

CITY OF MANCHESTER EMPLOYEES' CONTRIBUTORY RETIREMENT SYSTEM
ANNUAL ACTUARIAL VALUATION REPORT
DECEMBER 31, 2014

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April 7, 2015

Board of Trustees
City of Manchester Employees'
Contributory Retirement System
Manchester, New Hampshire 03101-1824

Dear Board Members:

The results of the December 31, 2014 **Annual Actuarial Valuation of the City of Manchester Employees' Contributory Retirement System (MECRS)** are presented in this report. The purposes of the valuation were:

- to measure the System's funding progress;
- to calculate the employer contribution rate for the City's fiscal year 2016; and
- to determine actuarial information for reporting purposes in compliance with Governmental Accounting Standards Board (GASB) Statement No. 43 for the plan's 2014 fiscal year. The information required for GASB Statement No. 67 and No. 68 are provided in a separate report.

The results of this valuation may not be applicable for other purposes.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. We believe that the assumptions and methods used in this report are reasonable and appropriate for the purpose for which they have been used. However, other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to: actual plan experience differing from assumed; changes in economic or demographic assumptions; changes in funding policy; changes in plan provisions or applicable law; etc. An analysis of the potential range of such future measurement was beyond the scope of this valuation.

If there is other information that you need in order to make an informed decision regarding the matters discussed in this report, please contact us.


The valuation was based upon information, furnished by the Retirement System, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for year-to-year consistency, but was not otherwise audited.

This report has been prepared by actuaries who have substantial experience valuing public employee 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. We certify that the information contained in this report is accurate and fairly presents the actuarial position of MECRS as of December 31, 2014.

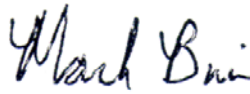
This report replaces our preliminary report dated March 4, 2015. Results presented in this report are unchanged from those presented in the preliminary report.

Mark Buis is a Member of the American Academy of Actuaries (MAAA), and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsors.

Respectfully submitted,



Kenneth G. Alberts



Mark Buis, FSA, EA, MAAA

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SECTION A

VALUATION RESULTS

EXECUTIVE SUMMARY

FUNDING OBJECTIVE

The funding objective of the Retirement System is to establish and receive contributions which, when expressed as percents of active member payroll, will remain approximately level from year to year and will accumulate sufficient assets over each member's working lifetime to finance promised benefits throughout retirement.

CONTRIBUTION RATES

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are sufficient to:

- Cover the actuarial present value of benefits allocated to the current year by the actuarial cost method described in Section C (the normal cost); and
- Finance over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

The computed pension contribution rate for the City's fiscal year 2016 is 20.72% of covered payroll.

The computed health subsidy contribution rate for the City's fiscal year 2016 is 0.99% of covered payroll. The details of these contribution rates are shown on page A-7.

The contribution rates are sufficient to finance the employer normal cost and to amortize the unfunded pension actuarial accrued liability (full funding credit) as a level percent-of-payroll over a period of 25 years for pension benefits, and 25 years for health subsidy benefits.

SUMMARY STATEMENT OF SYSTEM RESOURCES AND OBLIGATIONS
DECEMBER 31, 2014

Present Resources and Expected Future Resources

	Pension	Health
A. Actuarial value of System assets:		
1. Net assets from System financial statements	\$192,562,665	\$ 9,503,035
2. Funding value adjustment	(1,417,123)	(69,935)
3. Valuation assets	191,145,542	9,433,100
B. Present value of expected future employer contributions:		
1. For normal costs	38,432,956	0
2. For unfunded actuarial accrued liabilities	105,945,385	8,808,269
3. Totals	144,378,341	8,808,269
C. Present value of expected future member contributions:	18,578,223	6,192,741
D. Total Present and Expected Future Resources	\$354,102,106	\$24,434,110

Actuarial Present Value of Expected Future Benefit Payments

	Pension	Health
A. To retirees and beneficiaries:	\$135,451,518	\$ 8,027,161
B. To vested terminated members:	5,720,270	367,464
C. To present active members:		
1. Allocated to service rendered prior to valuation date	155,919,139	11,031,434
2. Allocated to service likely to be rendered after valuation date	57,011,179	5,008,051
3. Total	212,930,318	16,039,485
D. Total Actuarial Present Value of Expected Future Benefit Payments	\$354,102,106	\$24,434,110

**SUMMARY OF CURRENT ASSET INFORMATION
FURNISHED FOR THE VALUATION**

Balance Sheet

Reported Assets - Actuarial Value as of December 31		
	2014	2013
Cash & Equivalents	\$ 5,647,037	\$ 4,834,883
Investments	196,837,860	189,700,145
Receivables	11,296	100,022
Property, Plant, Equipment	78,408	123,862
Accrued Interest & Dividends	45,929	19,969
Receivable for Add'l Contribution Calculator	1,500	2,500
Payable for Investments Purchased	(143,766)	0
Accounts Payable	(192,587)	(119,151)
Benefits Payable	(1,077,970)	(968,442)
Additional Contribution Account	857,994	797,347
Market Value Total	202,065,700	194,491,136
Funding Value Adjustment	(1,487,058)	(8,384,299)
Total Valuation Assets	\$200,578,642	\$186,106,837

Revenues and Expenditures

	2014	2013
Funding Value - January 1	\$186,106,837	\$168,735,030
Revenues		
Employees' Contributions	2,606,348	2,681,075
Employer Contributions	11,573,605	10,943,077
Recognized Investment Income	14,921,227	17,295,310
Total	29,101,180	30,919,462
Expenditures		
Benefit Payments	12,884,744	11,599,962
Refund of Member Contributions	207,947	475,592
Expenses and Fees	1,536,684	1,472,101
Total	14,629,375	13,547,655
Funding Value - December 31	\$200,578,642	\$186,106,837
Rate of Return Recognized	7.4 %	9.3 %

DEVELOPMENT OF FUNDING VALUE OF ASSETS

Year Ended December 31:	2012	2013	2014	2015	2016	2017	2018
A. Funding Value Beginning of Year	\$158,870,622	\$168,735,030	\$186,106,837				
B. Market Value End of Year	166,605,708	194,491,136	202,065,700				
C. Market Value Beginning of Year	145,912,243	166,555,171	194,373,638				
D. Non-Investment Net Cash Flow	3,828,334	1,645,965	706,384				
D1. Post-Valuation Adjustment	66,224	50,537	117,498				
E. Investment Income							
E1. Market Total: B - C - D - D1	16,798,907	26,239,463	6,868,180				
E2. Amount for Immediate Recognition (7.25%)	12,058,859	12,292,956	13,518,352				
E3. Amount for Phased-In Recognition: E1-E2	4,740,048	13,946,507	(6,650,172)				
F. Phased-In Recognition of Investment Income							
F1. Current Year: 0.20 x E3	948,010	2,789,301	(1,330,034)				
F2. First Prior Year	(3,456,728)	948,010	2,789,301	\$(1,330,034)			
F3. Second Prior Year	1,296,521	(3,456,728)	948,010	2,789,301	\$(1,330,034)		
F4. Third Prior Year	1,855,781	1,296,521	(3,456,728)	948,010	2,789,301	\$(1,330,034)	
F5. Fourth Prior Year	(6,666,369)	1,855,782	1,296,520	(3,456,727)	948,008	2,789,303	\$(1,330,036)
F6. Total Recognized Investment Gain	(6,022,785)	3,432,886	247,069	(1,049,450)	2,407,275	1,459,269	(1,330,036)
G. Preliminary Funding Value End of Year: A + D + E2 + F6	168,735,030	186,106,837	200,578,642				
H. Actuarial Value after Application of 20% Corridor Limit	168,735,030	186,106,837	200,578,642				
I. Difference between Market & Funding Value	(2,129,322)	8,384,299	1,487,058				
J. Recognized Rate of Return	3.8 %	9.3 %	7.4 %				
K. Market Rate of Return	11.4 %	15.7 %	3.6 %				
L. Ratio of Funding Value to Market Value	101.3 %	95.7 %	99.3 %				

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 5-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. The Funding Value of Assets is unbiased with respect to Market Value. At any time it may be either greater or less than Market Value. If actual and assumed rates of retirement income are exactly equal for four consecutive years, the Funding Value will become equal to Market Value.

