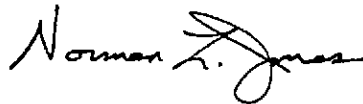
This report has been prepared by actuaries who have substantial experience valuing public sector retirement systems. To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries. The actuarial assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable.

The signing actuaries are Members of the American Academy of Actuaries (designated by "MAAA"), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The intended audience is the Board of Trustees for the General Retirement System of the City of Detroit and their staff. If supplied to other parties, the report should be supplied in its entirety. The authors of this report are available to answer questions from the Board and Staff as needed.

This report replaces our report dated April 19, 2011 and reflects a revised asset smoothing method adopted by the Retirement Board on May 18, 2011.

Respectfully submitted,



Norman L. Jones  
FSA, EA, MAAA



Judith A. Kermans  
EA, MAAA



Kenneth G. Alberts

NLJ:mrh

---

**SECTION A**

**RETIREMENT SYSTEM TOTALS**

---

**SUMMARY OF COMPUTED EMPLOYER CONTRIBUTION RATES  
2011-2012 FISCAL YEAR**

Contributions for	Contributions Expressed as a Percent of Payroll				
	General City@	D.O.T.	Water/ Sewage	Library	System Total
Normal Cost:					
Age & Service Pensions	9.51 %	8.74 %	9.19 %	9.29 %	9.30 %
Disability Pensions	1.41 %	1.01 %	1.47 %	1.33 %	1.37 %
Death-in-Service Pensions	0.30 %	0.29 %	0.34 %	0.26 %	0.30 %
Employer Normal Cost	11.22 %	10.04 %	11.00 %	10.88 %	10.97 %
Unfunded Actuarial Accrued Liabilities#	4.04 %	10.22 %	14.82 %	11.27 %	8.14 %
<b>Computed Employer Contribution Rates</b>	<b>15.26 %</b>	<b>20.26 %</b>	<b>25.82 %</b>	<b>22.15 %</b>	<b>19.11 %</b>
(Change from last year)	1.89 %	4.92 %	6.19 %	4.92 %	3.73 %

# Unfunded actuarial accrued liabilities (UAAL) were amortized over an open 30 year period. (Select and ultimate wage inflation rates are used beginning at 2%, increasing by 1% per year until reaching the ultimate rate of 4%.)

@ Includes COBO Hall. Methodology for determining the split between COBO Hall and the City has not been finalized.

**COMMENT**

The valuation results shown above do not include a provision for the potential financial effect of future retroactive transfers to the 1998 Defined Contribution Plan. These transfers may have a material impact on the computed employer contribution rates.

**DEVELOPMENT OF LIABILITIES AS OF JUNE 30, 2010**  
**RETIREMENT SYSTEM TOTALS**

---

Present Value of Future Benefits	\$ 3,940,341,860
Present Value of Future Normal Costs	220,755,098
Actuarial Accrued Liability	3,719,586,762
Accrued Assets	3,238,130,553
Unfunded Actuarial Accrued Liability	\$ 481,456,209

**ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2010**  
**RETIREMENT SYSTEM TOTALS**

Present Value	June 30, 2010	June 30, 2009
<b>Accrued Pension Liabilities (Employer Financed)</b>		
Retirees and beneficiaries		
Future pensions	\$1,884,694,816	\$1,845,450,721
Mortality reserve	0	0
Total	1,884,694,816	1,845,450,721
Inactive members future deferred pensions	165,658,810	131,078,817
Active members	955,399,406	948,787,935
Total accrued pensions	3,005,753,032	2,925,317,473
Pension fund balances	2,524,296,823	2,657,574,063
Unfunded accrued pension liabilities	\$ 481,456,209	\$ 267,743,410
<b>Accrued Annuity Liabilities (Member Financed)</b>		
Retirees and beneficiaries		
Future annuities	\$ 64,773,695	\$ 55,184,182
Mortality reserve	0	0
Total	64,773,695	55,184,182
Member annuities & future refunds	649,060,035	708,564,071
Total accrued annuity liabilities	713,833,730	763,748,253
Annuity fund balances	713,833,730	754,837,120
Unfunded accrued annuity liabilities	\$ 0	\$ 8,911,133
<b>Totals</b>		
Actuarial Accrued Liabilities	<b>\$3,719,586,762</b>	<b>\$3,689,065,726</b>
Accrued Assets	<b>3,238,130,553</b>	<b>3,412,411,183</b>
Unfunded Actuarial Accrued Liabilities	<b>\$ 481,456,209</b>	<b>\$ 276,654,543</b>



**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	
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(a)	440.7	34,867	8.74%	9.31 %	18.05%	3,250.5	2,761.2	489.3	1.11
2003	448.6	34,955	8.82%	13.90 %	22.72%	3,270.6	2,537.7	732.9	1.63
2004	444.6	37,706	8.99%	11.10 %	20.09%	3,383.9	2,470.2	913.7	2.06
2005*	390.6	39,775	9.26%	1.80 %	11.06%	3,347.4	3,222.4	125.0	0.32
2006	361.2	39,919	9.26%	0.95 %	10.21%	3,434.3	3,373.7	60.6	0.17
2007	361.7	40,319	9.29%	0.67 %	9.96%	3,629.2	3,586.6	42.6	0.12
2008(a)	368.5	41,763	10.09%	(0.53)%	9.56%	3,609.6	3,641.2	(31.6)	(0.09)
2009	357.1	41,525	10.84%	4.54 %	15.38%	3,689.1	3,412.4	276.7	0.77
2010	334.3	41,420	10.97%	12.24 %	23.21%	3,719.6	2,995.6	724.0	2.17
<b>2010@</b>	<b>334.3</b>	<b>41,420</b>	<b>10.97%</b>	<b>8.14 %</b>	<b>19.11%</b>	<b>3,719.6</b>	<b>3,238.1</b>	<b>481.5</b>	<b>1.44</b>

# After plan amendments.

(a) After changes in actuarial assumptions and/or methods.

\* After POC transfer.

## COMMENTS

---

### **Experience**

Experience during the year was less favorable than assumed. Overall, the experience loss was approximately 14.1% of the beginning of year liability. Recognized investment losses were the primary source of the experience loss during the year. The fund earned a 5.7% rate of return on a market basis and a 2.9% rate of return on a funding value basis. The recognized rate of return on the Pension Funds was originally (7.4)%. The recognized rate of return on the Pension Funds increased from (7.4)% to 2.1% due to a the change in the Funding Value of Asset method (see next comment).

### **Funding Value of Assets**

At the May 18, 2011 Board meeting, the Board adopted to recognize gains and losses in excess of the assumed investment return over a period of 7 years (beginning June 30, 2010). In addition, all unrecognized gains and losses from prior years were combined and smoothed over 7 years. This change will result in a decrease in contribution dollars of approximately \$13.7 million for fiscal year 2011-2012. Although we believe this change falls within Actuarial Standards of Practices, no comments in this report should be interpreted to imply that the actuary is recommending a reduction of contributions into the fund.

The derivation of the funding value of assets was also modified to incorporate a 50% "corridor." A 50% market value corridor means that the funding value of assets may not be more than 150% of the market value of assets nor less than 50% of the market value of assets. No additional loss was recognized as a result of the corridor. The corridor will be reduced to 40% for the June 30, 2011 valuation and 30% for the June 30, 2012 and later valuations.

As of June 30, 2010, the funding value of assets was nearly \$992 million dollars greater than the market value. As that difference is recognized over the next six years, computed contribution rates will continue to increase unless offset by future experience gains. In the absence of future experience gains, computed contribution rates will increase by approximately an additional 16%-17% of payroll over the next six years. On a market value of asset basis, the fund was approximately 60% funded.

### **Water and Sewage Divisions**

As of June 30, 2010, the valuation results for these divisions were combined for the purpose of setting contribution rates. The combined employer contribution rate for these two divisions as of the June 30, 2009 valuation was computed to be 19.63% of covered payroll. The combined employer contribution rate as of June 30, 2010 is computed to be 25.82% of covered payroll.

