Gabriel Roeder Smith & Company
Consultants & Actuaries

The General Retirement System of The City of Detroit

75th Annual Actuarial Valuation

June 30, 2013

OUTLINE OF CONTENTS

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April 4, 2014

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

Dear Board Members:

The results of the **75th Annual Actuarial Valuation** of the annuity and pension liabilities of the General Retirement System of the City of Detroit are presented in this report. This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. The purpose of the valuations was to measure the System's funding progress, to determine contribution rates for the 2015 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 valuation was **June 30, 2013**.

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. Data was checked for year-to-year consistency, but was not otherwise audited by the actuary. We are not responsible for the completeness or accuracy of the data. The assumptions used in the valuations concerning future financial experience are summarized in the Appendix of this report.

We presented preliminary valuation results at the March 19, 2014 Board meeting. Subsequent to that meeting, the Retirement System provided additional information for certain members previously excluded from the valuation data files. Based on our analysis, the impact of this additional information was less than our adjustment for missing or incomplete data in our original results. Therefore, we have not incorporated the revised data and results in this final report are unchanged from our March presentation. We recommend staff continue their data cleanup efforts and consider the value of a data audit prior to the next valuation.

Your attention is directed particularly to the comments on pages A-6 through A-8 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 Actuarial Standards of Practice promulgated by the Actuarial Standards Board. The actuarial assumptions used for the valuation are set by the Board. Different assumptions would produce different results. The actuarial assumptions are reasonable.

The signing actuaries are independent of the plan sponsor.

David T. Kausch and Judith A. Kermans are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The plan sponsor (City of Detroit) is currently in Chapter 9 bankruptcy. Therefore, there is a great deal of uncertainty regarding the structure of the plan (including the level of accrued benefits, future benefits, and funding). If the plan structure changes as a result of the bankruptcy, the Board should consider having this report reissued to account for those changes. This report does not evaluate the plan sponsor's ability to make the required contributions when due. Such an analysis is not within the scope of our assignment. Failure to receive employer contributions on a timely basis could jeopardize the sustainability of the fund.

Respectfully submitted,

David T Kausch

David T. Kausch, FSA, EA, MAAA

Judith A. Kermans

Judith A. Kermans, EA, MAAA

Kenneth G. Alberts

Kenneth G. Alberts

DTK:sc

SECTION A

RETIREMENT SYSTEM TOTALS

SUMMARY OF COMPUTED EMPLOYER CONTRIBUTION RATES
2014-2015 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	7.58 %	7.70 %	7.39 %	8.35 %	7.58 %
Disability Pensions	1.38 %	1.01 %	1.38 %	1.37 %	1.33 %
Death-in-Service Pensions	0.29 %	0.29 %	0.32 %	0.27 %	0.30 %
Administrative Expenses*	2.90 %	2.90 %	2.90 %	2.90 %	2.90 %
Employer Normal Cost	12.15 %	11.90 %	11.99 %	12.89 %	12.11 %
Other Short Term Expenses&	2.00 %	2.00 %	2.00 %	2.00 %	2.00 %
Unfunded Actuarial Accrued Liabilities#	27.27 %	37.03 %	32.48 %	18.09 %	29.72 %
Estimated Employer Contribution Rates	**41.42 %**	**50.93 %**	**46.47 %**	**32.98 %**	**43.83 %**
Estimated Employer Contributions for FY 2015 ($ mill)	**$ 44.6**	**$ 16.7**	**$ 31.3**	**$ 4.6**	**$ 97.2**
Estimated Employer Contributions for FY 2014 ($ mill)	**$ 36.7**	**$ 12.1**	**$ 28.2**	**$ 3.6**	**$ 80.6**

* *Includes 0.80% of payroll for defined contribution (DC) payments and 2.10% of payroll for administrative expenses.*
\# *Unfunded actuarial accrued liabilities (UAAL) were amortized as a level percent of payroll over an open 30-year period.*
@ *Includes COBO Hall.*
& *Bankruptcy related and/or not expected to occur for more than a few years.*

COMMENT

The valuation results shown above include an adjustment to account for certain retroactive benefits paid as a result of the 1998 Defined Contribution Plan. The adjustment is based on experience to date and limited implementation of the plan. Full implementation of the plan may have a material impact on the computed employer contribution rates beyond what is included above.

We understand that the FY 2013 employer contributions have not been made and FY 2014 employer contributions are not being made due to the City's Chapter 9 bankruptcy. The FY 2015 contribution shown above is based on the assumption that the FY 2013 and FY 2014 contributions WOULD NOT be made. The reported assets as of June 30, 2013 include zero receivable contributions.

SUMMARY OF COMPUTED EMPLOYER CONTRIBUTION RATES
2014-2015 FISCAL YEAR
INCLUDING PAYMENT OF PAST DUE CONTRIBUTIONS

	Contributions Expressed as a Percent of Payroll				
Contributions for	**General City@**	**D.O.T.**	**Water/ Sewage**	**Library**	**System Total**
Normal Cost:					
Age & Service Pensions	7.58 %	7.70 %	7.39 %	8.35 %	7.58 %
Disability Pensions	1.38 %	1.01 %	1.38 %	1.37 %	1.33 %
Death-in-Service Pensions	0.29 %	0.29 %	0.32 %	0.27 %	0.30 %
Administrative Expenses*	2.90 %	2.90 %	2.90 %	2.90 %	2.90 %
Employer Normal Cost	12.15 %	11.90 %	11.99 %	12.89 %	12.11 %
Other Short Term Expenses&	2.00 %	2.00 %	2.00 %	2.00 %	2.00 %
Unfunded Actuarial Accrued Liabilities#	24.30 %	33.55 %	32.48 %	18.09 %	27.77 %
Estimated Employer Contribution Rates	**38.45 %**	**47.45 %**	**46.47 %**	**32.98 %**	**41.88 %**
Estimated Employer Contributions for FY 2015 ($ mill)	**$ 41.4**	**$ 15.5**	**$ 31.3**	**$ 4.6**	**$ 92.8**
Past due Payments for FY 2013	**$ 27.2**	**$ 8.8**	**$ -**	**$ -**	**$ 36.0**
Expected Employer Contributions for FY 2014 ($ mill)	**$ 36.7**	**$ 12.1**	**$ 28.2**	**$ 3.6**	**$ 80.6**

* *Includes 0.80% of payroll for defined contribution (DC) payments and 2.10% of payroll for administrative expenses.*

\# *Unfunded actuarial accrued liabilities (UAAL) were amortized as a level percent of payroll over an open 30-year period.*

@ *Includes COBO Hall.*

& *Bankruptcy related and/or not expected to occur for more than a few years.*

COMMENT

The valuation results shown above include an adjustment to account for certain retroactive benefits paid as a result of the 1998 Defined Contribution Plan. The adjustment is based on experience to date and limited implementation of the plan. Full implementation of the plan may have a material impact on the computed employer contribution rates beyond what is included above.