**ALLOCATION OF FUNDING VALUE OF ASSETS
YEAR ENDED DECEMBER 31, 2014**

(A) Total Market Value	\$202,065,700
(B) Pension Market Value	\$192,562,665
(C) Ratio: (B)/(A)	95.2971%
(D) Total Funding Value	\$200,578,642
(E) Pension Funding Value: (D) x (C)	\$191,145,542
(F) Health Funding Value: (D) - (E)	\$ 9,433,100

**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
YEAR ENDED DECEMBER 31, 2014**

	Pension	Health
Present Value of Future Benefits - Retirees	\$135,451,518	\$ 8,027,161
Present Value of Future Benefits - Deferreds	5,720,270	367,464
Present Value of Future Benefits - Actives	212,930,318	16,039,485
Total Present Value of Future Benefits	\$354,102,106	\$24,434,110
Present Value of Future Normal Cost	57,011,179	5,008,051
Actuarial Accrued Liability	\$297,090,927	\$19,426,059
Actuarial Value of Assets	191,145,542	9,433,100
Unfunded Actuarial Accrued Liability	\$105,945,385	\$ 9,992,959
Funded Ratio	64.3%	48.6%

**DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED DECEMBER 31, 2014**

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

	Pension	Health
(1) UAAL* at start of year	\$102,370,698	\$9,834,211
(2) Total normal cost from last valuation	6,589,804	570,477
(3) Actual contributions (employer & employee)	13,048,920	1,296,132
(4) Interest accrual: [(1) + 1/2 ((2) - (3))] x .0725	7,187,733	686,675
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	103,099,315	9,795,231
(6) Change from new assumptions and methodology	0	0
(7) Change from ad-hoc COLA increases (above or below assumed)	293,410	N/A
(8) Change from Chapter 159 service upgrade	373,599	N/A
(9) Expected UAAL after changes: (5) + (6) + (7) + (8)	103,766,324	9,795,231
(10) Actual UAAL at end of year	105,945,385	9,992,959
(11) Gain (loss): (9) - (10)	(2,179,061)	(197,728)
(12) Gain (loss) as percent of actuarial accrued liabilities at start of year	(0.8)%	(1.1)%

* *Unfunded Actuarial Accrued Liability.*

Valuation Date December 31	Experience Gain (Loss) as % of Beginning Accrued Liability	
	Pension	Health
2005	(2.9)%	N/A
2006	0.1 %	N/A
2007	2.3 %	2.4 %
2008	(14.3)%	(2.8)%
2009	(0.3)%	2.8 %
2010	(0.2)%	1.9 %
2011	(2.6)%	(2.8)%
2012	(4.2)%	(3.1)%
2013	(0.1)%	(0.1)%
2014	(0.8)%	(1.1)%

**COMPUTED CONTRIBUTIONS FOR THE
CITY'S FISCAL YEAR 2016**

Contributions For	Contributions Expressed as % of Active Member Payroll
Total Normal Cost	12.42%
Member Contributions	3.75%
Employer Normal Cost	8.67%
Unfunded Actuarial Accrued Liabilities*	12.05%
Employer Pension Total	20.72%
Health Contribution**	0.99%
Employer Total	21.71%
Valuation Payroll	\$ 54,267,183
Projected Payroll	\$ 56,727,431
Estimated Contribution Dollars	\$ 12,315,525
<u>Pension</u>	
Unfunded Actuarial Accrued Liabilities	\$105,945,385
Funded Status	64.3%
<u>Health</u>	
Unfunded Actuarial Accrued Liabilities	\$ 9,992,959
Funded Status	48.6%

* Unfunded actuarial accrued liabilities for pension are currently financed as a level percent-of-payroll over a remaining period of 25 years.

** Currently based on a remaining 25-year amortization of unfunded actuarial accrued liabilities for Health.

Note: For each 1% ad-hoc COLA increase above the assumed COLA, the UAAL will increase by approximately \$1,355,000 and the employer contribution rate will increase by approximately 0.16% (based on current payroll and a 25-year amortization period). In developing these costs for the ad-hoc COLA increase, it was assumed that the increase would be a one-time permanent increase to all members retired as of December 31, 2014 and the additional liability would be amortized over 25 years. It was also assumed that the increase would be effective on January 1, 2015.

Contribution Rate Reconciliation	% of Payroll		
	Pension	Health	Total
Last Year's Rate	20.20 %	0.93 %	21.13 %
Normal Cost Change	0.06 %	0.03 %	0.09 %
Miscellaneous Changes in Group Demographics	0.02 %	0.00 %	0.02 %
Assumption and Methodology Changes#	0.00 %	0.00 %	0.00 %
Employer Portion of SB 402 Purchases	0.02 %	0.00 %	0.02 %
COLA (portion above the assumption)	0.03 %	0.00 %	0.03 %
Payroll growth less than expected	0.14 %	0.01 %	0.15 %
Experience (Gain) Loss	0.25 %	0.02 %	0.27 %
This Year's Rate	20.72%	0.99%	21.71%

See Comments.

**MECRS AND CITY
COMPUTED CONTRIBUTIONS FOR THE
CITY'S FISCAL YEAR 2016**

Contributions For	Contributions Expressed as % of Active Member Payroll		
	City# Non EPD and Parking	City# EPD and Parking	Other MECRS Employers
Employer Pension Total	20.72%	20.72%	20.72%
Health Contribution	0.99%	0.99%	0.99%
Employer Total	21.71%	21.71%	21.71%
Valuation Payroll	\$29,853,708	\$2,510,728	\$21,902,748
Projected Payroll City's FY 2016##	31,207,150	2,624,554	22,895,727
Estimated Annual Dollar Contributions			
Pension	\$ 6,466,122	\$ 543,808	\$ 4,743,995
Health	308,951	25,983	226,668
Total	\$ 6,775,073	\$ 569,791	\$ 4,970,663
Semi-Annual Dollar Contribution Payable on July 1 and December 31			
Pension	\$ 3,176,494	\$ 267,147	N/A
Health	151,773	12,764	N/A
Total	\$ 3,328,267	\$ 279,911	N/A

Assuming contributions continuously throughout the year.

Current projection factor is 1.04534 (1.03^{1.5}).

**FY 2014 CITY TRUE-UP CONTRIBUTIONS PAYABLE
DURING CITY'S FISCAL YEAR 2016**

	City True-Up		Total City
	City Non EPD and Parking	City EPD and Parking	
(1) Projected Fiscal Year 2014 Payroll	\$29,462,218	\$2,605,196	\$32,067,414
(2) Actual Fiscal Year 2014 Payroll #	30,797,096	2,893,052	33,690,148
(3) True-Up Rate (2)/(1) - 1.00	4.53%	11.05%	5.06%
(4) FY 2014 Semi-Annual Contribution (Actual)			
Pension	\$ 2,899,016	\$ 256,346	\$ 3,155,362
Health	134,603	11,902	146,505
Total	\$ 3,033,619	\$ 268,248	\$ 3,301,867
(5) Semi-Annual Shortfall/(Overage)			
Pension	\$ 131,325	\$ 28,326	\$ 159,651
Health	6,098	1,315	7,413
Total	\$ 137,423	\$ 29,641	\$ 167,064
(6) Fiscal Year 2014 True-Up as of July 1, 2015			
(5) x 1.0725 + (5) x 1.03625			
Pension	\$ 276,932	\$ 59,732	\$ 336,664
Health	12,859	2,773	15,632
Total	\$ 289,791	\$ 62,505	\$ 352,296

This information was provided by the System in aggregate, by group, independent of the member data.