## COMMENTS (CONCLUDED)

---

### **Valuation Data**

Data provided for the inactive vested members this year had some inconsistencies. Inactive vested members are former employees who have left active service but are vested and eligible for a benefit at some point in the future. There were no new inactive vested members reported for Fiscal Year 2010, although there may be a lag in reporting inactive vested members. In addition, inactive vested members reported this year showed an increase of approximately 3 years of service on average over the service reported last year. Since these members are not currently employed, the reported service is expected to remain constant from year to year. It was assumed that this change was due to data corrections or changes in reporting procedures. The potential impact on the computed contribution rates is small, however, the process for maintaining and submitting data for the inactive vested members should be reviewed.

### **Pension Funding Policy**

The computed employer contribution rates shown on page A-1 are based on the Board of Trustees policy of financing unfunded actuarial accrued liabilities over an open period of 30 years.

### **Conclusion and Recommendation**

**The Retirement System is 87% funded as of June 30, 2010, based on the funding value of assets (60% on a market value of asset basis). 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 weighted average recommended employer contribution rate for the 2011-2012 fiscal year is 19.11% of covered payroll with the rate for each separate division as shown on page A-1.**

## SOLVENCY TESTS

The DGRS funding objective is to meet long-term benefit promises through contributions made during members' working careers which, combined with investment income on system assets, will be sufficient to pay benefits throughout their retired lives. If the contributions to the System are received in a timely manner, 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 (\$ IN MILLIONS)

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
	2006	\$ 653	\$1,755		\$1,025	\$3,374	100%	100%
2007	733	1,804	1,092	3,587	100%	100%	96%	99%
2008(a)	732	1,805	1,073	3,641	100%	100%	103%	101%
2009	709	1,901	1,080	3,412	100%	100%	74%	92%
2010(a)	649	1,949	1,121	3,238	100%	100%	57%	87% &

(a) After changes in actuarial assumptions and/or methods.  
& 60% on a market value basis.

**DERIVATION OF EXPERIENCE GAIN (LOSS)**  
**YEAR ENDED JUNE 30, 2010**  
**(\$ 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.

(1) UAAL* at start of year	\$276.7
(2) Normal cost from last valuation	36.2
(3) Employer contributions	34.6
(4) Interest accrual: $[(1) + 1/2 [(2) - (3)]] \times .079$	21.9
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	300.2
(6) Increase due to changes in benefits	2.1
(7) Asset method Change	(242.5)
(8) Expected UAAL after changes: (5) + (6) + (7)	59.8
(9) Actual UAAL at end of year	481.5
(10) Experience gain (loss): (8) - (9)	\$(421.7)
(11) Gain (loss) as % of beginning of year (\$2,981 million) accrued pension liability	(14.1)%
(12) Experience gain (loss)	(421.7)
(13) Gain (loss) due to investment experience recognized in this valuation#	(407.8)
(14) Gain (loss) from other sources	(13.9)

\* *Unfunded actuarial accrued liability.*

A large component of the actuarial experience gain (loss) in any given year is typically the Retirement System's investment gain (loss) on valuation assets. Detail on the investment gain (loss) is shown on Page A-10.

# *Before asset method change. Amount recognized after asset method change is (\$165.3) million.*

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

*Reserve Accounts  
(Funding Value)*

Funds	Fund Balances	
	June 30, 2010	June 30, 2009
Annuity Savings	\$ 649,060,035	\$ 708,564,071
Annuity Reserve	64,773,695	46,273,049
Pension Accumulation*	(150,116,172)	171,645,246
Pension Reserve	1,884,694,816	1,703,062,175
Accrued Liability Fund Reserve	789,718,179	782,866,642
<b>Total Fund Balances</b>	<b>\$3,238,130,553</b>	<b>\$3,412,411,183</b>

*Revenues and Expenditures  
(Funding Value)*

	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2009	\$2,657,574,064	\$ 754,837,119	\$3,412,411,183
Prior valuation audit adjustment	0	0	0
Balance July 1, 2009 after adjustment	2,657,574,064	754,837,119	3,412,411,183
<b>Revenues</b>			
Member contributions	334,048	19,175,100	19,509,148
Employer contributions #	34,602,184	0	34,602,184
Recognized investment income*	52,825,845	40,898,787	93,724,632
Transfers	(5,360,676)	5,360,676	0
<b>Total</b>	<b>\$ 82,401,401</b>	<b>\$ 65,434,563</b>	<b>\$ 147,835,964</b>
<b>Expenditures</b>			
Benefit payments	201,340,016	9,991,776	211,331,792
Refund of member contributions	4,913,416	99,752,495	104,665,911
Administrative expenses	6,118,891	0	6,118,891
<b>Total</b>	<b>\$ 212,372,323</b>	<b>\$ 109,744,271</b>	<b>\$ 322,116,594</b>
Balance, June 30, 2010	\$2,527,603,142	\$ 710,527,411	\$3,238,130,553
Funding Value Rate of Return	2.1%	5.7%	2.9%

# Includes contributions receivable.

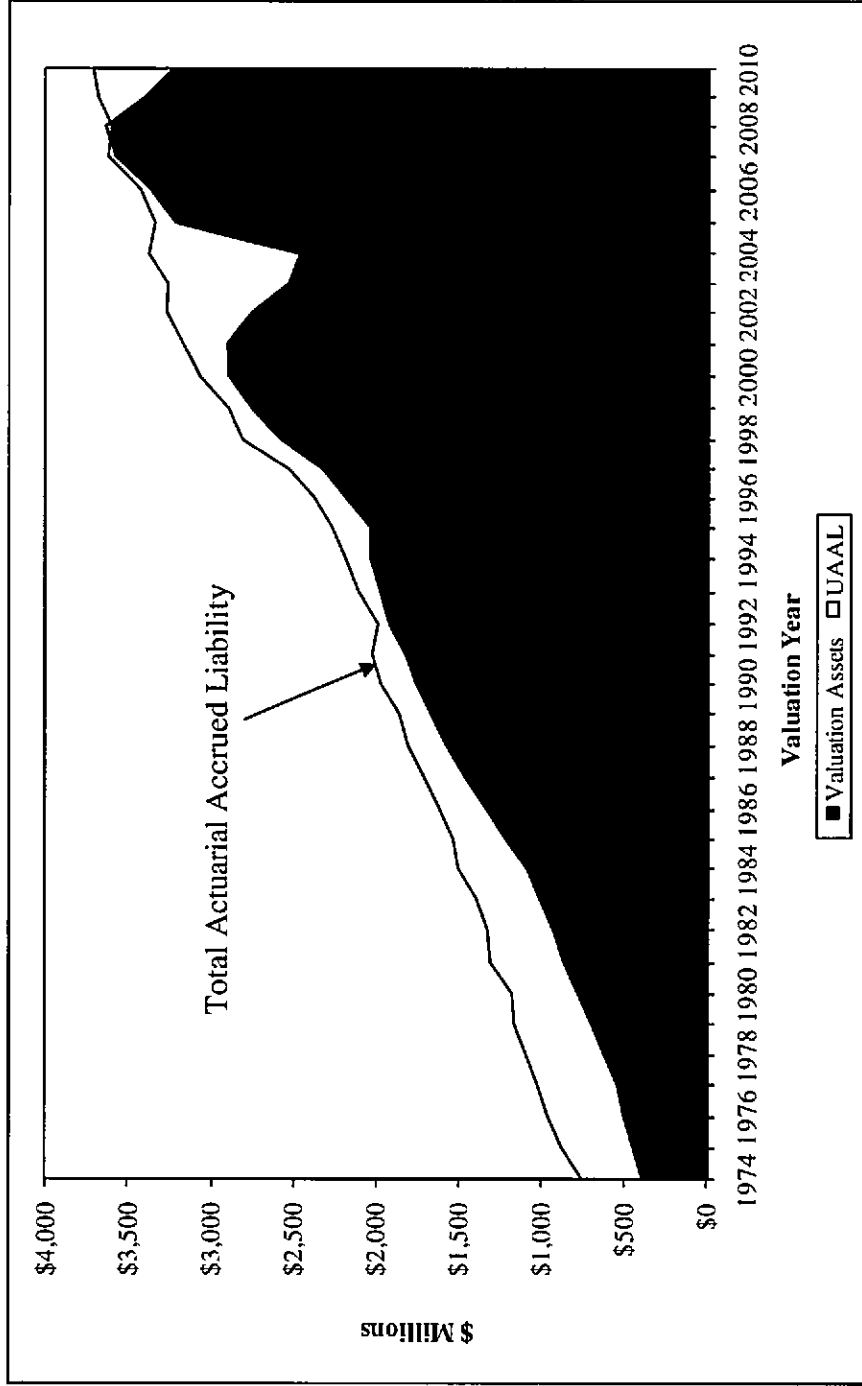
\* Reported value adjusted to obtain actuarial value, in total.