We understand that the FY 2013 employer contributions have not been made and FY 2014 employer contributions are not being made due to the City's Chapter 9 bankruptcy. The FY 2015 contribution shown above is based on the assumption that the FY 2013 and FY 2014 contributions WOULD be made.

DEVELOPMENT OF LIABILITIES AS OF JUNE 30, 2013
RETIREMENT SYSTEM TOTALS

Present Value of Future Benefits	$ 3,738,180,148
Present Value of Future Normal Costs	129,106,290
Actuarial Accrued Liability	3,609,073,858
Accrued Assets#	2,524,863,146
Unfunded Actuarial Accrued Liability#	$ 1,084,210,712

 # Assumes past due contributions of $36M are NOT made.

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2013
RETIREMENT SYSTEM TOTALS

Present Value	June 30, 2013	June 30, 2012
Accrued Pension Liabilities (Employer Financed)		
Retirees and beneficiaries		
Future pensions	$2,313,167,260	$2,213,640,992
Mortality reserve	0	0
Total	2,313,167,260	2,213,640,992
Inactive members future deferred pensions	201,075,943	165,251,217
Active members	592,551,741	688,597,028
Total accrued pensions	3,106,794,944	3,067,489,237
Pension fund balances	2,022,584,228	2,229,805,862
Unfunded accrued pension liabilities	$ 1,084,210,716	$ 837,683,375
Accrued Annuity Liabilities (Member Financed)		
Retirees and beneficiaries		
Future annuities	$ 100,686,342	$ 92,108,332
Mortality reserve	0	0
Total	100,686,342	92,108,332
Member annuities & future refunds	401,592,576	484,575,008
Total accrued annuity liabilities	502,278,918	576,683,340
Annuity fund balances	502,278,918	576,683,340
Unfunded accrued annuity liabilities	$ 0	$ 0
Totals		
Actuarial Accrued Liabilities	**$3,609,073,862**	**$3,644,172,577**
Accrued Assets	**2,524,863,146**	**2,806,489,202**
Unfunded Actuarial Accrued Liabilities	**$ 1,084,210,716 #**	**$ 837,683,375**

 # Assumes past due contributions of $36M are NOT made.

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

June 30	Active Payroll Total	Active Payroll Average	% of Payroll Contributions For: Normal Cost	UAAL	Total	Actuarial Accrued Liabilities: Computed Total	Accrued Assets	Unfunded	Unfunded/ Active Pay
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(a)	334.3	41,420	10.97%	8.14 %	19.11%	3,719.6	3,238.1	481.5	1.44
2011	303.4	41,845	11.49%	11.60 %	23.09%	3,720.2	3,080.3	639.9	2.11
2012	258.0	41,385	12.82%	18.82 %	31.64%	3,706.0	2,806.5	899.5	3.49
2012#@	258.0	41,385	11.79%	18.26 %	30.05%	3,644.2	2,806.5	837.7	3.25
2013	213.3	39,763	13.84%	29.37 %	43.21%	3,596.7	2,524.9	1,071.8	5.02
2013#	**213.3**	**39,763**	**14.11%**	**29.72 %**	**43.83%**	**3,609.1**	**2,524.9**	**1,084.2**	**5.08**
2013#&	**213.3**	**39,763**	**14.11%**	**27.77 %**	**41.88%**	**3,609.1**	**2,560.9**	**1,048.2**	**4.91**

After plan amendments/clarifications.
(a) *After changes in actuarial assumptions and/or methods.*
* *After POC transfer.*
@ *Reflects missing FY12 and FY13 contributions.*
& *Assumes past due contributions of $36,000,000 are made.*

The purpose of this report is to measure the funding progress and establish the computed employer contribution rate for Fiscal Year 2015 in an ongoing pension plan. This actuarial valuation does not take into account any of the changes being discussed as part of the Bankruptcy mediation process but presents the results based on plan provisions and actuarial assumptions as they were pre-bankruptcy. This report was prepared for the General Retirement System Board of Trustees and should not be used by any other party or for any purpose other than as described in this paragraph.

Computed Contribution

The computed employer contribution rate was determined two ways. First, assuming that employer contributions due in FY 13 and FY 14 would be made on a timely basis, and also assuming that the past due amounts would not be made. Schedules in the report indicate which set of numbers is used. This report does not evaluate the ability of the employer to make the required contributions.

Experience

Experience during the year was less favorable than expected. Overall, the experience loss was approximately $133 million (3.7% of the beginning of year liability).

The fund earned a 14.2% rate of return on a market basis but, because investment gains and losses are smoothed over a 7-year period, the fund recognized a 2.3% rate of return on a funding value basis. This rate compares to a 7.9% assumed rate of investment return.

Funding Value of Assets

Beginning June 30, 2010, gains and losses in excess of the assumed investment return are being recognized over a period of 7 years. As of June 30, 2013, the funding value of assets was nearly $426 million dollars greater than the market value (see page A-13). As that difference is recognized, computed employer contribution rates will continue to increase (over the next several years), unless the losses are offset by future experience gains. On a funding value basis the System is 70% funded. On a market value of asset basis, the System is 58% funded.

The current method of allocation of investment income between divisions (as provided by Retirement System staff) results in each division recognizing a rate of return that may differ from the fund, in total. This has led to changes in divisional contribution rates that were not completely uniform. We recommend that staff continue to review the allocation procedures.

Active Member Group Size

As mentioned above, the recognition of prior investment losses will continue to put upward pressure on the employer contribution rate. The employer rate, as a percent of payroll, will increase yet more if the active member group continues to contract.

Plan Changes

The following plan changes were recognized in the 2012 valuation:

- Future benefit accruals for certain active members were reduced to 1.5% of final average compensation per year of service.
- Post-retirement cost-of-living increases were eliminated on future accruals for certain active members.

For the 2013 valuation, the Retirement System provided an updated list of the agency codes indicating which change affected which agency as well as the effective dates of the changes for each agency. Reflecting the updated agency codes resulted in an increase in the computed employer contribution rate of 0.96% of payroll.

During the year the following plan changes were made:

- Sick leave and longevity pay were excluded for members of various bargaining units.

This information was provided in the updated list of the agency codes indicating which change affected which agency. These changes, in total, resulted in a reduction in the computed employer contribution rate of 0.34% of payroll.