The true-up is to account for the differences in actual and assumed payroll that would have affected the contribution had the City been making contributions on a payroll period basis.

COMMENTS

COMMENT A – RESULTS: The Retirement System is 64.3% funded for pension benefits and 48.6% funded for health subsidy benefits as of December 31, 2014. The pension Unfunded Actuarial Accrued Liability (UAAL) of \$105,945,385 is amortized over a 25-year period; the health subsidy UAAL of \$9,992,959 is amortized over a 25-year period.

COMMENT B – EXPERIENCE: Experience during the year ended December 31, 2014 was less favorable than assumed resulting in a small experience loss. The primary sources of experience losses were early retirements (10 actual versus 5.1 expected) and benefits for new retirees larger than expected. Losses were partially offset by pay increases less than assumed and recognized investment gains greater than assumed (7.25% assumed versus 7.38% recognized). Overall, the experience loss was approximately 0.8% of beginning of year liabilities. The pension funding status increased from 63.5% to 64.3% during the year. We understand that certain groups have an early retirement incentive window, which may account for the early retirement experience.

Note that investment experience was positive, despite the fact that return on a market value basis was only 3.6% (net of expenses). This is due to the fact that investment experience above or below assumed is spread over 5 years. One fifth of this year's loss was added to the portion of gains and losses from the previous 4 years scheduled to be recognized this year, resulting in an overall gain. It is important to note that next year, we anticipate recognizing a market loss in total if the market rate of return is below 10% (after accounting for the gains and losses scheduled to be recognized next year), resulting in upward pressure on contributions.

COMMENT C – BENEFIT CHANGES:

1. The adoption of SB402 allowed for members to upgrade their benefit multiplier under Chapter 159 from 1.5% to 2.0% per year of service rendered prior to 1999. Liabilities increased approximately \$747,199 as a result of members electing to purchase this benefit during 2014. An additional \$373,599 in member contributions was contributed as a result of these elections.
2. COLA increases were assumed to be 1.25% of current pensions. Actual increases were 1.5% of current pensions. As a result, liabilities increased by \$293,410 more than assumed.

COMMENTS

COMMENT D – RETIREE HEALTH BENEFITS: Post-retirement health care benefits are funded in part by retired members (via co-pays, deductibles, etc.), but mostly by employer contributions to the Retirement System that are permitted (up to certain limits) by §401(h) of the U.S. Internal Revenue Code. IRC §401(h) permits a defined benefit plan to provide medical benefits for retired employees if, among other things:

- A separate medical care account is maintained.
- The benefits satisfy non-discrimination rules.
- The medical benefits, along with any life insurance provided by the plan, are subordinate to the retirement benefits. Benefits are considered subordinate if they do not exceed 25% of the aggregate contributions other than contributions to fund past service liabilities.

The health care contribution rate was determined to pass the 25% test for the 2016 City fiscal year as follows:

Employer Pension Rate (not more than normal cost)	8.67%
Employee Pension Rate	3.75%
Total Pension Rate*	<u>12.42%</u>
Maximum Health Rate (1/3 x Pension Rate)	4.14%
Employee Health Rate	1.25%
Maximum Employer Health Rate	<u>2.89%</u>
Actual Employer Health Rate	0.99%

* *Smaller of actual contribution or projected unit credit normal cost rate.*

Although the IRC §401(h) allows for a much more complicated test, the results of the simplified approach illustrated above indicate that the more complicated test is not warranted.

COMMENT E – There were no changes in actuarial assumptions for the December 31, 2014 valuation.

COMMENTS

COMMENT F – HEALTH VALUATION: Post-retirement health subsidy valuation results were included in this valuation. Effective with the December 31, 2007 valuation, we set the utilization assumption at 60%. Effective with the December 31, 2012 valuation, this assumption is 55%.

New Retirements In Year	New Retirees	New Retirees Electing Post-Ret. Health Care	Election %
2006	35	17	48.6%
2007	38	19	50.0%
2008	36	20	55.6%
2009	39	18	46.2%
2010	34	18	52.9%
2011	50	28	56.0%
2012	55	30	54.5%
2013	51	26	51.0%
2014	52	29	55.8%

COMMENT G – HEALTH VALUATION: The methods and assumptions used in this valuation, in our opinion, satisfy the parameters of GASB Statement No. 43 and adequately measure the plan's liability and required contribution. However, the calculations contained herein were not intended to satisfy the parameters of GASB Statement No. 45 and should not be used for that purpose.

CERTIFICATION: We certify that the valuation is complete and accurate and was made in accordance with generally recognized actuarial methods. The actuarial assumptions summarized in Section C are in aggregate a reasonable representation of the past and anticipated future experience of the System.

COMPARATIVE STATEMENT

Valuation Date December 31	Active Members				
	Number	Ratio to Retired	Valuation Payroll		% Increase
			Total	Average	
2005	1,354	2.55	\$ 47,233,321	\$ 34,884	4.1%
2006	1,328	2.44	47,537,456	35,796	2.6%
2007	1,325	2.33	48,556,218	36,646	2.4%
2008	1,323	2.23	50,740,516	38,353	4.7%
2009	1,300	2.08	50,547,690	38,883	1.4%
2010	1,285	2.01	51,399,670	40,000	2.9%
2011	1,228	1.83	51,117,552	41,627	4.1%
2012	1,200	1.70	51,881,338	43,234	3.9%
2013	1,194	1.64	53,315,564	44,653	3.3%
2014	1,200	1.59	54,267,183	45,223	1.3%

Valuation Date December 31	Retirees & Beneficiaries						Annual Contributions as a Percent of Payroll				
	Pension			Health			Member		Employer		Total
	Number	Annual Benefits	% of Payroll	Number	Annual Benefits	% of Payroll	Pension	Health	Pension	Health	
2005	531	\$ 5,803,185	12.3%	81	\$ 49,124	0.1%	3.75%	1.25%	10.63%	1.41%	17.04%
2006#	544	6,515,157	13.7%	152	178,152	0.4%	3.75%	1.25%	13.27%	1.24%	19.51%
2007#	569	7,327,439	15.1%	155	206,045	0.4%	3.75%	1.25%	13.84%	0.91%	19.75%
2008#	594	8,170,348	16.1%	162	245,670	0.5%	3.75%	1.25%	17.17%	0.93%	23.10%
2009#	625	8,460,381	16.7%	166	275,852	0.5%	3.75%	1.25%	17.65%	0.85%	23.50%
2010	638	8,730,024	17.0%	177	309,902	0.6%	3.75%	1.25%	17.71%	0.87%	23.58%
2011	672	9,551,437	18.7%	197	375,224	0.7%	3.75%	1.25%	18.75%	0.97%	24.72%
2012#	707	10,526,696	20.3%	218	458,179	0.9%	3.75%	1.25%	20.03%	0.93%	25.96%
2013	729	11,612,189	21.8%	232	529,007	1.0%	3.75%	1.25%	20.20%	0.93%	26.13%
2014	756	12,906,232	23.8%	242	607,239	1.1%	3.75%	1.25%	20.72%	0.99%	26.71%

After changes in methods and/or assumptions.