## REPORTED FUNDING VALUE OF ASSETS

Year Ended June 30:	2009	2010	2011	2012	2013	2014	2015	2016
A. Funding Value Beginning of Year	\$3,641,197,523	\$3,412,411,183						
B. Market Value End of Year	2,387,136,535	2,246,512,689						
C. Market Value Beginning of Year	3,416,767,126	2,387,136,535						
D. Non-Investment Net Cash Flow(Contribution-Benefits)	(235,028,550)	(268,005,262)						
E. Investment Income								
E1. Market Total: B - C - D	(794,602,041)	127,381,416						
E2. Amount for Immediate Recogn: Reg. Int. on Reserves	278,370,977	258,994,276						
E3. Amount for Phased-In Recognition: E1-E2	(1,072,973,018)	(131,612,860)						
F. Phased-In Recognition of Investment Income								
F1. Current Year E3/7	(214,594,604)	(165,269,644)						
F2. First Prior Year	(166,896,235)		\$(165,269,644)					
F3. Second Prior Year	109,362,072			\$(165,269,644)				
F4. Third Prior Year					\$(165,269,644)			
F5. Fourth Prior Year						\$(165,269,644)		
F6. Fifth Prior Year							\$(165,269,644)	
F7. Sixth Prior Year								\$(165,269,644)
F8. Total Recognized Investment Gain	(272,128,767)	(165,269,644)	(165,269,644)	(165,269,644)	(165,269,644)	(165,269,644)	(165,269,644)	(165,269,644)
G. Total Recognized Investment Income: (E2+F8)	6,242,210	93,724,632						
H. Funding Value End of Year: A + D + G								
H1. Preliminary Funding Value End of Year: A + D - E + H	3,412,411,183	3,238,130,553						
H2. Upper Corridor Limit 150% x B	3,369,769,034	1,123,256,345						
H3. Upper Corridor Limit 050% x B	3,412,411,183	3,238,130,553						
H4. Funding Value End of Year	(1,025,274,648)	(991,617,864)						
I. Difference between Market & Funding Value: B - H	0.2%	2.9%						
J. Recognized Rate of Return: G / [I/2(A+H-G)]	(24.1)%	5.7%						
K. Market Value Rate of Return (net)	142.9%	144.1%						
L. Ratio of Funding Value to Market Value								

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 5-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 4 consecutive years, it will become equal to Market Value.

## ASSETS AND ACCRUED LIABILITIES





**PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS**  
**RETIREMENT SYSTEM TOTALS**

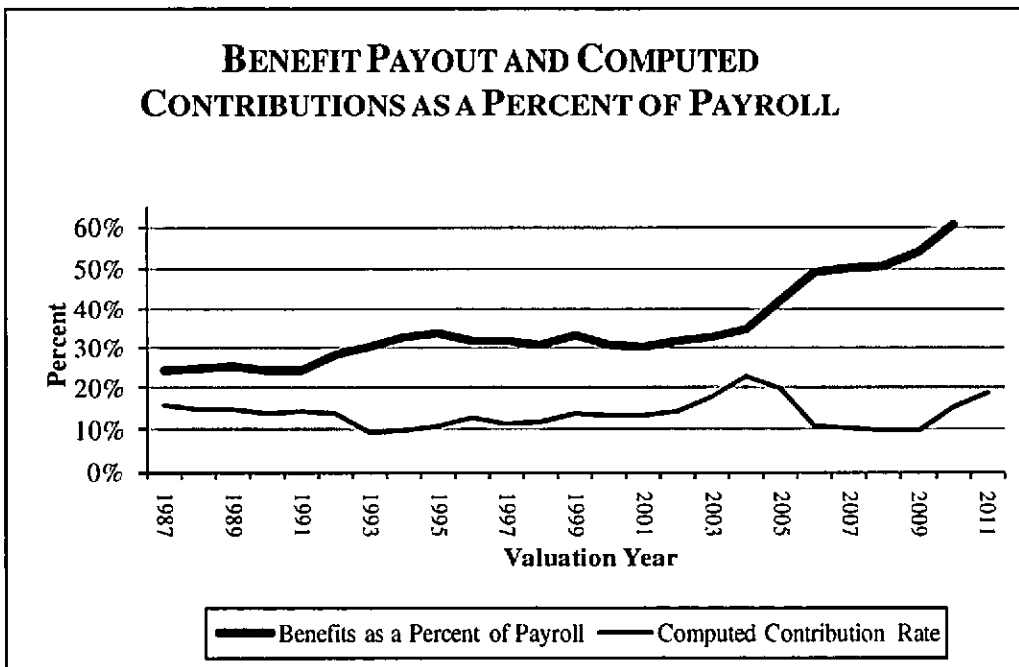
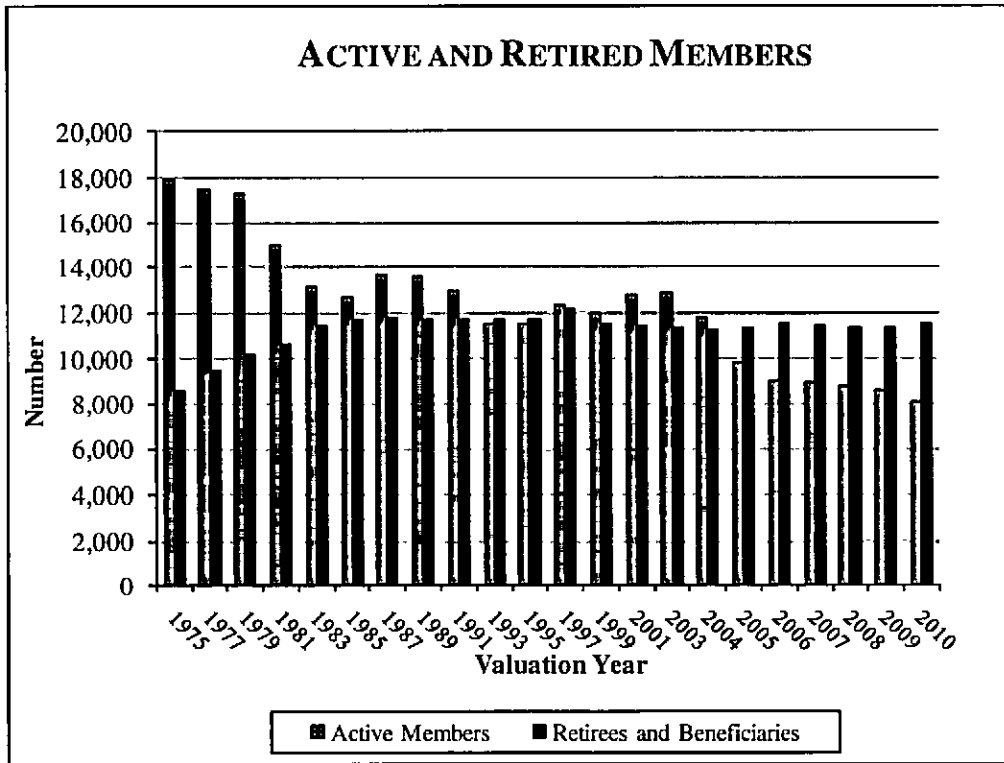
*Active Members*