Assumptions and Methods

An increase in the administrative expense load was made in accordance with an increase in the actual expenses as a percent of payroll.

Actuarial methods and assumptions were last formally reviewed (in aggregate) for the 5-year period ending June 30, 2007. The next review was scheduled to be completed after the June 30, 2012 valuation to cover the 5-year period ending June 30, 2012. The City Ordinance requires a formal review be performed every 5 years. This study was suspended do to other more urgent projects resulting from the Bankruptcy proceedings as well as the uncertainty of the structure of the plan as a result of the Bankruptcy. The study should be resumed once the changes resulting from the Bankruptcy (if any) are known. It will review economic assumptions (assumptions about future events affecting money values) and demographic assumptions (assumptions about future events that happen to members). In addition, we will be reviewing methods and assumptions for conformity with recent changes in the actuarial standards, such as, the appropriate margin for future mortality improvement and the corridor around the market value of assets.

GASB Changes

For plan years beginning in 2013, new reporting standards will be required. The new reporting standards will be substantially different than the current standards. Some of the changes include reporting of:

- Liabilities that may be materially different than the liabilities currently developed for funding;
- Unfunded liabilities based on the market value of assets;
- Annual plan expenses that may differ materially from the contribution developed for current funding.

Some of the calculations that will need to be performed will differ depending on the existence of a formal written policy. As such, the Board should consider developing a formal written funding policy if one does not currently exist.

Recommendations

As of June 30, 2013, the annual benefits were approximately 9% of the market value of assets. Failure to receive employer contributions on a timely basis could jeopardize the sustainability of the fund. We recommend that all previously computed employer contributions be deposited into the fund as soon as possible.

The development of the employer contribution is based on a stable (or growing) total covered payroll. Payroll actually declined during the year ending June 30, 2013. If future payroll contraction is expected over the next 1-2 years, we recommend making employer contributions based on the computed dollar amount shown on page A-1, instead of the percent of payroll, to avoid the contribution loss that occurs with a declining payroll.

Conclusion

The Retirement System is 70% funded as of June 30, 2013, based on the funding value of assets (58% on a market value of assets 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 2014-2015 fiscal year is 43.83% of covered payroll assuming past due and currently due contributions are not made or 41.88% of covered payroll if they are made 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 (1) Active Member Contr.	(2) Retirees and Benef.	(3) Present Members (Employer-Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)	Total
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%
2011	596	2,059	1,065	3,080	100%	100%	40%	83%
2012	485	2,306	854	2,806	100%	100%	2%	77%
2013	402	2,414	794	2,525	100%	88%	0%	70% &

(a) After changes in actuarial assumptions and/or methods.
& 58% on a market value basis. Assumes past due contributions of $36M are NOT made.

DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED JUNE 30, 2013
($ 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	$837.7
(2)	Normal cost from last valuation	25.1
(3)	Employer contributions	26.5
(4)	Interest accrual: [(1) + 1/2 [(2) - (3)]] x .079	66.1
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	902.4
(6)	Increase due to changes in benefits or clarifications	12.4
(7)	Other: Missed FY 2013 Contributions	36.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	950.8
(9)	Actual UAAL at end of year	1,084.2
(10)	Experience gain (loss): (8) - (9)	$(133.4)
(11)	Gain (loss) as % of beginning of year ($3,644 million) accrued pension liability	(3.7)%
(12)	Experience gain (loss)	(133.4)
(13)	Gain (loss) due to investment experience recognized in this valuation	(147.8)
(14)	Gain (loss) from other sources	14.4
(15)	Gain (loss) from other sources as a % of beginning of year liability	0.4 %

** 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-13.

ASSET INFORMATION
FURNISHED FOR THE VALUATION
RETIREMENT SYSTEM TOTALS

Reported Assets
(Market Value)

Market Value - June 30, 2013	
Cash & equivalents	$ 16,852,995
Short term investments	37,680,539
Mortgage securities	27,285,952
Other securities	135,823,322
Receivables & accruals	47,368,800
Contributions receivables	-
Stocks	1,054,606,782
Bonds & government securities	144,296,396
Real estate	223,433,016
Private equity	438,635,231
Mortgages	109,134,461
Securities lending	(96,535,642)
Pooled investments	7,839,000
Capital assets	1,278,630
Accounts payable	(48,677,528)
Total Current Assets	**$ 2,099,021,954**

ASSET INFORMATION
FURNISHED FOR THE VALUATION
RETIREMENT SYSTEM TOTALS

Reserve Accounts
(Funding Value)

Funds	Fund Balances June 30, 2013	Fund Balances June 30, 2012
Annuity Savings	$ 401,592,576	$ 484,575,008
Annuity Reserve	100,686,342	92,108,332
Pension Accumulation	(1,104,568,171)	(791,478,253)
Pension Reserve	2,313,167,260	2,213,640,992
Accrued Liability Fund Reserve	813,985,139	807,643,123
Total Fund Balances	**$2,524,863,146**	**$2,806,489,202**

Revenues and Expenditures
(Funding Value)

	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2012	$2,229,805,862	$ 576,683,340	$2,806,489,202
Prior valuation audit adjustment	0	0	0
Balance July 1, 2012 after adjustment	2,229,805,862	576,683,340	2,806,489,202
Revenues			
Member contributions	0	13,395,701	13,395,701
Employer contributions	26,515,782	0	26,515,782
Recognized investment income	21,700,707	38,698,671	60,399,378
Transfers	0	0	0
Total	$ 48,216,489	$ 52,094,372	$ 100,310,861
Expenditures			
Benefit payments	246,617,947	0	246,617,947
Refund of member contributions	0	126,498,794	126,498,794
Administrative expenses#	8,820,176	0	8,820,176
Total	$ 255,438,123	$ 126,498,794	$ 381,936,917
Balance, June 30, 2013	$2,022,584,228	$ 502,278,918	$2,524,863,146
Funding Value Rate of Return	1.0%	7.4%	2.3%
Market Value Rate of Return	16.6%	7.4%	14.2%

\# *Includes approximately 4.5 million of on-going administrative expenses and 4.3 million of short term expenses.*