**ACTUARIAL ACCRUED LIABILITIES & VALUATION ASSETS
COMPARATIVE STATEMENT – PENSION ONLY**

Valuation Date December 31	Actuarial Accrued Liability (AAL)	Valuation Assets	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Present Assets to AAL	Ratio of UAAL to Valuation Payroll
2005#	\$ 147,915,666	\$ 113,856,253	\$ 34,059,413	77.0 %	72.1 %
2006#	172,538,747	126,293,879	46,244,869	73.2 %	97.3 %
2007#	187,625,784	139,240,661	48,385,123	74.2 %	99.6 %
2008#	201,439,017	125,991,904	75,447,113	62.5 %	148.7 %
2009#	222,904,634	134,782,503	88,122,131	60.5 %	174.3 %
2010	234,039,084	145,933,282	88,105,802	62.4 %	171.4 %
2011	248,441,353	153,033,601	95,407,752	61.6 %	186.6 %
2012#	262,682,042	161,864,937	100,817,105	61.6 %	194.3 %
2013	280,332,480	177,961,782	102,370,698	63.5 %	192.0 %
2014	297,090,927	191,145,542	105,945,385	64.3 %	195.2 %

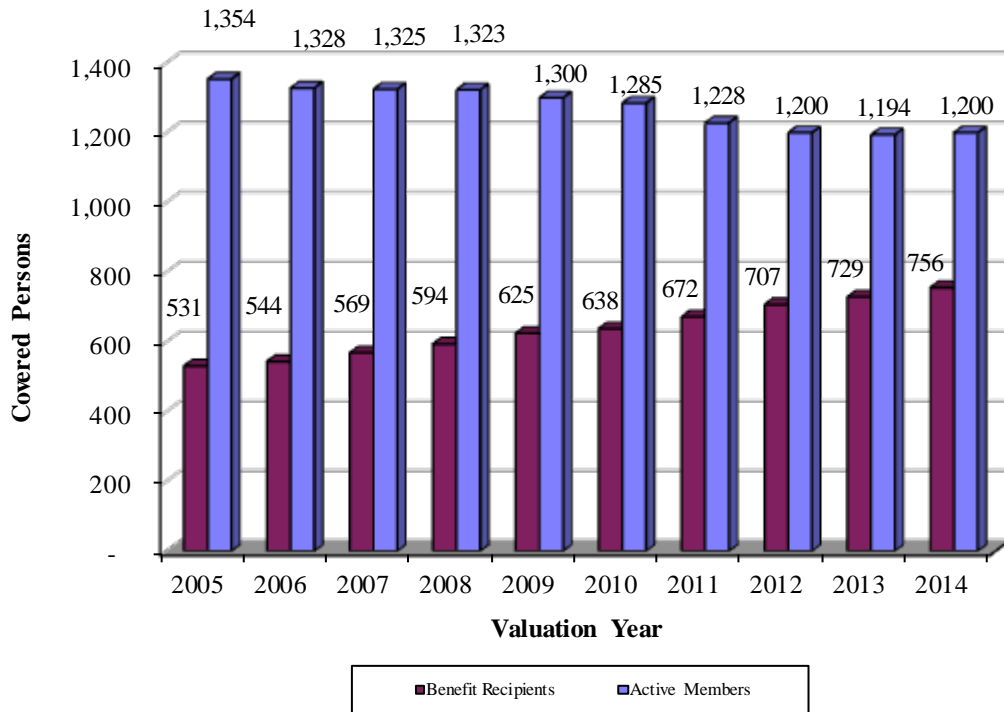
After changes in methods and/or assumptions.

**ACTUARIAL ACCRUED LIABILITIES & VALUATION ASSETS
COMPARATIVE STATEMENT – HEALTH SUBSIDY ONLY**

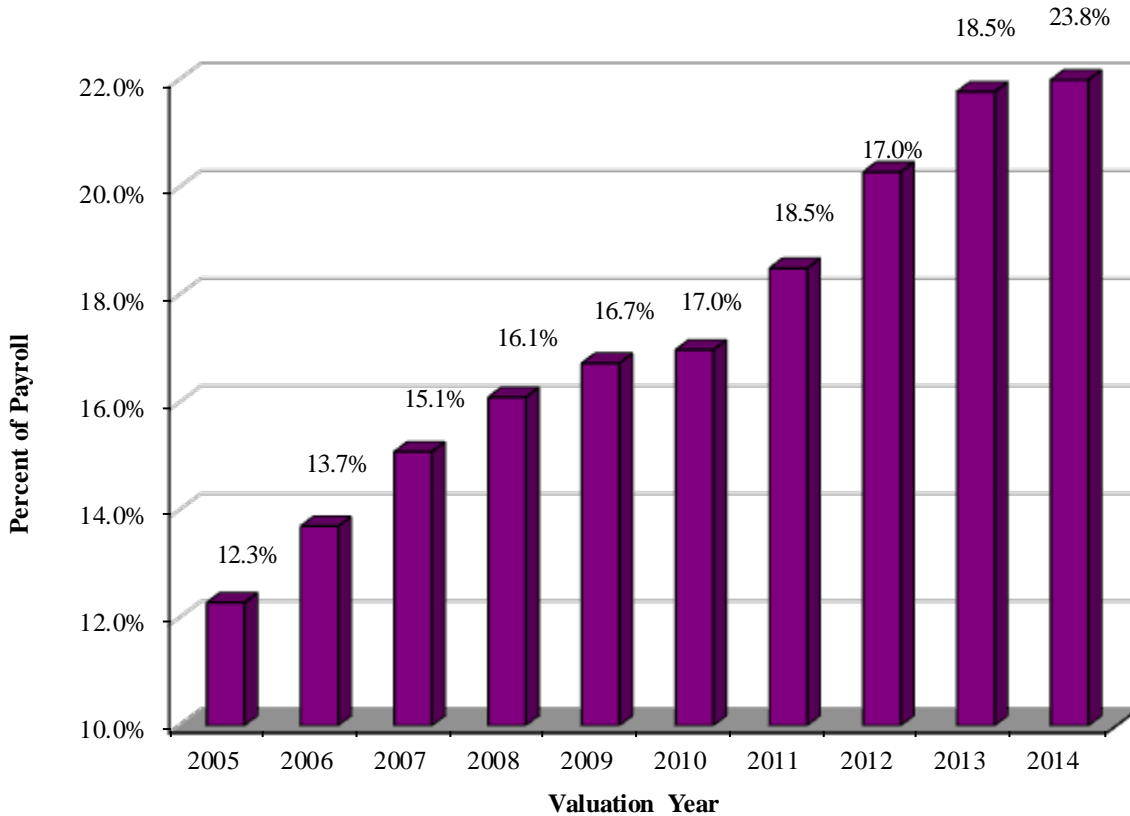
Valuation Date December 31	Actuarial Accrued Liability (AAL)	Valuation Assets	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Present Assets to AAL	Ratio of UAAL to Valuation Payroll
2007#	\$ 11,306,516	\$ 1,908,457	\$9,398,059	16.9 %	19.4 %
2008	12,425,929	2,605,141	9,820,788	21.0 %	19.4 %
2009#	13,090,488	3,748,342	9,342,146	28.6 %	18.5 %
2010	14,095,129	4,875,596	9,219,533	34.6 %	17.9 %
2011	15,600,362	5,837,021	9,763,341	37.4 %	19.1 %
2012#	16,595,623	6,870,093	9,725,530	41.4 %	18.7 %
2013	17,979,266	8,145,055	9,834,211	45.3 %	18.4 %
2014	19,426,059	9,433,100	9,992,959	48.6 %	18.4 %

After changes in methods and/or assumptions.