June 30	Active Members		Annual Payroll	Group Averages			
	No.	Change		Average Pay		Age Years	Service Years
				\$	Change		
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
2003	12,833	1.5 %	448,579,064	34,955	0.3 %	43.5	11.7
2004	11,791	(8.1)%	444,596,299	37,706	7.9 %	44.5	12.5
2005	9,820	(16.7)%	390,593,600	39,775	5.5 %	45.9	13.8
2006	9,047	(7.9)%	361,151,456	39,919	0.4 %	46.6	14.6
2007	8,971	(0.8)%	361,701,481	40,319	1.0 %	47.0	14.6
2008	8,823	(1.6)%	368,470,990	41,763	3.6 %	47.2	14.7
2009	8,599	(2.5)%	357,072,833	41,525	(0.6)%	47.4	14.8
2010	8,072	(6.1)%	334,343,506	41,420	(0.3)%	47.7	15.3

**PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS**  
**RETIREMENT SYSTEM TOTALS**

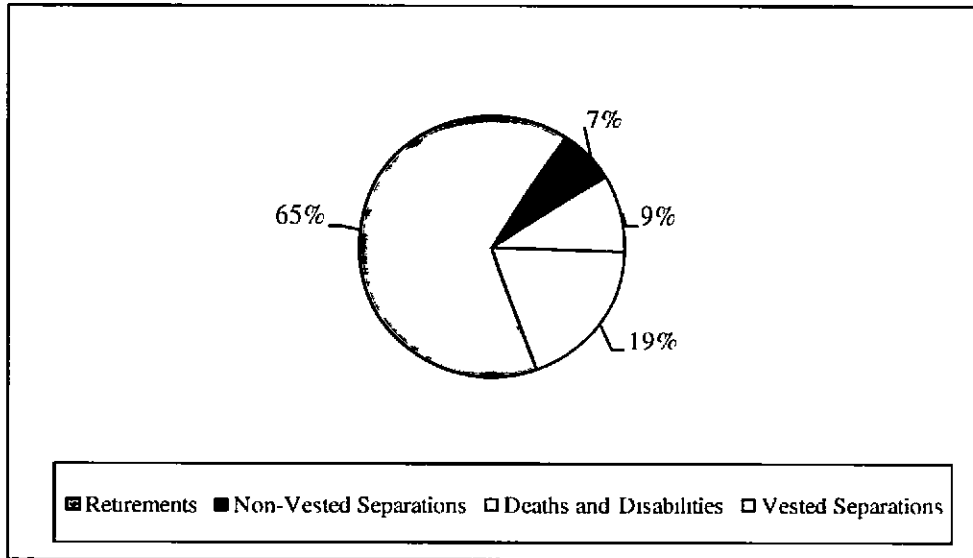
*Retirees and Beneficiaries*

June 30	No.	% of Current Allowances				Annual Allowances		
		Annuities	Initial Pensions	Escalators & Other Increases	Allow.	Total	Average	% of Payroll
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%
2003	11,322	2.4%	78.3%	19.3%	100.0%	147,024,720	12,986	32.8%
2004	11,311	2.6%	78.5%	18.9%	100.0%	154,133,460	13,627	34.7%
2005	11,396	2.7%	79.6%	17.7%	100.0%	165,095,736	14,487	42.3%
2006	11,541	2.7%	79.6%	17.7%	100.0%	175,193,088	15,180	48.5%
2007	11,478	2.7%	79.6%	17.7%	100.0%	180,332,688	15,711	49.9%
2008	11,388	2.8%	79.9%	17.3%	100.0%	185,688,852	16,306	50.4%
2009	11,407	3.0%	79.8%	17.2%	100.0%	193,045,584	16,923	54.1%
2010	11,539	3.4%	79.6%	17.0%	100.0%	202,935,852	17,587	60.7%



## 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 8,072 active members. Eventually, 604 people are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 6,762 people are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 706 people are expected to become eligible for death-in-service or disability benefits.

**RETIREES AND BENEFICIARIES JUNE 30, 2010**  
**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*	49	\$ 87,654			7	\$ 2,839	56	\$ 90,493
20-24	2	706					2	706
25-29	3	2,111	2	\$ 404			5	2,515
30-34	4	4,459	3	1,282	1	761	8	6,502
35-39	11	9,205	21	12,262			32	21,467
40-44	25	25,658	40	23,333	6	7,423	71	56,414
45-49	99	176,419	119	72,264	17	19,203	235	267,886
50-54	530	1,239,957	222	171,001	31	32,757	783	1,443,715
55-59	1,175	2,781,926	234	260,760	38	56,745	1,447	3,099,431
60-64	1,752	3,363,856	200	229,414	39	59,178	1,991	3,652,448
65-69	1,424	2,203,097	109	94,547	45	54,722	1,578	2,352,366
70-74	1,098	1,507,110	74	60,974	43	44,869	1,215	1,612,953
75-79	1,172	1,430,500	61	46,823	74	65,959	1,307	1,543,282
80-84	1,283	1,380,699	80	65,789	66	50,897	1,429	1,497,385
85-89	852	853,553	35	25,141	67	50,400	954	929,094
90-94	322	264,439	14	8,972	21	15,267	357	288,678
95-99	65	44,282	1	578	3	1,126	69	45,986
<b>Totals</b>	<b>9,866</b>	<b>\$15,375,631</b>	<b>1,215</b>	<b>\$1,073,544</b>	<b>458</b>	<b>\$462,146</b>	<b>11,539</b>	<b>\$16,911,321</b>

\* May include records with defective birth dates.

# Includes survivor beneficiaries of deceased retirees.

**ACTIVE MEMBERS AS OF JUNE 30, 2010  
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	75							75	\$ 1,352,601
20-24	135	10						145	3,055,110
25-29	139	92	17					248	6,873,531
30-34	150	200	105	9				464	16,065,316
35-39	137	194	282	64	5			682	25,904,928
40-44	147	231	389	166	124	7		1,064	44,612,728
45-49	125	239	411	244	389	102	16	1,526	64,170,365
50-54	106	178	344	218	430	288	134	1,698	73,559,117
55-59	62	132	209	156	287	256	185	1,287	57,317,274
60-64	42	71	127	84	106	95	115	640	29,673,536
65-69	10	28	37	23	17	12	46	173	8,462,677
70-74	1	5	11	11	3	1	14	46	2,203,212
75-79	3	6	2	1	3	3	6	24	1,093,111
<b>Totals</b>	<b>1,132</b>	<b>1,386</b>	<b>1,934</b>	<b>976</b>	<b>1,364</b>	<b>764</b>	<b>516</b>	<b>8,072</b>	<b>\$334,343,506</b>

Group Averages:

Age: 47.7 years  
Service: 15.3 years  
Annual Pay: \$41,420

**RETIRES AND BENEFICIARIES JUNE 30, 2010**  
**TABULATED BY YEAR OF RETIREMENT**

Year of Retirement	No.	Monthly Allowances	
		Total	Average
1950 & before	2	\$ 815	\$ 408
1951-1955	6	2,507	418
1956-1960	4	1,811	453
1961-1965	26	11,845	456
1966-1970	89	41,155	462
1971-1975	337	196,172	582
1976-1980	915	716,099	783
1981-1985	1,403	1,487,417	1,060
1986-1990	1,223	1,381,298	1,129
1991-1995	1,680	2,136,827	1,272
1996-2000	1,776	2,758,318	1,553
2001	342	585,781	1,713
2002	441	827,564	1,877
2003	394	784,085	1,990
2004	464	958,271	2,065
2005	540	1,203,060	2,228
2006	471	884,983	1,879
2007	388	715,449	1,844
2008	382	813,425	2,129
2009	478	989,725	2,071
2010	178	414,714	2,330
<b>Totals</b>	<b>11,539</b>	<b>\$16,911,321</b>	<b>\$1,466</b>

## 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 – EMS Members:** Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC. **Other Members:** 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 (min. 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 - APTE hired prior to July 1, 1988:** Benefit begins at the age the member would have become eligible for regular retirement if service had continued. **SAAA, Non-Union and lawyers hired prior to June 30, 1986:** Benefit begins at the age the member would have become eligible for regular retirement. **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 (CONCLUDED)