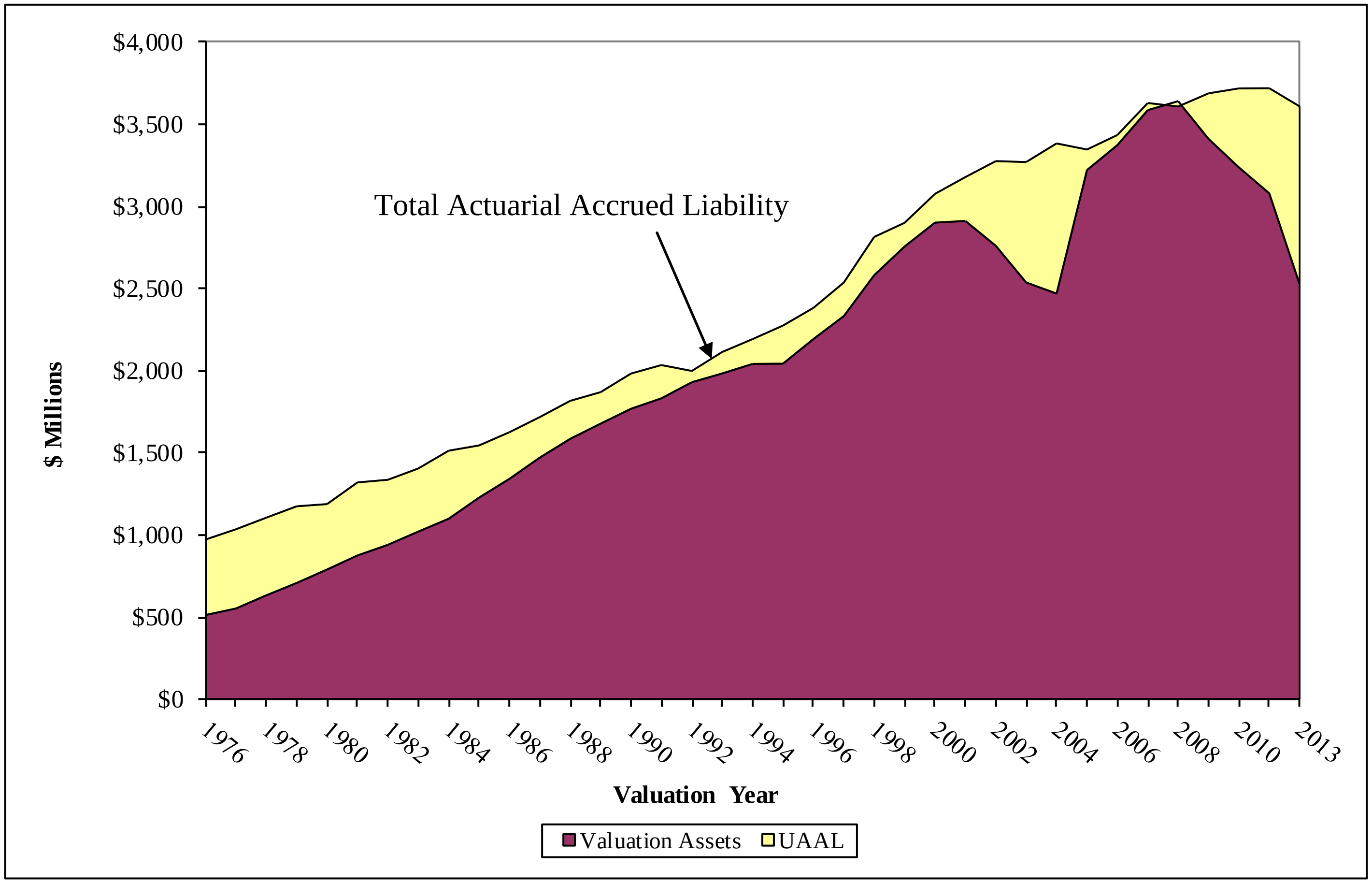
REPORTED FUNDING VALUE OF ASSETS

Year Ended June 30:	2012	2013	2014	2015	2016	2017	2018	2019
A. Funding Value Beginning of Year	$3,080,295,734	$2,806,489,202						
B. Market Value End of Year	2,158,837,848	2,099,021,954						
C. Market Value Beginning of Year	2,421,566,956	2,158,837,848						
D. Non-Investment Net Cash Flow (Contribution-Benefits)	(313,356,872)	(342,025,434)						
E. Investment Income								
E1. Market Total: B - C - D	50,627,764	282,209,540						
E2. Amount for Immediate Recogn: Reg. Int. on Reserves	230,965,767	208,202,642						
E3. Amount for Phased-In Recognition: E1-E2	(180,338,003)	74,006,898						
F. Phased-In Recognition of Investment Income								
F1. Current Year: E3/7	(25,762,572)	10,572,414						
F2. First Prior Year	27,936,574	(21,042,608)	$ 10,572,414					
F3. Second Prior Year	(165,269,644)	27,936,574	(21,042,608)	$ 10,572,414				
F4. Third Prior Year		(165,269,644)	27,936,574	(21,042,608)	$ 10,572,414			
F5. Fourth Prior Year			(165,269,644)	27,936,574	(21,042,608)	$ 10,572,414		
F6. Fifth Prior Year				(165,269,644)	27,936,574	(21,042,608)	$ 10,572,414	
F7. Sixth Prior Year					(165,269,644)	27,936,572	(21,042,606)	$10,572,414
F8. Total Recognized Investment Gain	(163,095,642)	(147,803,264)	(147,803,264)	(147,803,264)	(147,803,264)	17,466,378	(10,470,192)	10,572,414
G. Total Recognized Investment Income: (E2+F8)	67,870,125 #	60,399,378						
H. Funding Value End of Year: A + D + G								
H1. Preliminary Funding Value End of Year: A + D + E2 + F8	2,834,808,987	2,524,863,146						
H2. Corridor Limit	30%	30%	30%	30%	30%	30%	30%	30%
H3. Upper Corridor Limit: (100% + H2) * B	2,806,489,202	2,728,728,540						
H4. Lower Corridor Limit: (100% - H2) * B	1,511,186,494	1,469,315,368						
H5. Funding Value End of Year	2,806,489,202	2,524,863,146						
I. Difference between Market & Funding Value: B - H4	(647,651,354)	(425,841,192)						
J. Recognized Rate of Return	**1.4%**	**2.3%**						
K. Market Value Rate of Return (net)	2.2%	14.2%						
L. Ratio of Funding Value to Market Value	130.0%	120.3%						

 # Before application of corridor. After application of corridor, recognized income is $39,550,340.

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 7-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 6 consecutive years, it will become equal to Market Value.