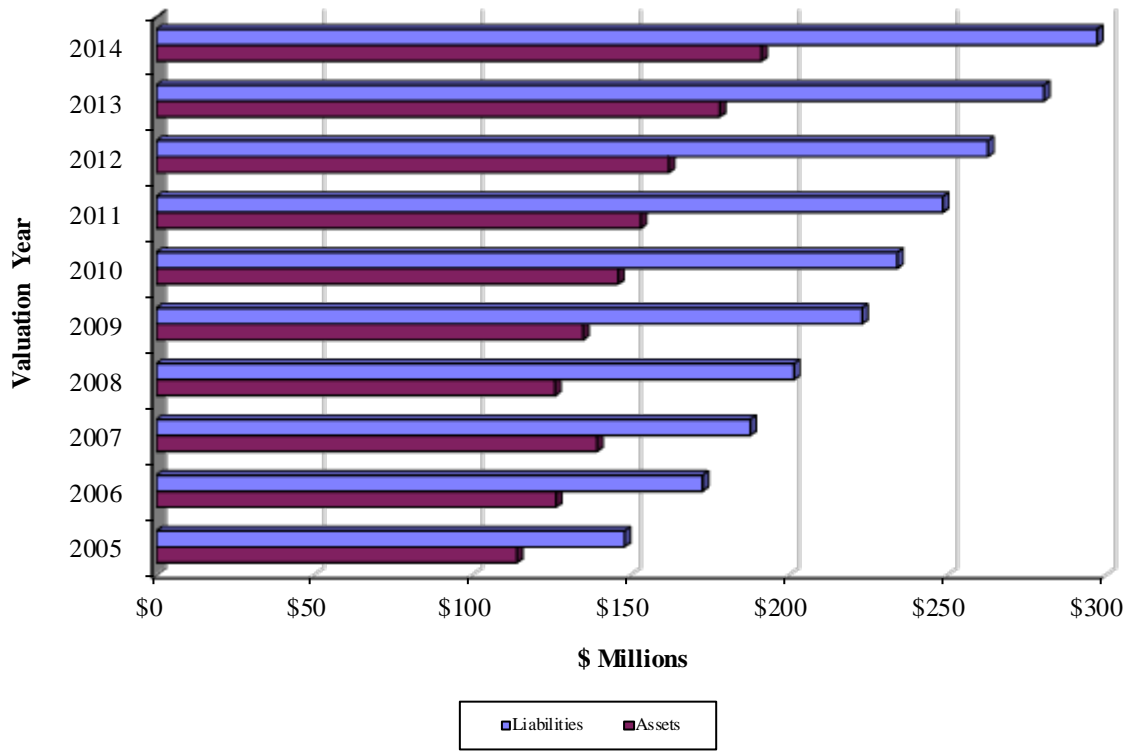
Active Members & Benefit Recipients



Pension Benefits as a Percent of Payroll



Assets & Accrued Liabilities (Pension Only)



SCHEDULE OF CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY OTHER THAN ANNUAL GAINS (LOSSES)

Schedule of Changes in Pension UAAL Other than Gains (Losses)

Date Established	Original Amount	Description
01/01/1991	\$ 2,656,461	Initial Unfunded
01/01/1997	32,202	Plan Amendment
01/01/1997	588,165	1996 COLA
01/01/1998	602,888	1997 COLA
01/01/1999	4,750,497	Plan Amendment
01/01/1999	62,532	Assumption Change
01/01/1999	866,215	1998 COLA
01/01/2000	847,614	1999 COLA
01/01/2001	958,172	2000 COLA
01/01/2002	1,047,075	2001 COLA
01/01/2003	1,214,958	2002 COLA
01/01/2003	(3,319,777)	Assumption Change
01/01/2003	6,317,683	Plan Amendment
12/31/2004	231,803	Assumption Change
12/31/2004	1,809,405	2004 COLA
12/31/2005	1,310,995	2005 COLA
12/31/2005	5,368,777	Phase-in of COLA Assumption
12/31/2005	1,205,702	Chapter 159 Upgrade (Employer)
12/31/2006	787,237	2006 COLA
12/31/2006	7,794,903	Phase-in of COLA Assumption
12/31/2006	1,313,426	Chapter 159 Upgrade (Employer)
12/31/2006	2,025,864	Severance Load
12/31/2007	330,568	2007 COLA
12/31/2007	4,220,982	Phase-in of COLA Assumption
12/31/2007	223,538	Chapter 159 Upgrade (Employer)
12/31/2008	469,373	2008 COLA
12/31/2008	(839,918)	Miscellaneous Technical Change in Treatment of COLA Assumption
12/31/2008	193,614	Chapter 159 Upgrade (Employer)
12/31/2008	(122,243)	Retirement Eligibility Correction
12/31/2009	307,468	Chapter 159 Upgrade (Employer)
12/31/2009	10,706,101	Assumption and Methodology Change
12/31/2010	188,526	Chapter 159 Upgrade (Employer)
12/31/2010	(1,566,250)	No Ad-Hoc COLA this Year
12/31/2011	80,224	Chapter 159 Upgrade (Employer)
12/31/2012	(1,704,580)	No Ad-Hoc COLA this Year
12/31/2012	376,519	Chapter 159 Upgrade (Employer)
12/31/2012	(3,760,147)	Assumption and Methodology Change
12/31/2013	261,306	2013 COLA
12/31/2013	297,764	Chapter 159 Upgrade (Employer)
12/31/2014	293,410	2014 COLA
12/31/2014	373,599	Chapter 159 Upgrade (Employer)

Positive numbers indicate an increase in UAAL; negative numbers indicate a decrease in UAAL.

**UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
AMORTIZATION SCHEDULE AND PROJECTED FUNDED STATUS**

Fiscal Year	Employer Contribution Rates			Projected Active Member Payroll	Beginning of Year	
	Total Contribution	Employer Normal Cost	UAAL Payment		UAAL	Funded Status
2015*	20.20%	8.61%	11.59%	\$ 55,075,176	\$105,945,385	64.3%
2016	20.72%	8.67%	12.05%	56,727,431	106,470,766	64.2%
2017	20.72%	8.67%	12.05%	58,429,254	107,110,783	65.6%
2018	20.72%	8.67%	12.05%	60,182,132	107,584,829	66.9%
2019	20.72%	8.67%	12.05%	61,987,596	107,874,499	68.1%
2020	20.72%	8.67%	12.05%	63,847,224	107,959,863	69.4%
2021	20.72%	8.67%	12.05%	65,762,640	107,819,349	70.6%
2022	20.72%	8.67%	12.05%	67,735,520	107,429,621	71.7%
2023	20.72%	8.67%	12.05%	69,767,585	106,765,437	72.9%
2024	20.72%	8.67%	12.05%	71,860,613	105,799,516	74.0%
2025	20.72%	8.67%	12.05%	74,016,431	104,502,373	75.2%
2026	20.72%	8.67%	12.05%	76,236,924	102,842,159	76.3%
2027	20.72%	8.67%	12.05%	78,524,032	100,784,480	77.5%
2028	20.72%	8.67%	12.05%	80,879,753	98,292,208	78.6%
2029	20.72%	8.67%	12.05%	83,306,145	95,325,271	79.9%
2030	20.72%	8.67%	12.05%	85,805,330	91,840,438	81.1%
2031	20.72%	8.67%	12.05%	88,379,490	87,791,077	82.4%
2032	20.72%	8.67%	12.05%	91,030,874	83,126,903	83.8%
2033	20.72%	8.67%	12.05%	93,761,801	77,793,706	85.3%
2034	20.72%	8.67%	12.05%	96,574,655	71,733,055	86.8%
2035	20.72%	8.67%	12.05%	99,471,894	64,881,986	88.4%
2036	20.72%	8.67%	12.05%	102,456,051	57,172,664	90.1%
2037	20.72%	8.67%	12.05%	105,529,733	48,532,017	91.8%
2038	20.72%	8.67%	12.05%	108,695,625	38,881,354	93.7%
2039	20.72%	8.67%	12.05%	111,956,493	28,135,940	95.6%
2040	20.72%	8.67%	12.05%	115,315,188	16,204,555	97.5%
2041	20.72%	8.67%	12.05%	118,774,644	2,989,007	99.6%
2042	20.72%	8.67%	12.05%	122,337,883	-	100.0%

* Represents a 6-month period from December 31, 2014 through June 30, 2015.

SECTION B

BENEFIT PROVISIONS AND VALUATION DATA

**SUMMARY OF BENEFIT PROVISIONS
AS OF DECEMBER 31, 2014**

Eligibility

Amount

NORMAL RETIREMENT

Members are eligible to retire at age 60.