---

### *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. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

---

**SECTION B**

DIVISIONS SEPARATELY EXPERIENCE RATED

---

**SUMMARY OF MEMBER DATA  
JUNE 30, 2010**

*Active Members*

	<b>General</b>	<b>D.O.T.</b>	<b>Water/ Sewage</b>	<b>Library</b>	<b>Totals</b>
Number	4,286 (8.1)%	1,303 (10.5)%	2,041 (0.6)%	442 4.0 %	8,072 (6.1)%
% Change in active members	\$ 180.9	\$ 48.6	\$ 88.1	\$ 16.7	\$ 334.3
Annual payroll (\$ millions)	\$42,199 (1.8)%	\$37,332 4.6 %	\$43,177 (0.2)%	\$37,803 1.1 %	\$41,420 (0.3)%
Average pay					
% Change in average pay					

*Retired Members and Survivor Beneficiaries*

	<b>General</b>	<b>D.O.T.</b>	<b>Water/ Sewage</b>	<b>Library</b>	<b>Totals</b>
Number	7,408	1,567	2,248	316	11,539
Annual benefits (\$ millions) #	\$ 128.9	\$ 26.0	\$ 48.1	\$ 6.8	\$ 209.8
Average benefits	\$17,396 4.2 %	\$16,581 4.3 %	\$21,416 4.1 %	\$21,408 2.4 %	\$18,178 4.3 %
% Change in average benefit					

# Includes Annuities.

*Inactive Vested Members*

	<b>General</b>	<b>D.O.T.</b>	<b>Water/ Sewage</b>	<b>Library</b>	<b>Totals</b>
Number	1,025	225	337	42	1,629
Annual benefits (\$ millions)	\$ 11.9	\$ 2.7	\$ 4.5	\$ 0.4	\$ 19.6
Average benefits	\$11,594 25.1 %	\$12,147 29.2 %	\$13,486 29.1 %	\$10,674 37.9 %	\$12,038 26.8 %
% Change in average benefit					

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

	June 30, 2010	June 30, 2009
<b>Annuity Savings Fund</b>		
General	\$ 309,678,070	\$ 345,716,388
D.O.T.	120,925,915	127,117,614
Water	181,980,128	200,969,666
Sewage	12,069,797	9,860,740
Housing	1,484,516	1,599,414
Library	22,921,609	23,300,249
Totals	649,060,035	708,564,071
<b>Annuity Reserve Fund</b>		
General	36,008,145	24,182,195
D.O.T.	4,838,801	3,405,579
Water	16,173,675	14,504,994
Sewage	2,504,065	(958,460)
Housing	1,710,115	2,457,914
Library	3,538,894	2,680,826
Totals	64,773,695	46,273,048
<b>Pension Accumulation Fund</b>		
General	(25,476,972)	93,122,860
D.O.T.	(23,363,342)	25,692,264
Water	20,590,841	34,098,743
Sewage	(111,393,046)	10,283,576
Housing	1,664,737	1,842,559
Library	(12,138,390)	6,605,245
Totals	(150,116,172)	171,645,247
<b>Pension Reserve Fund</b>		
General	1,089,394,480	1,015,452,872
D.O.T.	232,467,451	206,865,488
Water	394,598,849	327,769,332
Sewage	73,586,363	63,224,548
Housing	37,482,117	38,955,661
Library	57,165,556	50,794,274
Totals	1,884,694,816	1,703,062,175
<b>Accrued Liability Fund</b>		
General	495,758,120	488,992,029
D.O.T.	102,513,701	101,781,122
Water	155,926,757	157,410,041
Sewage	11,685,215	10,913,036
Housing	N/A	N/A
Library	23,834,386	23,770,414
Totals	789,718,179	782,866,642
<b>Retirement System Totals</b>	<b>\$3,238,130,553</b>	<b>\$3,412,411,183</b>

**ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2010**  
**BY DIVISION**  
**(\$ IN THOUSANDS)**

Present Value, June 30 of	General	D.O.T.	Water/ Sewage	Library	Totals
<b>Accrued Pension Liabilities</b>					
Retirees and beneficiaries	\$1,126,877	\$232,467	\$468,185	\$ 57,166	\$1,884,695
Inactive members future deferred pensions	100,053	23,000	38,808	3,798	165,659
Active members	501,266	144,039	268,897	41,198	955,400
Total accrued pension liabilities	1,728,196	399,506	775,890	102,162	3,005,754
Pension fund balances	1,598,822	311,618	544,995	68,862	2,524,297
Unfunded accrued pension liabilities	129,374	87,888	230,895	33,300	481,457
<b>Accrued Annuity Liabilities</b>					
Retirees and beneficiaries	37,718	4,839	18,678	3,539	64,774
Members annuities & future refunds	311,163	120,926	194,050	22,922	649,061
Total accrued annuity liabilities	348,881	125,765	212,728	26,461	713,835
Annuity fund balances	348,881	125,765	212,728	26,461	713,835
Unfunded accrued annuity liabilities	0	0	0	0	0
<b>Totals</b>					
<b>Actuarial Accrued Liabilities</b>	2,077,077	525,271	988,618	128,623	3,719,589
<b>Accrued Assets</b>	1,947,703	437,383	757,723	95,323	3,238,132
<b>Funded Ratio</b>	93.8%	83.3%	76.6%	74.1%	87.1%
<b>Unfunded Actuarial Accrued Liabilities</b>	\$ 129,374	\$ 87,888	\$ 230,895	\$ 33,300	\$ 481,457

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
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
2003	7,575	1,734	1,744	1,090	227	463	12,833
2004	7,068	1,652	1,592	1,035	0	444	11,791
2005	5,414	1,529	1,472	973	0	432	9,820
2006	4,935	1,460	1,329	886	0	437	9,047
2007	4,914	1,509	1,289	834	0	425	8,971
2008	4,848	1,447	1,338	765	0	425	8,823
2009	4,664	1,456	1,327	727	0	425	8,599
2010	4,286	1,303	2,041	#	0	442	8,072

# Included with Water beginning 6/30/2010.

*Retired Members & Beneficiaries  
by Valuation Division*

June 30	General	D.O.T.	Water	Sewage	Housing	Library	Totals
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
2003	7,329	1,659	1,481	227	319	307	11,322
2004	7,593	1,614	1,569	226	*	309	11,311
2005	7,592	1,623	1,643	235	*	303	11,396
2006	7,638	1,617	1,714	267	*	305	11,541
2007	7,567	1,591	1,721	299	*	300	11,478
2008	7,459	1,553	1,742	333	*	301	11,388
2009	7,376	1,559	1,819	343	*	310	11,407
2010	7,408	1,567	2,248	#	*	316	11,539

\* Included with General City beginning 6/30/2004.

# Included with Water beginning 6/30/2010.

## EMPLOYER COMPUTED CONTRIBUTIONS - HISTORICAL COMPARISON

Valuation Date June 30	As Percents of Valuation Payroll							Totals
	General	D.O.T.	Water	Sewage	Housing	Library	Totals	
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(a)	19.32%	19.51%	26.33%	0.33%	10.90%	15.82%	18.05%	
2003	23.45%	23.59%	29.82%	10.09%	13.11%	21.72%	22.72%	
2004	19.75%	19.96%	31.71%	6.80%	-	20.40%	20.09%	
2005#	10.35%	10.88%	20.84%	2.04%	-	11.33%	11.06%	
2006	9.57%	9.93%	20.05%	0.80%	-	10.44%	10.21%	
2007	9.52%	10.54%	18.62%	0.00%	-	9.22%	9.96%	
2008(a)	8.59%	10.51%	17.98%	1.36%	-	9.18%	9.56%	
2009	13.37%	15.34%	12.91%	30.09%	-	17.23%	15.38%	
2010(a)	15.26%	20.26%	25.82%	&	-	22.15%	19.11%	

(a) After changes in actuarial assumptions or methods.

\* After plan amendments.

# After issuance of POCs.

& Included with Water beginning 6/30/2010.