ASSETS AND ACCRUED LIABILITIES



PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS
RETIREMENT SYSTEM TOTALS

Active Members

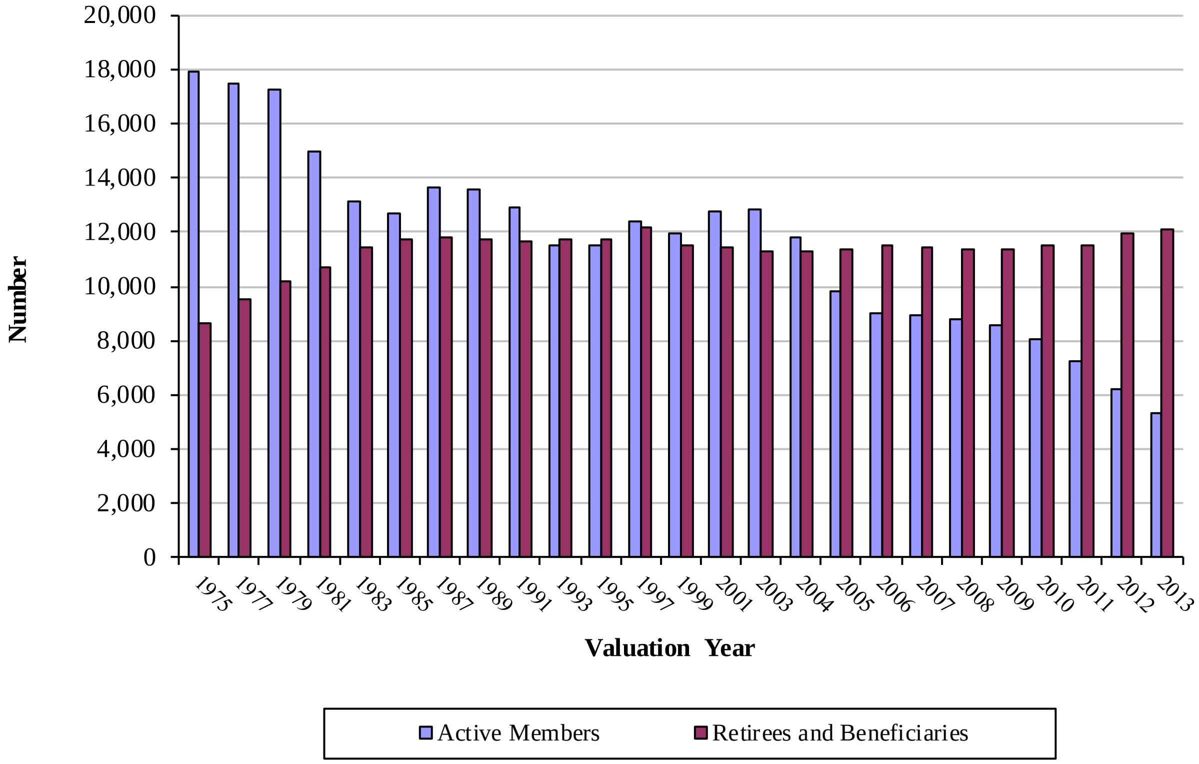
				Group Averages			
	Active Members		Annual	Average Pay		Age	Service
June 30	No.	Change	Payroll	$	Change	Years	Years
1984	13,172	0.1 %	$288,048,279	$21,868	5.6 %	41.5	12.0
1985	12,719	(3.4)%	281,378,439	22,123	1.2 %	41.5	11.9
1986	13,423	5.5 %	299,859,070	22,339	1.0 %	41.1	11.3
1987	13,640	1.6 %	321,402,755	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
2011	7,250	(10.2)%	303,379,482	41,845	1.0 %	48.3	15.4
2012	6,234	(14.0)%	257,992,420	41,385	(1.1)%	48.5	15.4
2013	5,364	(14.0)%	213,291,083	39,763	(3.9)%	48.8	15.7

PERSONS IN VALUATIONS - COMPARATIVE STATEMENTS
RETIREMENT SYSTEM TOTALS

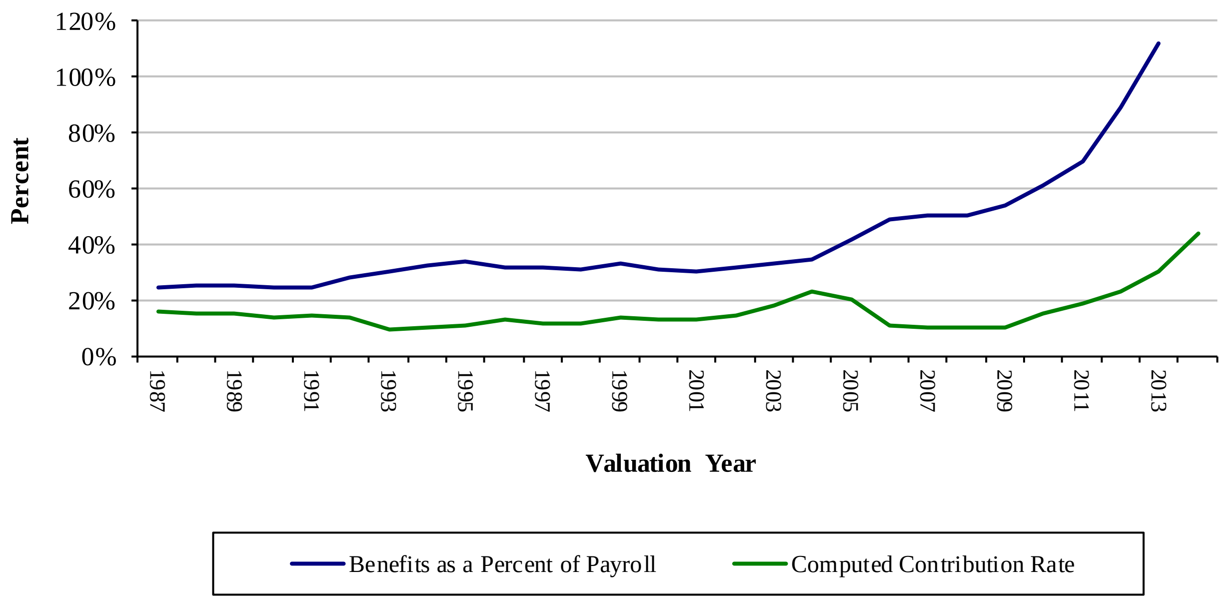
Retirees and Beneficiaries

		% of Current Allowances				Current Annual Pensions		
June 30	No.	Annuities	Initial Pensions	Escalators & Other Increases	Allow.	Total	Average	% of Payroll
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%
2011	11,555	3.7%	79.9%	16.4%	100.0%	211,169,292	18,275	69.6%
2012	11,943	4.2%	80.7%	15.1%	100.0%	229,466,507	19,213	88.9%
2013	12,089	4.2%	80.7%	15.1%	100.0%	238,498,512	19,729	111.8%