Straight life pension equals 2.0% of 3-year Final Average Earnings (FAE) times service on and after January 1, 1999 *plus* 1.5% of FAE times service before January 1, 1999.

Members with at least 20 years of service at retirement are eligible for a minimum benefit if employed on or before January 1, 1974.

Minimum benefit for eligible members is 50% of FAE.

EARLY RETIREMENT

Members are eligible to retire early if the sum of age and service is at least 80, or at age 55 with at least 20 years of service.

Computed as a normal retirement pension. If the early retirement occurs prior to the member attaining age 60, the benefit is reduced by 1/6 of 1% for each month that the early retirement precedes age 60.

DEFERRED RETIREMENT

Members are eligible to retire with a deferred benefit after attaining at least 5 years of service, provided they do not take a refund of member contributions.

Pension is computed as a normal retirement pension, based on service and FAE on date of termination. Commencement of benefits begins at age 60.

NON-DUTY DISABILITY

Members are eligible upon attainment of 15 years of service.

Pension is computed as a normal retirement pension based on service and FAE as of date of disability.

DUTY DISABILITY

No age or service requirement.

Pension is computed as a normal retirement pension based on service and FAE as of date of disability. Minimum duty disability benefit is 50% of FAE.

**SUMMARY OF BENEFIT PROVISIONS
AS OF DECEMBER 31, 2014**

Eligibility

Amount

ORDINARY DEATH-IN-SERVICE

- | | |
|--|--|
| (1) Any age with less than 5 years of service. | Beneficiary receives member's contributions and accumulated interest, and an additional lump sum equal to one year's salary. |
| (2) Any age with 5 or more years of service. | Beneficiary receives the option of (1) the greater of (a) 50% of the accrued service retirement benefit (without any early retirement reduction); or (b) pension computed as normal or early retirement benefit (depending on eligibility), actuarially reduced as if the member had elected the 100% Joint & Survivor benefit; or (2) lump sum equal to 100% of base salary plus the member's accumulated contributions (including interest). |

DUTY DEATH-IN-SERVICE

- | | |
|--|--|
| Death as a result of a work-related accident; not caused by willful neglect of the member. | The option of (1) the greater of (a) 50% of FAE, or (b) pension computed as an early retirement benefit actuarially reduced as if the member had elected the 100% Joint & Survivor benefit; or (2) a lump sum as described below; options payable to the spouse or child(ren) under age 18. If no spouse or child(ren) are alive at the time of the member's death, a lump sum is payable to the member's estate in the amount of 100% of base salary plus the member's accumulated contributions (including interest) plus accrued fringe benefits not paid at the time of death. |
|--|--|

MEMBER CONTRIBUTIONS

3.75% of pay for service on and after January 1, 1999. 2.5% of pay for service prior to January 1, 1999. Contributions are credited with 5.0% interest per annum. Members may elect to contribute additional contributions which are accounted for separately. At retirement, the additional contribution balance is annuitized to provide an additional benefit within certain limits.

SUMMARY OF BENEFIT PROVISIONS AS OF DECEMBER 31, 2014

OPTIONAL FORMS OF PAYMENT

In lieu of the straight life benefit, a member may elect an actuarially reduced benefit in one of the following forms:

- 100% Joint & Survivor with pop-up
- 66 2/3 % Joint & Survivor with pop-up
- 50% Joint & Survivor with pop-up
- 10-year Certain & Life Option

The actuarial factors for optional forms of payment are based on the 1983 Group Annuity Mortality Table and 7.5% interest.

SERVICE UPGRADE

Members may elect to purchase an increase in their benefit multiplier for service rendered before 1999 under Chapter 159 (or Senate Bill 402). The cost to the member is ½ of the actuarially determined increase in System costs and results in a benefit based on 2% of FAE for the time purchased.

HEALTH SUBSIDY

Current and future retired members who are in receipt of an annuity benefit may elect to participate in a monthly health insurance subsidy. Spouses, dependents, and/or beneficiaries are not eligible for any subsidy. The full amount of the monthly health insurance subsidy is \$200 as of January 1, 2006 and increases by 4% annually beginning January 1, 2007. The full \$200 is prorated based on the member's service at retirement, as shown in the schedule below. Members who were already retired as of March 2006 are entitled to 50% of the subsidy available to members retired after March 2006. Active members must contribute 1.25% of pay. Member contributions for the health subsidy are non-refundable.

Service at Retirement	% of Full Subsidy Payable	
	Active on or after March 1, 2006	Terminated Vested or Retired on March 1, 2006
Less than 10 years	25.0%	12.5%
10 years or more, but less than 15 years	50.0%	25.0%
15 years or more, but less than 20 years	75.0%	37.5%
20 years or more	100.0%	50.0%

RETIREES AND BENEFICIARIES COMPARATIVE STATEMENT

Year Ended December 31	Added to Rolls		Removed from Rolls		Rolls End of Year		Average Pension
	No.	Annual Pensions*	No.	Annual Pensions	No.	Annual Pensions	
2005	31	\$ 683,071	19	\$148,055	531	\$ 5,803,185	\$ 10,929
2006	41	898,189	28	186,217	544	6,515,157	11,976
2007	49	1,109,288	24	297,006	569	7,327,439	12,878
2008	46	1,053,112	21	210,203	594	8,170,348	13,755
2009	47	511,404	16	221,371	625	8,460,381	13,537
2010	36	598,600	23	328,957	638	8,730,024	13,683
2011	63	914,086	29	92,673	672	9,551,437	14,213
2012	55	1,205,310	20	230,051	707	10,526,696	14,889
2013	51	1,416,661	29	331,168	729	11,612,189	15,929
2014	60	1,589,379	33	295,337	756	12,906,232	17,072

* Includes adjustments due to COLA.

RETIREES AND BENEFICIARIES DECEMBER 31, 2014
TABULATED BY TYPE OF PENSIONS BEING PAID

Type of Pensions Being Paid	Number	Annual Pensions
Age and Service Pensions		
Regular Pension - Benefit terminating at death of retiree	375	\$ 5,532,930
For life of member, but not less than 10 years	66	907,962
100% Joint & Survivor	142	2,723,910
66 2/3% Joint & Survivor	44	1,257,119
50% Joint & Survivor	48	1,143,567
Survivor Beneficiary	38	508,314
Total age and service pensions	713	\$ 12,073,802
Casualty Pensions		
Duty Disability	24	\$ 473,142
Non-Duty Disability	11	227,481
Duty Death - Survivor Benefits	0	0
Non-Duty Death - Survivor Benefits	8	131,807
Total casualty pensions	43	\$ 832,430
Total Pensions Being Paid	756	\$ 12,906,232

Each member is counted only once in the above table. Members who have purchased an additional annuity may elect a different payment option for the additional purchased benefits. All benefit payments are included in the table.