---

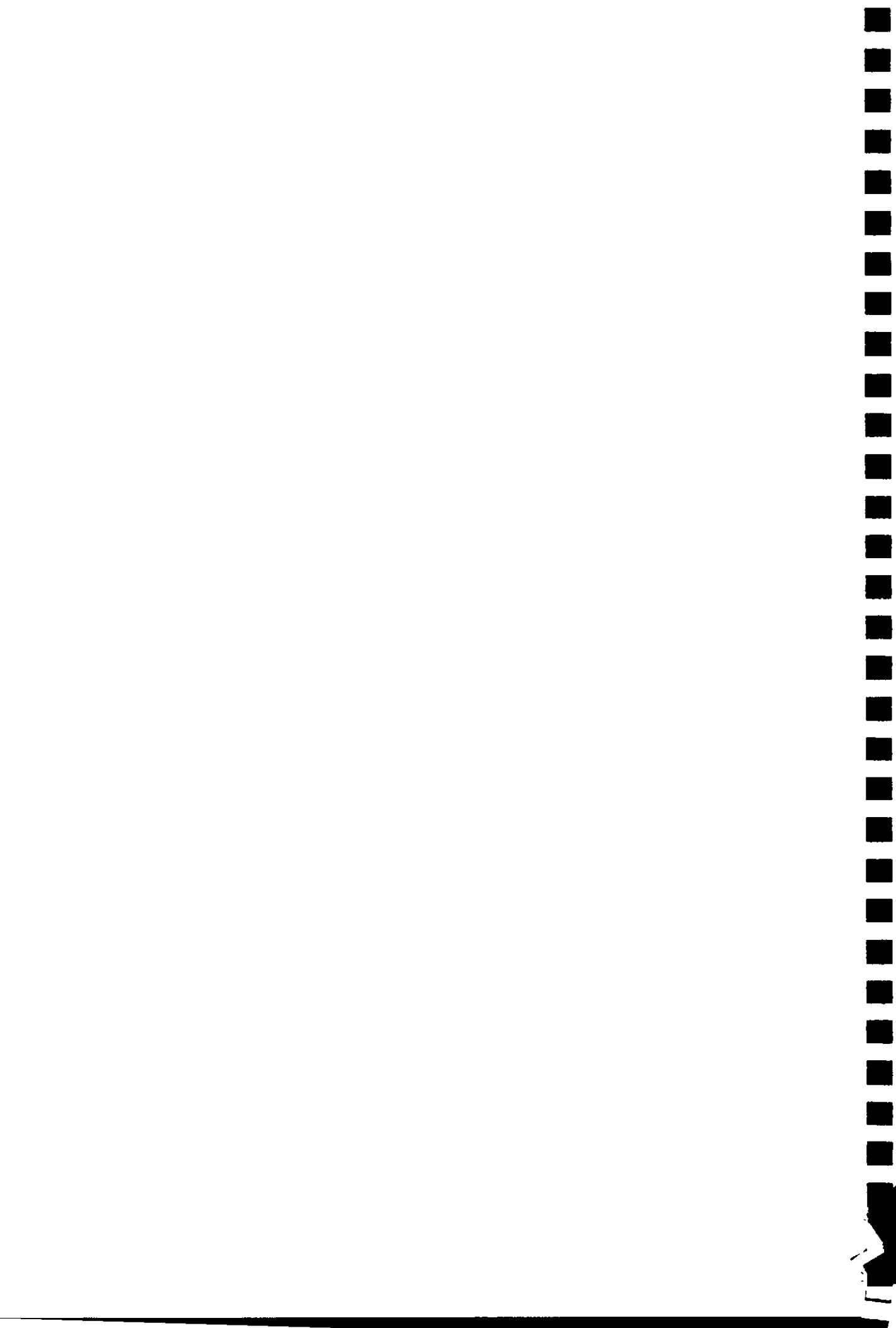
## **SECTION C**

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

---

**This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.**





# 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)
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	3,250,514,916	489,311,236	84.9%	440,680,045	111.0 %
2003	2,537,668,376	3,270,627,177	732,958,801	77.6%	448,579,064	163.4 %
2004	2,470,243,470	3,383,926,672	913,683,202	73.0%	444,596,299	205.5 %
2005@	3,222,393,861	3,347,387,652	124,993,791	96.3%	390,593,600	32.0 %
2006	3,373,687,677	3,434,288,153	60,600,476	98.2%	361,151,456	16.8 %
2007	3,586,550,485	3,629,217,059	42,666,574	98.8%	361,701,481	11.8 %
2008(a)	3,641,197,523	3,609,558,628	(31,638,895)	100.9%	368,470,990	(8.6)%
2009	3,412,411,183	3,689,065,726	276,654,543	92.5%	357,072,833	77.5 %
2010#	3,238,130,553	3,719,586,762	481,456,209	87.1%	334,343,506	144.0 %

@ After POC transfer.

\* After plan amendments.

# After changes in actuarial assumptions or methods.

## Schedule of Employer Contributions

Valuation Year Ended June 30	Reported Employer Contributions	
	From Pension Obligation Certificates (POCs)	Employer Contributions other than from POCs
2001		\$68,139,535
2002		67,791,488
2003		72,859,246
2004		95,876,076
2005	\$739,793,898	41,689,528
2006		58,162,088
2007		41,442,687
2008		43,546,951
2009		41,395,719
2010		34,602,184

## 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, 2010
Actuarial cost method	Entry Age
Amortization method	Level percent
Remaining amortization period for unfunded accrued liabilities	30 years (see page A-4)
Asset valuation method	7-year smoothed market
<b>Actuarial assumptions:</b>	
Investment rate of return	7.9%
Projected salary increases*	4.0% - 8.9%
*Includes inflation at	4.0% #
Cost-of-living adjustments	2.25% of original pension amount at retirement.

# *Ultimate assumption 3 years after valuation date. For the first 2 years after the valuation date, select assumption is 2% then 3% respectively.*

Membership of the plan consisted of the following at June 30, 2010, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	11,539
Terminated plan members entitled to but not yet receiving benefits	1,629
Active plan members	8,072
<b>Total</b>	<b>21,240</b>

---

**SECTION D**  
**FINANCIAL PRINCIPLES**

---



## THE ACTUARIAL VALUATION PROCESS

---

*The financing diagram* on page D-1 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 meet long-term benefit promises through contributions made during members' working careers which, combined with investment income on system assets, will be sufficient to pay benefits throughout their retired lives.*

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.





---

**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 and investment expenses). The real rate of return is the portion of total investment return which is more than the inflation rate. The 7.9% total investment return rate translates to a spread of 3.9% over wage inflation and 4.4% to 4.9% over price inflation.

*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 wage inflation. Wage inflation has historically exceeded price inflation by 0.5% to 1.0% a year, on average. Wage inflation of 4% suggests an underlying rate of price inflation of 3.0% to 3.5%. The merit and/or seniority increase assumption was first used in the June 30, 2003 valuation.

*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 110% of the RP-2000 Combined Table for males and 110% of the RP-2000 Combined Table set back 2 years for females. These tables provide a margin for mortality improvements of approximately 15%. For disabled members, a 10-year set forward of the healthy rates was used to measure post-retirement mortality. Related values are shown on page E-3. This table was first used for the June 30, 2003 valuation.

*The probabilities of retirement* for members eligible to retire are shown on pages E-4 and E-5. These probabilities were revised for the June 30, 2003 valuation.

*The probabilities of separation* from service (including *death-in-service* and *disability*) are shown for sample ages on page E-6. These probabilities were revised for the June 30, 2003 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.

***Unfunded actuarial accrued liabilities*** are amortized over a 30-year period (see page A-1), 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 five-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 (MAAA).**

## SAMPLE SALARY ADJUSTMENT RATES

---

Sample Ages	Salary Increase Assumptions For an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	4.9%	4.0%	8.9%
25	4.9%	4.0%	8.9%
30	4.1%	4.0%	8.1%
35	3.0%	4.0%	7.0%
40	2.3%	4.0%	6.3%
45	1.8%	4.0%	5.8%
50	1.3%	4.0%	5.3%
55	0.9%	4.0%	4.9%
60	0.5%	4.0%	4.5%
Ref	81		

Select and ultimate wage inflation rates are used beginning at 2%, increasing by 1% per year until reaching the ultimate rate shown.