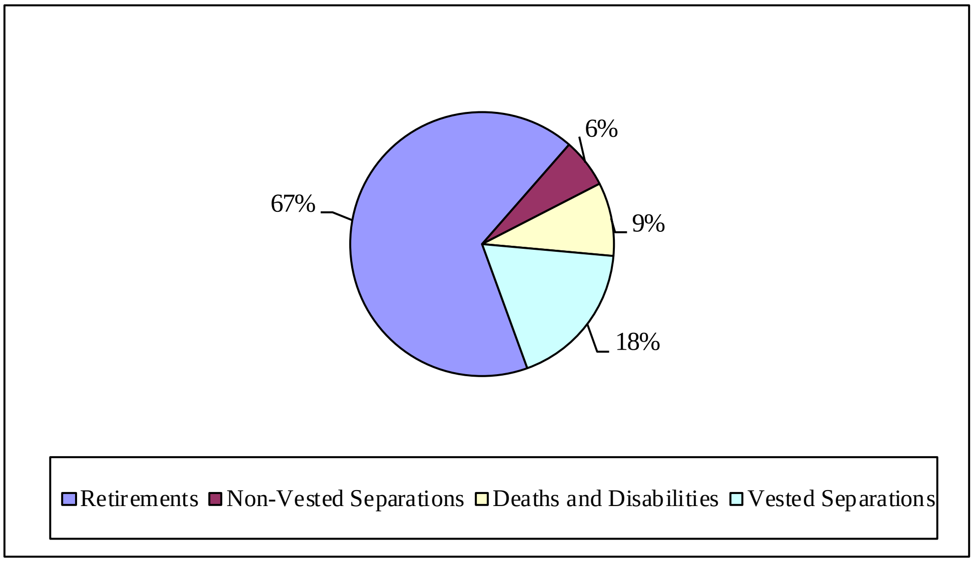
ACTIVE AND RETIRED MEMBERS



BENEFIT PAYOUT AND COMPUTED CONTRIBUTIONS 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 5,364 active members. Eventually, 348 people are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 4,544 people are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 472 people are expected to become eligible for death-in-service or disability benefits.

RETIREES AND BENEFICIARIES JUNE 30, 2013
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*	13	$ 22,640	1	$ 517	8	$ 4,357	22	$ 27,514
20-24	6	4,894					6	4,894
25-29	3	1,360					3	1,360
30-34	6	5,330	5	963			11	6,293
35-39	8	7,219	18	11,360	1	809	27	19,388
40-44	32	29,586	35	21,626	4	4,027	71	55,239
45-49	149	261,487	77	52,729	10	12,261	236	326,477
50-54	590	1,371,188	197	152,395	36	42,743	823	1,566,326
55-59	1,277	3,182,035	245	254,129	35	40,903	1,557	3,477,067
60-64	2,194	4,466,994	215	264,236	46	81,823	2,455	4,813,053
65-69	1,680	3,062,234	135	147,893	40	58,480	1,855	3,268,607
70-74	1,225	1,857,415	86	79,756	40	48,745	1,351	1,985,916
75-79	1,014	1,416,432	42	35,148	43	47,823	1,099	1,499,403
80-84	1,046	1,281,314	44	34,313	69	55,756	1,159	1,371,383
85-89	851	957,236	51	40,369	42	36,315	944	1,033,920
90-94	337	324,995	9	7,082	25	17,802	371	349,879
95 and Over	92	64,674	2	846	5	2,636	99	68,156
Totals	**10,523**	**$18,317,033**	**1,162**	**$1,103,362**	**404**	**$454,480**	**12,089**	**$19,874,875**

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

ACTIVE MEMBERS AS OF JUNE 30, 2013
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	3							3	$ 56,763
20-24	49	7						56	1,205,660
25-29	61	42	2					105	3,108,941
30-34	72	81	93	5				251	8,065,834
35-39	89	111	170	80	1			451	16,329,807
40-44	104	114	218	243	37	7		723	28,098,885
45-49	90	107	211	313	172	119	3	1,015	41,139,670
50-54	73	102	226	299	228	260	38	1,226	49,995,385
55-59	61	84	162	236	191	254	78	1,066	44,443,613
60-64	39	31	69	53	53	61	28	334	14,673,035
65-69	10	11	15	25	10	11	13	95	4,478,010
70-74	3	1	16	5	1	3	3	32	1,430,650
75-79	0	1	2	0	1	0	3	7	264,830
Totals	**654**	**692**	**1,184**	**1,259**	**694**	**715**	**166**	**5,364**	**$213,291,083**

Group Averages:

Age:	48.8 years
Service:	15.7 years
Annual Pay:	$39,763

RETIREES AND BENEFICIARIES JUNE 30, 2013
TABULATED BY YEAR OF RETIREMENT

Year of Retirement	No.	Monthly Allowances	
		Total	Average
1950 & before	2	$ 3,323	$ 1,662
1951-1955	1	3,616	3,616
1956-1960	3	1,332	444
1961-1965	20	9,056	453
1966-1970	57	26,498	465
1971-1975	206	122,402	594
1976-1980	592	468,013	791
1981-1985	1,026	1,114,978	1,087
1986-1990	1,029	1,208,476	1,174
1991-1995	1,537	2,018,527	1,313
1996-2000	1,661	2,630,622	1,584
2001-2005	2,116	4,326,140	2,044
2006	453	873,987	1,929
2007	393	727,094	1,850
2008	390	816,641	2,094
2009	502	1,022,098	2,036
2010	474	1,034,872	2,183
2011	603	1,339,281	2,221
2012	791	1,658,776	2,097
2013	233	469,143	2,013
Totals	**12,089**	**$19,874,875**	**$1,644**

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS 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. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

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 of 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 of 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. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

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, 2013

Active Members

	General	D.O.T.	Water/ Sewage	Library	Totals
Number	2,585	880	1,567	332	5,364
% Change in active members	(16.6)%	(10.8)%	(14.1)%	2.5 %	(14.0)%
Annual payroll ($ millions)	$ 103.6	$ 31.5	$ 64.8	$ 13.3	$ 213.2
Average pay	$40,085	$35,782	$41,376	$40,206	$39,763
% Change in average pay	(5.9)%	1.8 %	(3.7)%	1.1 %	(3.9)%