RETIREES AND BENEFICIARIES DECEMBER 31, 2014
PENSION BENEFITS TABULATED BY ATTAINED AGES

Attained Age	Age and Service		Casualty		Totals	
	Number	Annual Pensions	Number	Annual Pensions	Number	Annual Pensions
20-24	1	\$ 483			1	\$ 483
25-29			2	\$ 30,940	2	30,940
30-34	1	3,790			1	3,790
35-39	2	11,211			2	11,211
40-44			1	16,231	1	16,231
45-49	2	12,586	2	39,683	4	52,269
50-54	6	151,685	2	49,148	8	200,833
55-59	28	770,994	13	294,989	41	1,065,983
60-64	122	3,006,384	8	143,821	130	3,150,205
65-69	159	2,960,713	6	129,544	165	3,090,257
70-74	126	2,028,053	3	50,118	129	2,078,171
75-79	101	1,418,598	3	37,286	104	1,455,884
80-84	81	893,397	1	11,490	82	904,887
85-89	55	606,948	2	29,180	57	636,128
90-94	24	167,834			24	167,834
95-100	5	41,126			5	41,126
Totals	713	\$ 12,073,802	43	\$ 832,430	756	\$ 12,906,232

Average Age at Retirement: 61.6 years
Average Age Now: 71.9 years

RETIREES AND BENEFICIARIES DECEMBER 31, 2014
HEALTH SUBSIDY BENEFITS TABULATED BY ATTAINED AGES

Attained Age	Health Subsidy	
	Number	Annual Amount
45-49	1	\$ 2,463
50-54	4	13,139
55-59	15	45,985
60-64	56	158,483
65-69	69	191,329
70-74	37	91,969
75-79	27	49,678
80-84	18	32,024
85-89	12	17,243
90-94	1	1,642
95+	2	3,284
Totals	242	\$607,239

Average Age at Retirement: 62.3 years

Average Age Now: 69.9 years

RETIREES AND BENEFICIARIES DECEMBER 31, 2014
TABULATED BY YEAR OF RETIREMENT

Year of Retirement	Number	Annual Pensions	
		Totals	Average
1980	1	\$ 447	\$ 447
1981	2	26,158	13,079
1982	2	17,394	8,697
1983	3	27,936	9,312
1984	4	25,528	6,382
1985	4	25,325	6,331
1986	2	27,152	13,576
1987	7	101,062	14,437
1988	5	53,678	10,736
1989	10	128,294	12,829
1990	11	176,695	16,063
1991	12	81,729	6,811
1992	12	151,368	12,614
1993	20	304,810	15,240
1994	24	217,968	9,082
1995	19	175,877	9,257
1996	25	351,030	14,041
1997	16	231,010	14,438
1998	13	148,137	11,395
1999	30	516,679	17,223
2000	25	391,251	15,650
2001	19	295,020	15,527
2002	31	338,941	10,934
2003	17	238,757	14,045
2004	24	193,624	8,068
2005	33	550,571	16,684
2006	37	732,568	19,799
2007	43	949,704	22,086
2008	40	924,750	23,119
2009	30	400,062	13,335
2010	35	589,965	16,856
2011	49	823,972	16,816
2012	50	1,091,555	21,831
2013	48	1,247,125	25,982
2014	53	1,350,091	25,473
Totals	756	\$12,906,232	\$ 17,072

Average Age at Retirement: 61.6 years

Average Age Now: 71.9 years

INACTIVE VESTED MEMBERS DECEMBER 31, 2014
TABULATED BY ATTAINED AGE

Attained Age	Number	Estimated Annual Pensions
25-29	2	\$ 9,567
30-34	6	21,175
35-39	4	32,623
40-44	8	77,130
45-49	11	81,108
50-54	27	198,312
55-59	39	322,188
60	2	5,727
Totals	99	\$747,831

Average Age at Termination: 44.7 years

Average Age Now: 51.2 years

ACTIVE MEMBERS ADDED TO AND REMOVED FROM ROLLS

Valuation Date	Number Added During Year		Terminations During Year										Active Members End of Year
			Retirement		Disability		Died-in Service		Withdrawals				
	A	E							A	E	A	E	
			A	E	A	E	A	E					
2005	151	141	24	47.0	1	1.1	1	1.8	10	105	115	69.5	1,354
2006	140	166	34	52.6	0	1.1	1	2.0	15	116	131	66.5	1,328
2007	178	181	37	52.4	0	1.1	0	2.1	23	121	144	63.3	1,325
2008	128	130	35	53.9	1	1.1	0	2.1	9	85	94	65.3	1,323
2009	91	114	27	62.3	1	1.1	1	2.1	13	72	85	64.4	1,300
2010	87	102	25	45.7	2	1.0	0	2.5	9	66	75	77.7	1,285
2011	57	114	34	48.8	2	1.0	3	2.6	7	68	75	72.5	1,228
2012	76	104	41	54.0	2	0.4	3	2.7	16	42	58	60.6	1,200
2013	96	102	41	49.8	1	0.6	1	2.5	11	48	59	56.5	1,194
2014	113	107	44	53.9	0	0.6	0	2.6	15	48	63	58.5	1,200
5-Year Totals	429	529	185	252.2	7	3.6	7	12.9	58	272	330	325.8	
10-Year Totals	1117	1261	342	520.4	10	9.1	10	23.0	128	771	899	654.8	
Since Last Exp. Study (3 years)	285	313	126	157.7	3	1.6	4	7.8	42	138	180	175.6	

A = Actual
E = Expected

26 retirees/beneficiaries and \$312,065 in benefits were expected to come off the rolls for the December 31, 2014 valuation; 33 retirees/beneficiaries and \$295,337 in benefits were actually removed from the rolls.

ACTIVE MEMBERS DECEMBER 31, 2014
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	Number	Valuation Payroll
20-24	24							24	\$ 743,659
25-29	60	11						71	2,220,308
30-34	37	29	10	1				77	2,732,655
35-39	24	25	22	4				75	3,275,548
40-44	32	28	25	8	7			100	4,562,396
45-49	40	44	28	25	18	8		163	7,491,443
50-54	39	59	49	33	15	34	11	240	11,654,496
55-59	24	31	47	48	17	17	24	208	10,045,446
60-64	11	23	29	25	28	19	24	159	8,299,190
65-69	8	7	12	10	9	3	13	62	2,582,978
70-74	2	3	3			1	2	11	319,007
75 & over		2	1	2	1	1	3	10	340,057
Totals	301	262	226	156	95	83	77	1,200	\$54,267,183

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 49.5 years
Service: 12.5 years
Annual Pay: \$45,223

SECTION C

VALUATION METHODS AND ASSUMPTIONS

ACTUARIAL COST METHOD

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using the *individual entry-age actuarial cost method* having the following characteristics:

- the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and
- each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

MECRS currently has a tiered benefit structure with the ultimate tier being more costly than the initial tier. The normal cost is computed based on this tiered structure. As a result, the normal cost rate is expected to increase as the members affected by the initial tier are replaced by new members, or when members upgrade their prior service.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities were amortized by level (principal and interest combined) percent-of-payroll contributions over 25 future years for pension benefits, and over 25 future years for health subsidy benefits. The amortization period is closed for both pension benefits and health subsidy benefits.

Asset Valuation Method. Last year's valuation assets are increased by contributions and reduced by refunds, benefit payments and expenses. An amount equal to the assumed investment return for the year is then added. Differences between actual return on a market value basis and an assumed return are phased-in over a five-year period.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The contribution requirements and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and member information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experience are:

- long-term rates of investment return to be generated by the assets of the System,
- patterns of pay increases to members,
- rates of mortality among members, retirees and beneficiaries,
- rates of withdrawal of active members,
- rates of disability among members, and
- the age patterns of actual retirement.

In a valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the accuracy of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). The Board has established a policy of performing an Experience Study every 3-5 years to evaluate/modify valuation assumptions. Assumptions used in this report are based on the January 1, 2007 – December 31, 2011 experience study of the MECRS and were adopted by the Board. These assumptions were first used in the December 31, 2012 actuarial valuation.

VALUATION ASSUMPTIONS

The rate of investment return was 7.25% per year, compounded annually (net of administrative and investment expenses). This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time. The assumed real rate of return (the net return in excess of the wage inflation rate) is 4.25%. Experience over the last 5 years has been as follows:

	Year Ended December 31					5-Year Average
	2014	2013	2012	2011	2010	
1) Nominal rate of return#	7.4 %	9.3 %	3.8 %	3.5 %	6.6 %	6.1 %
2) Increase in CPI	0.8 %	1.5 %	1.7 %	1.5 %	1.5 %	1.4 %
3) Average salary increase (ASI)	1.3 %	3.3 %	3.9 %	4.1 %	2.9 %	3.1 %
4) Real Return						
- Total: CPI (1) - (2)						4.7 %
- Total: ASI (1) - (3)						3.0 %
- Assumption	4.25 %	4.25 %	4.25 %	4.0 %	4.0 %	4.1 %

The nominal rate of return was computed using the approximate formula: $i = I$ divided by $\frac{1}{2}(A+B-I)$, where I is realized investment income net of expenses, A is the beginning of year asset funding value and B is the end of year funding asset value.