## 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	\$163.69	\$172.57	29.97
55	151.88	163.09	25.38	29.91
60	137.56	151.16	20.98	25.33
65	121.19	136.98	16.90	20.98
70	103.48	121.17	13.23	17.00
75	84.85	103.98	10.00	13.41
80	66.44	86.12	7.27	10.25
Ref.	506 sb0 x 1.1	507 sb2 x 1.1		

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

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Unreduced Benefits		
	EMS	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	537	1648	1647

**PROBABILITIES OF EARLY RETIREMENT  
FOR MEMBERS ELIGIBLE FOR EARLY RETIREMENT**

---

<b>Retirement Ages</b>	<b>Percent of Eligible Active Members Retiring Within Next Year With Reduced Benefits</b>
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%
Ref	1649

## SAMPLE RATES OF SEPARATION FROM ACTIVE EMPLOYMENT BEFORE RETIREMENT

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal			
		EMS	D.O.T.	Others	
Men	Women				
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338	143	584	188
		1068	212	212 x 0.95	212 x 0.95

Sample Ages	% of Active Members Becoming Disabled Within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.02%	0.03%	0.01%	0.25%
30	0.05%	0.08%	0.04%	0.29%
35	0.14%	0.21%	0.11%	0.34%
40	0.27%	0.42%	0.21%	0.39%
45	0.51%	0.79%	0.40%	0.45%
50	0.66%	1.03%	0.51%	0.52%
55	0.76%	1.18%	0.59%	0.60%
60	0.86%	1.34%	0.67%	0.70%
Ref	23 x 0.45	23 x 0.70	23 x 0.35	423 x 0.90

Sample Ages	% of Active Members Dying Within Next Year			
	Non-Duty Death		Duty Death	
	Men	Women	Men	Women
25	0.03%	0.02%	0.01%	0.01%
30	0.03%	0.02%	0.01%	0.01%
35	0.06%	0.04%	0.02%	0.01%
40	0.08%	0.05%	0.03%	0.02%
45	0.11%	0.08%	0.04%	0.03%
50	0.16%	0.13%	0.05%	0.04%
55	0.27%	0.20%	0.09%	0.07%
60	0.51%	0.38%	0.17%	0.13%
Ref	506 sb0 x 0.75	507 sb0 x 0.75	506 sb0 x 0.25	507 sb0 x 0.25

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

---

<b>Benefit Service</b>	Exact Fractional service is used to determine the amount of benefit payable.
<b>Decrement Operation</b>	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal also do not operate during retirement eligibility.
<b>Decrement Timing</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing</b>	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
<b>Forfeitures</b>	For vested separations from service, it is assumed that 0% of members separating will withdraw their contributions and forfeit an employer financed benefit.
<b>Incidence of Contributions</b>	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.
<b>Liability Adjustments</b>	Liabilities were increased by 1.0% to adjust for incomplete data.
<b>Marriage Assumption</b>	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 for active member valuation purposes.
<b>Normal Form of Benefit</b>	Straight life is the normal form of benefit.
<b>Pay Increase Timing</b>	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.
<b>Service Credit Accruals</b>	It is assumed that members accrue one year of service credit per year.
<b>Administrative Expenses</b>	1.00% of payroll was added to the normal cost for administrative expenses.



## 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.

PRELIMINARY REPORT MARCH, 2011

**CITY OF DETROIT GENERAL RETIREMENT SYSTEM**  
**72<sup>ND</sup> ANNUAL ACTUARIAL VALUATION REPORT**  
**AS OF JUNE 30, 2010**

**SUMMARY OF COMPUTED EMPLOYER CONTRIBUTION RATES  
2011-2012 FISCAL YEAR**

---

Contributions for	Contributions Expressed as a Percent of Payroll				
	General City@	D.O.T.	Water/ Sewage	Library	Total
Normal Cost:					
Age & Service Pensions	9.51 %	8.74 %	9.19 %	9.29 %	9.30 %
Disability Pensions	1.41 %	1.01 %	1.47 %	1.33 %	1.37 %
Death-in-Service Pensions	0.30 %	0.29 %	0.34 %	0.26 %	0.30 %
Employer Normal Cost	11.22 %	10.04 %	11.00 %	10.88 %	10.97 %
Unfunded Actuarial Accrued Liabilities#	8.71 %	13.74 %	18.37 %	13.81 %	12.24 %
Computed Employer Contribution Rates	19.93 %	23.78 %	29.37 %	24.69 %	23.21 %
(Change from last year)	6.56 %	8.44 %	9.74 %	7.46 %	7.83 %

# *Unfunded actuarial accrued liabilities (UAAL) were amortized over an open 30 year period (Select and ultimate wage inflation rates are used beginning at 2%, increasing by 1% per year until reaching the ultimate rate of 4.%)*

@ *Includes COBO Hall. Methodology for determining the split between COBO Hall and the City has not yet been finalized.*

**Comment**

---

The valuation results shown above do not include a provision for the potential financial effect of future retroactive transfers to the 1998 Defined Contribution Plan. Such transfers may have a material impact on the computed employer contribution rates.

**DERIVATION OF EXPERIENCE GAIN (LOSS)  
YEAR ENDED JUNE 30, 2010  
(\$ IN MILLIONS)**

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses may offset 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	\$276.7
(2) Normal cost from last valuation	36.2
(3) Employer contributions	34.6
(4) Interest accrual: $[(1) + 1/2 [(2) - (3)]] \times .079$	21.9
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	300.2
(6) Increase due to changes in benefits	2.1
(7) Increase due to changes in methods or assumptions	0.0
(8) Expected UAAL after changes: (5) + (6) + (7)	302.3
(9) Actual UAAL at end of year	724.0
(10) Experience gain (loss): (8) - (9)	\$(421.7)
(11) Gain (loss) as % of beginning of year (\$2,981 million) accrued pension liability	(14.1)%
(12) Experience gain (loss)	(421.7)
(13) Gain (loss) due to investment experience recognized in this valuation	(407.8)
(14) Gain (loss) from other sources	(13.9)

\* *Unfunded actuarial accrued liability.*

A large component of the actuarial experience gain (loss) in any given year is typically the Retirement System's investment gain (loss) on valuation assets. Detail on the investment gain (loss) is shown on Page A-5.

**ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2010**  
**RETIREMENT SYSTEM TOTALS**

Present Value	June 30, 2010	June 30, 2009
<b>Accrued Pension Liabilities (Employer Financed)</b>		
Retirees and beneficiaries		
Future pensions	\$1,884,694,816	\$1,845,450,721
Mortality reserve	0	0
Total	1,884,694,816	1,845,450,721
Inactive members future deferred pensions	165,658,810	131,078,817
Active members	955,399,406	948,787,935
Total accrued pensions	3,005,753,032	2,925,317,473
Pension fund balances	2,281,753,057	2,657,574,063
Unfunded accrued pension liabilities	\$ 723,999,975	\$ 267,743,410
<b>Accrued Annuity Liabilities (Member Financed)</b>		
Retirees and beneficiaries		
Future annuities	\$ 64,773,695	\$ 55,184,182
Mortality reserve	0	0
Total	64,773,695	55,184,182
Member annuities & future refunds	649,060,035	708,564,071
Total accrued annuity liabilities	713,833,730	763,748,253
Annuity fund balances	713,833,730	754,837,120
Unfunded accrued annuity liabilities	\$ 0	\$ 8,911,133
<b>Totals</b>		
Actuarial Accrued Liabilities	<b>\$3,719,586,762</b>	<b>\$3,689,065,726</b>
Accrued Assets	<b>2,995,586,787</b>	<b>3,412,411,183</b>
Unfunded Actuarial Accrued Liabilities	<b>\$ 723,999,975</b>	<b>\$ 276,654,543</b>

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

***Reserve Accounts  
(Funding Value)***

Funds	Fund Balances	
	June 30, 2010	June 30, 2009
Annuity Savings	\$ 649,060,035	\$ 708,564,071
Annuity Reserve	64,773,695	46,273,049
Pension Accumulation*	(392,659,938)	171,645,246
Pension Reserve	1,884,694,816	1,703,062,175
Accrued Liability Fund Reserve	789,718,179	782,866,642
<b>Total Fund Balances</b>	<b>\$2,995,586,787</b>	<b>\$3,412,411,183</b>

***Revenues and Expenditures  
(Funding Value)***

	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2009	\$2,657,574,064	\$ 754,837,119	\$3,412,411,183
Prior valuation audit adjustment	0	0	0
Balance July 1, 2009 after adjustment	2,657,574,064	754,837,119	3,412,411,183
<b>Revenues</b>			
Member contributions	334,048	19,175,100	19,509,148
Employer contributions #	34,602,184	0	34,602,184
Recognized investment income*	(189,717,921)	40,898,787	(148,819,134)
Transfers	(5,360,676)	5,360,676	0
<b>Total</b>	<b>\$ (160,142,365)</b>	<b>\$ 65,434,563</b>	<b>\$ (94,707,802)</b>
<b>Expenditures</b>			
Benefit payments	201,340,016	9,991,776	211,331,792
Refund of member contributions	4,913,416	99,752,495	104,665,911
Administrative expenses	6,118,891	0	6,118,891
<b>Total</b>	<b>\$ 212,372,323</b>	<b>\$ 109,744,271</b>	<b>\$ 322,116,594</b>
Balance, June 30, 2010	\$2,285,059,376	\$ 710,527,411	\$2,995,586,787
Funding Value Rate of Return	(7.4)%	5.7%	(4.5)%

# Includes contributions receivable

\* Reserve of \$7,917,916 is included in the above totals.