Retired Members and Survivor Beneficiaries

	General	D.O.T.	Water/ Sewage	Library	Totals
Number	7,545	1,648	2,568	328	12,089
Annual benefits ($ millions) #	$ 147.1	$ 31.8	$ 62.6	$ 7.5	$ 249.0
Average benefits	$19,499	$19,286	$24,362	$22,904	$20,595
% Change in average benefit	3.2 %	2.9 %	1.8 %	1.3 %	2.9 %

 # Includes Annuities.

Inactive Vested Members

	General	D.O.T.	Water/ Sewage	Library	Totals
Number	1,539	334	454	68	2,395
Annual benefits ($ millions)	$ 16.3	$ 3.7	$ 5.0	$ 0.5	$ 25.5
Average benefits	$10,611	$11,085	$10,946	$7,927	$10,664
% Change in average benefit	5.0 %	12.8 %	3.1 %	(1.2)%	5.5 %

ALLOCATION OF ASSETS USED FOR VALUATION RESERVE ACCOUNTS

	June 30, 2013	June 30, 2012
Annuity Savings Fund		
General	$ 170,145,058	$ 219,393,754
D.O.T.	89,564,032	99,389,687
Water	109,067,468	132,184,635
Sewage	15,617,942	14,012,347
Housing	(1,759,846)	447,049
Library	18,957,922	19,147,536
Totals	401,592,576	484,575,008
Annuity Reserve Fund		
General	55,106,600	48,480,832
D.O.T.	9,130,585	8,137,878
Water	28,567,733	27,480,981
Sewage	2,517,001	2,573,678
Housing	1,597,690	1,629,365
Library	3,766,733	3,805,598
Totals	100,686,342	92,108,332
Pension Accumulation Fund		
General	(563,843,041)	(385,303,885)
D.O.T.	(171,103,429)	(119,736,981)
Water	(185,411,333)	(135,731,698)
Sewage	(137,009,452)	(112,224,078)
Housing	(23,345,368)	(18,310,569)
Library	(23,855,548)	(20,171,042)
Totals	(1,104,568,171)	(791,478,253)
Pension Reserve Fund		
General	1,298,389,103	1,249,146,935
D.O.T.	300,416,469	284,763,471
Water	539,574,009	504,700,502
Sewage	74,237,501	74,044,441
Housing	34,529,925	35,352,558
Library	66,020,254	65,633,085
Totals	2,313,167,260	2,213,640,992
Accrued Liability Fund		
General	520,639,947	513,056,701
D.O.T.	105,049,997	104,455,897
Water	157,087,749	152,509,673
Sewage	7,199,642	13,595,765
Housing	N/A	N/A
Library	24,007,804	24,025,087
Totals	813,985,139	807,643,123
Retirement System Totals	$2,524,863,146	$2,806,489,202

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2013
BY DIVISION
($ IN THOUSANDS)

Present Value, June 30 of	General	D.O.T.	Water/ Sewage	Library	Totals
Accrued Pension Liabilities					
Retirees and beneficiaries	$1,332,919	$300,416	$613,812	$ 66,020	$2,313,167
Inactive members future deferred pensions	127,560	27,369	41,623	4,523	201,075
Active members	276,358	102,378	175,166	38,649	592,551
Total accrued pension liabilities	1,736,837	430,163	830,601	109,192	3,106,793
Pension fund balances	1,266,371	234,363	455,678	66,173	2,022,585
Unfunded accrued pension liabilities	470,466	195,800	374,923	43,019	1,084,208
Accrued Annuity Liabilities					
Retirees and beneficiaries	56,703	9,131	31,085	3,767	100,686
Members annuities & future refunds	168,386	89,564	124,685	18,958	401,593
Total accrued annuity liabilities	225,089	98,695	155,770	22,725	502,279
Annuity fund balances	225,089	98,695	155,770	22,725	502,279
Unfunded accrued annuity liabilities	0	0	0	0	0
Totals					
Actuarial Accrued Liabilities	1,961,926	528,858	986,371	131,917	3,609,072
Accrued Assets	1,491,460	333,058	611,448	88,898	2,524,864
Funded Ratio	76.0%	63.0%	62.0%	67.4%	70.0%
Unfunded Actuarial Accrued Liabilities	**$ 470,466**	**$ 195,800**	**$ 374,923**	**$ 43,019**	**$ 1,084,208**

Note: Totals may be off slightly due to rounding. Assumes past due contributions of $36M for General and D.O.T. are NOT made.

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
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
2011	3,749	1,234	1,905	#	0	362	7,250
2012	3,099	986	1,825	#	0	324	6,234
2013	2,585	880	1,567	#	0	332	5,364

 # Included with Water beginning 6/30/2010.

Retired Members & Beneficiaries
by Valuation Division

June 30	General	D.O.T.	Water	Sewage	Housing	Library	Totals
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
2011	7,340	1,576	2,315	#	*	324	11,555
2012	7,525	1,621	2,466	#	*	331	11,943
2013	7,545	1,648	2,568	#	*	328	12,089

** 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						
	General	D.O.T.	Water	Sewage	Housing	Library	Totals
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%
2011	19.96%	24.19%	28.32%	&	-	26.23%	23.09%
2012	28.36%	35.26%	36.04%	&	-	28.63%	31.64%
2012*	26.70%	33.65%	34.60%	&	-	26.63%	30.05%
2013	41.86%	51.13%	46.82%	&	-	32.98%	44.17%
2013*	41.42%	50.93%	46.47%	&	-	32.98%	43.83%
2013*+	38.45%	47.45%	46.47%	&	-	32.98%	41.88%

(a) *After changes in actuarial assumptions or methods.*
* *After plan amendments.*
\# *After issuance of POCs.*
& *Included with Water beginning 6/30/2010.*
\+ *Assumes past due contributions of $36,000,000 are made.*

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)
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 %
2011	3,080,295,734	3,720,167,178	639,871,444	82.8%	303,379,482	210.9 %
2012	2,806,489,202	3,705,965,474	899,476,272	75.7%	257,992,420	348.6 %
2012*	2,806,489,202	3,644,172,577	837,683,375	77.0%	257,992,420	324.7 %
2013* (b)	2,524,863,146	3,609,073,862	1,084,210,716	70.0%	213,291,083	508.3 %

@ *After POC transfer.*
* *After plan amendments.*
\# *After changes in actuarial assumptions or methods.*
(b) *Assumes past due contributions of $36M are NOT made.*

Schedule of Employer Contributions

Valuation Year Ended June 30	Reported Employer Contributions	
	From Pension Obligation Certificates (POCs)	Employer Contributions other than from POCs
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
2011		55,138,044
2012		64,218,880
2013		26,515,782

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:

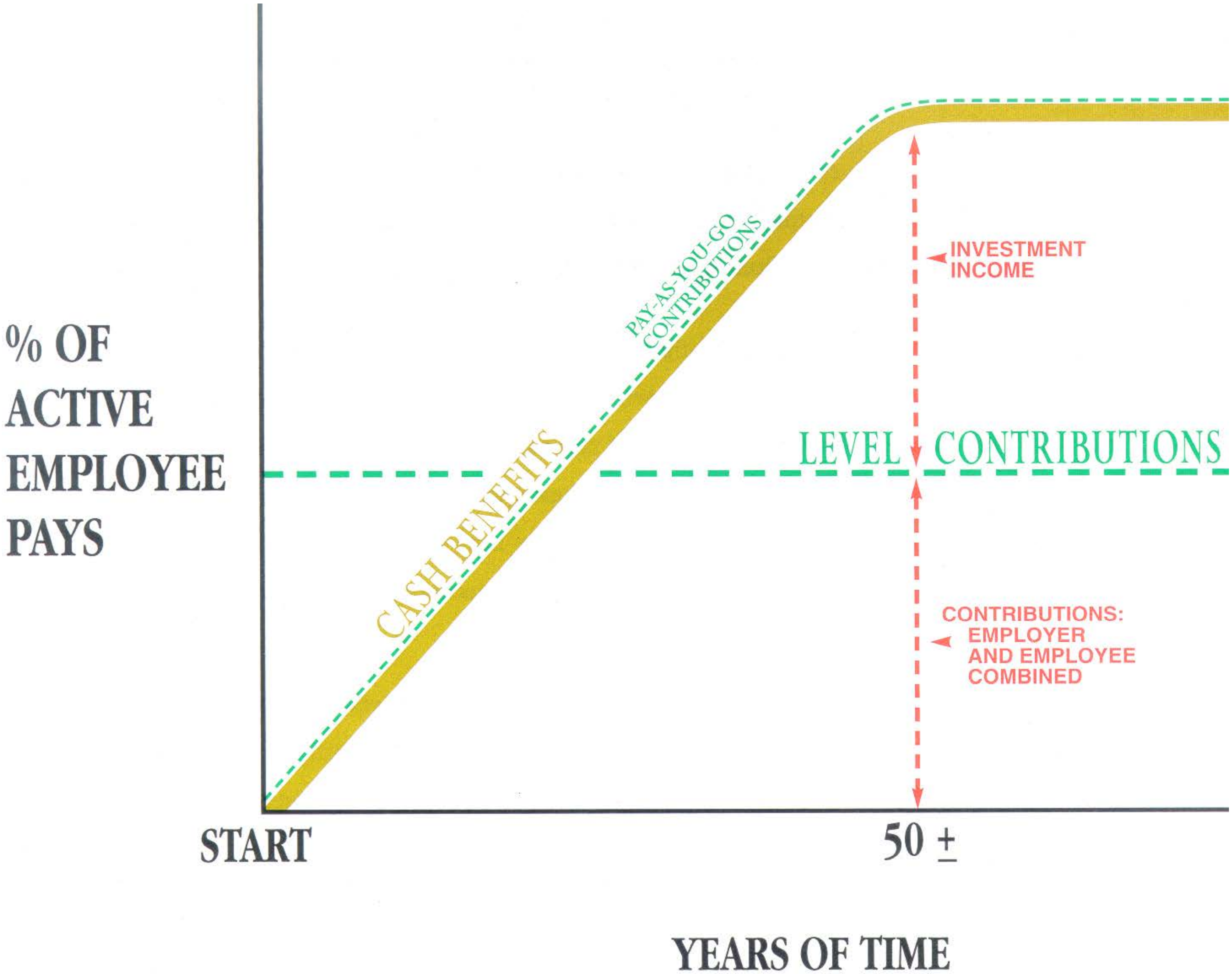
Valuation date	June 30, 2013
Actuarial cost method	Entry Age
Amortization method	Level percent
Remaining amortization period for unfunded accrued liabilities	30 years (see page A-1)
Asset valuation method	7-year smoothed market, 30% corridor
Actuarial assumptions:	
Investment rate of return	7.9%
Projected salary increases*	4.0% - 8.9%
*Includes inflation at	4.0%
Cost-of-living adjustments	2.25% of original pension amount at retirement.

Membership of the plan consisted of the following at June 30, 2013, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	12,089
Terminated plan members entitled to but not yet receiving benefits	2,395
Active plan members	5,364
Total	19,848

SECTION D

FINANCIAL PRINCIPLES



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 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, 2008 valuation.

Total active member payroll is assumed to increase 4.0% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation.

Non-Economic Assumptions

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

The mortality table used to measure retired life mortality was 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 no margin for future mortality improvements. 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, 2008 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, 2008 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, 2008 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. Under this method, each individual's normal cost is determined as a level percent of pay from plan entry to retirement.

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 seven-year smoothing of the difference between expected and actual investment income. The actuarial value of assets is restricted to a range of 70% to 130% of the market value of assets.

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		

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	34.61
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

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Reduced Benefits
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			
				Others	
		EMS	D.O.T.	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

Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal also do not operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeitures	For vested separations from service, it is assumed that 0% of members separating will withdraw their contributions and forfeit an employer financed benefit.
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.
Liability Adjustments	Liabilities were increased by 1.0% to adjust for missing or incomplete data.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Straight life is the normal form of benefit.
Pay Increase Timing	End of (Fiscal) year.
Service Credit Accruals	It is assumed that members accrue one year of service credit per year.
Administrative Expenses	2.10% of payroll was added to the normal cost for ongoing administrative expenses.
Defined Contribution Plan	0.80% of payroll was added to the normal cost for DC payments.
Sick Leave	Sick leave is estimated at retirement assuming 4 days per year of service.

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.

AFC. Average Final Compensation.

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.

APTE. Association of Professional and Technical Employees.

D.O.T. Department of Transportation.

EMS. Emergency Medical Service.

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.

GASB. The Governmental Accounting Standards Board.

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.

POC. Pension Obligation Certificates.

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.

SAAA. Senior Accountants, Analysts, and Appraisers Association.

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.

GRS

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April 4, 2014

Ms. Cynthia Thomas, Executive Director
The General Retirement System of the City of Detroit
2 Woodward Avenue, Suite 908
Detroit, Michigan 48226

Re: Report of the June 30, 2013 75th Annual Actuarial Valuation

Dear Cynthia:

Enclosed are 20 copies of the report.

As always, your questions and comments are welcome.

Sincerely,

Judith A. Kermans

Judith A. Kermans, EA, MAAA

JAK:sc
Enclosures