## FUNDING VALUE OF ASSETS

Year Ended June 30:	2008	2009	2010	2011	2012	2013	2014
A Funding Value Beginning of Year	\$3,586,550,486	\$3,641,197,523	\$3,412,411,183				
B Market Value End of Year	3,416,767,126	2,387,136,535	2,246,512,689				
C Market Value Beginning of Year	3,842,458,810	3,416,767,126	2,387,136,535				
D Non-Investment Net Cash Flow(Contribution-Benefits)	(207,466,037)	(235,028,550)	(268,005,262)				
E Investment Income							
E1 Market Total: B - C - D	(218,225,647)	(794,602,041)	127,381,416				
E2 Amount for Immediate Recogn Reg Int on Reserves	282,463,057	278,370,977	258,994,276				
E3 Amount for Phased-In Recognition: E1-E2	(500,688,704)	(1,072,973,018)	(131,612,860)				
F Phased-In Recognition of Investment Income							
F1 Current Year: E3/3	(166,896,235)	(214,594,604)	(26,322,572)				
F2 First Prior Year	109,362,072	(166,896,235)	(214,594,604)	\$ (26,322,572)			
F3 Second Prior Year	37,184,180	109,362,072	(166,896,234)	(214,594,604)	\$ (26,322,572)		
F4 Third Prior Year					(214,594,604)	\$ (26,322,572)	
F5 Fourth Prior Year						(214,594,602)	\$ (26,322,572)
F6 Total Recognized Investment Gain	(20,349,983)	(272,128,767)	(407,813,410)	(240,917,176)	(240,917,176)	(240,917,174)	(26,322,572)
G Total Recognized Investment Income: (E2+F6)	262,113,074	6,242,210	(148,819,134)				
H Funding Value End of Year: A + D + G	3,641,197,523	3,412,411,183	2,995,586,787				
I Difference between Market & Funding Value B - H	(224,430,397)	(1,025,274,648)	(749,074,098)				
J Recognized Rate of Return: G / [I/2(A+H-G)]	7.5%	0.2%	(4.5)%				
K Market Value Rate of Return (net)	(5.8)%	(24.1)%	5.7%				
L Ratio of Funding Value to Market Value	106.6%	142.9%	133.3%				

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 4 consecutive years, it will become equal to Market Value.

**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		
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
2003	12,833	1.5 %	448,579,064	34,955	0.3 %	43.5	11.7
2004	11,791	(8.1)%	444,596,299	37,706	7.9 %	44.5	12.5
2005	9,820	(16.7)%	390,593,600	39,775	5.5 %	45.9	13.8
2006	9,047	(7.9)%	361,151,456	39,919	0.4 %	46.6	14.6
2007	8,971	(0.8)%	361,701,481	40,319	1.0 %	47.0	14.6
2008	8,823	(1.6)%	368,470,990	41,763	3.6 %	47.2	14.7
2009	8,599	(2.5)%	357,072,833	41,525	(0.6)%	47.4	14.8
2010	8,072	(6.1)%	334,343,506	41,420	(0.3)%	47.7	15.3

**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
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%
2003	11,322	2.4%	78.3%	19.3%	100.0%	147,024,720	12,986	32.8%
2004	11,311	2.6%	78.5%	18.9%	100.0%	154,133,460	13,627	34.7%
2005	11,396	2.7%	79.6%	17.7%	100.0%	165,095,736	14,487	42.3%
2006	11,541	2.7%	79.6%	17.7%	100.0%	175,193,088	15,180	48.5%
2007	11,478	2.7%	79.6%	17.7%	100.0%	180,332,688	15,711	49.9%
2008	11,388	2.8%	79.9%	17.3%	100.0%	185,688,852	16,306	50.4%
2009	11,407	3.0%	79.8%	17.2%	100.0%	193,045,584	16,923	54.1%
2010	11,539	3.4%	79.6%	17.0%	100.0%	202,935,852	17,587	60.7%

# 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	
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(a)	440.7	34,867	8.74%	9.31 %	18.05%	3,250.5	2,761.2	489.3	1.11
2003	448.6	34,955	8.82%	13.90 %	22.72%	3,270.6	2,537.7	732.9	1.63
2004	444.6	37,706	8.99%	11.10 %	20.09%	3,383.9	2,470.2	913.7	2.06
2005*	390.6	39,775	9.26%	1.80 %	11.06%	3,347.4	3,222.4	125.0	0.32
2006	361.2	39,919	9.26%	0.95 %	10.21%	3,434.3	3,373.7	60.6	0.17
2007	361.7	40,319	9.29%	0.67 %	9.96%	3,629.2	3,586.6	42.6	0.12
2008(a)	368.5	41,763	10.09%	(0.53)%	9.56%	3,609.6	3,641.2	(31.6)	(0.09)
2009	357.1	41,525	10.84%	4.54 %	15.38%	3,689.1	3,412.4	276.7	0.77
2010	334.3	41,420	10.94%	12.21 %	23.15%	3,717.5	2,995.6	721.9	2.16
2010	334.3	41,420	10.97%	12.24 %	23.21%	3,719.6	2,995.6	724.0	2.17

# After plan amendments.

(a) After changes in actuarial assumptions.

\* After POC transfer.

## COMMENTS

---

### **Experience**

Experience during the year was less favorable than expected. Overall, the experience loss was approximately 14.1% of the beginning of year liability. The experience loss was comprised of two parts: a recognized investment loss of \$408 million and a liability loss of \$14 million.

The investment loss was the primary source of the experience loss during the year. The fund earned a 5.7% rate of return on a market basis and a (4.5)% rate of return on a funding value basis. The recognized rate of return on the Pension Funds was (7.4)%. While there was an investment loss due to the lower than expected market value return in the current year, most of the investment loss on funding value of assets was due to phased-in investment losses recognized from the prior two years.

### **Funding Value of Assets**

At the August 4, 2010 Board meeting, the Board adopted a change in the method used for asset smoothing. Beginning June 30, 2009, gains and losses in excess of the assumed investment return are being recognized over a period of 5 years (previously 3 years). As of June 30, 2010, the funding value of assets was nearly \$750 million dollars greater than the market value. As that difference is recognized over the next four years, computed contribution rates will continue to increase unless offset by future experience gains. In the absence of future experience gains, computed contribution rates will increase by approximately an additional 12%-13% of payroll over the next few years. On a market value of asset basis, the fund was approximately 60% funded.

### **Valuation Data**

Data provided for the inactive vested members this year had some inconsistencies. Inactive vested members are former employees who have left active service but are vested and eligible for a benefit at some point in the future. There were no new inactive vested members reported for Fiscal Year 2010, although there may be a lag in reporting inactive vesting members. In addition, inactive vested members reported this year showed an increase of approximately 3 years of service on average over the service reported last year. Since these members are not currently employed, the reported service is expected to remain constant from year to year. We assume this change is due to the data corrections or changes in reporting procedures. The potential impact on the computed contribution rates is small, however, the process for maintaining and submitting data for the inactive vested members should be reviewed.