The rate of assumed price inflation was 2.75% per year. This results in a real rate of return over price inflation of 4.5%.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

Service	Salary Increase Assumptions For an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	3.96%	3.00%	6.96%
2	4.93%	3.00%	7.93%
3	4.72%	3.00%	7.72%
4	4.20%	3.00%	7.20%
5	3.88%	3.00%	6.88%
6	3.43%	3.00%	6.43%
7	3.05%	3.00%	6.05%
8	2.76%	3.00%	5.76%
9	2.56%	3.00%	5.56%
10	2.35%	3.00%	5.35%
15	1.58%	3.00%	4.58%
20	1.27%	3.00%	4.27%
25	1.25%	3.00%	4.25%
30	1.25%	3.00%	4.25%
35	1.25%	3.00%	4.25%
40	1.25%	3.00%	4.25%
Ref:	280		

If the number of active members remains constant, then the total active member payroll will increase 3.0% annually, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

VALUATION ASSUMPTIONS

The mortality table was the RP 2000 Mortality Table projected to 2020.

Sample Attained Ages	Single Life Retirement Values					
	Present Value of \$1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women	Men	Women
50	\$148.84	\$150.73	0.1487%	0.1189%	32.77	34.63
55	140.89	143.37	0.2469%	0.2314%	28.04	29.88
60	130.74	134.14	0.4887%	0.4573%	23.47	25.31
65	118.50	123.10	0.9607%	0.8780%	19.17	21.02
70	104.41	110.47	1.6413%	1.5145%	15.22	17.06
75	88.00	96.22	2.8538%	2.3935%	11.58	13.47
80	70.35	80.35	5.2647%	3.9866%	8.42	10.23
Ref:	454 x 1.00 sb 0	455 x 1.00 sb 0				

This assumption is used to measure the probabilities of members dying after retirement. Ninety percent of these rates are used to measure the probability of dying before retirement. The projection to 2020 is the margin for mortality improvement.

Post-retirement disabled mortality rates are based on the health mortality rates, set forward 10 years.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Active Members Retiring Next Year Under Normal Retirement			Active Members Retiring Next Year Under Early Retirement			
Ages	% Retiring		Ages	% Retiring		
	Men	Women		Age and Service		Rule of 80
				Men	Women	
60	10%	13%	50			5%
61	10%	15%	51			5%
62	20%	28%	52			5%
63	20%	15%	53			5%
64	15%	10%	54			5%
65	25%	25%	55	5%	7%	5%
66	20%	25%	56	5%	7%	5%
67	15%	25%	57	5%	7%	5%
68	15%	10%	58	5%	7%	5%
69	15%	20%	59	5%	7%	5%
70	15%	20%				
71	50%	20%				
72	50%	20%				
73	50%	20%				
74	50%	20%				
75	100%	20%				
76	100%	20%				
77	100%	20%				
78	100%	20%				
79	100%	20%				
80	100%	100%				
Ref.	2355	2356		2357	2358	2359

VALUATION ASSUMPTIONS

A member was assumed to be eligible for normal retirement after attaining age 60 regardless of service. A member was assumed to be eligible for early retirement after attaining age 55 with at least 20 years of service or if the sum of age and service is at least 80.

Rates of separation from active membership are shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Service	% of Active Members Separating Within Next Year	
		Men	Women
	0-1	20.00%	30.00%
	1-2	17.00%	20.00%
	2-3	11.50%	15.00%
	3-4	9.00%	12.50%
	4-5	8.00%	11.00%
	5-6	n/a	8.00%
30	5 & Up (Men)		
	6 & Up (Women)	5.14%	5.30%
35		3.80%	4.45%
40		3.00%	3.85%
45		2.57%	3.40%
50		2.40%	2.95%
Ref.		830	831
		77x0.45	37x1

Rates of disability were divided equally between duty and non-duty disability and are as follows:

Sample Ages	% of Active Members Becoming Disabled Within Next Year	
	Male	Female
20	0.002%	0.002%
25	0.002%	0.002%
30	0.002%	0.002%
35	0.011%	0.011%
40	0.043%	0.043%
45	0.088%	0.088%
50	0.144%	0.144%
55	0.214%	0.214%
60	0.318%	0.318%
Ref.	37 x 0.30	37 x 0.30

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

DECEMBER 31, 2014

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of the year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and withdrawal decrements do not operate after member reaches retirement eligibility.
Expense Load:	0.50% of payroll.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Benefit Service:	Exact fractional service as of the valuation date is used to determine the amount of benefit payable.
Incidence of Contributions:	For Manchester School District and enterprise funds of the City (Airport, Water Works, and the MECRS), contributions are assumed to be received continuously throughout the year based upon the actual payroll payable at the time contributions are made. For the remaining City group, contributions are assumed to be received on a semiannual basis in December and July.
COLA Assumption:	1.25% compounded annually.
Adjustments:	Normal and Early retirement costs were increased by 9% to reflect lump sums that are payable at retirement but not available in the active data. Retiree liabilities were increased 1% to account for pop-up retiree benefits.
Post-Retirement Subsidy:	55% of current actives and 25% of current terminated vested members were assumed to elect to receive the post-retirement health subsidy upon retirement.

SECTION D

GASB STATEMENT NO. 43

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. Information needed for compliance with GASB Statement No. 67 and No. 68 will be presented in a separate report.

GASB STATEMENT NO. 43
REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Funding Progress for Health Subsidy Program

Actuarial Valuation Date	Actuarial Value of Assets \$Millions (a)	Actuarial Accrued Liability (AAL) Entry Age \$Millions (b)	Unfunded AAL (UAAL) \$Millions (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll (\$ Millions) (c)	UAAL as a Percent of Covered Payroll [(b) - (a)] / (c)
12/31/2006	\$0.8	\$11.7	\$10.9	6.7 %	\$47.5	23.1 %
12/31/2007#	1.9	11.3	9.4	16.8 %	48.6	19.3 %
12/31/2008	2.6	12.4	9.8	21.0 %	50.7	19.3 %
12/31/2009#*	3.7	13.1	9.3	28.6 %	50.5	18.5 %
12/31/2010	4.9	14.1	9.2	34.6 %	51.4	17.9 %
12/31/2011	5.8	15.6	9.8	37.4 %	51.1	19.1 %
12/31/2012#	6.9	16.6	9.7	41.4 %	51.9	18.7 %
12/31/2013	8.1	18.0	9.8	45.3 %	53.3	18.4 %
12/31/2014	9.4	19.4	10.0	48.6 %	54.3	18.4 %

After changes in methods and/or assumptions.

* Assets plus UAAL does not equal Accrued Liability in this exhibit due to rounding.

Schedule of Employer Contributions for Health Subsidy Program

City Fiscal Year Ended June 30	Annual Required Contribution (ARC) as a Percent of Valuation Payroll	Plan Fiscal Year/ Valuation Year Ended December 31	Actual Contributions
2008	1.24%	2006	\$ 333,028
2009	0.91%	2007	641,197
2010	0.93%	2008	487,909
2011	0.93%	2009	461,074
2012	0.87%	2010	457,292
2013	0.97%	2011	451,122
2014	0.93%	2012	526,321
2015	0.93%	2013	462,201
2016	0.99%	2014	613,606

GASB STATEMENT NO. 43
REQUIRED SUPPLEMENTARY INFORMATION – HEALTH SUBSIDY

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:

Health Subsidy Program implementation date	March 1, 2006
Valuation date	December 31, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level percent-of-payroll, closed
Remaining amortization period	25 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment net rate of return*	7.25%
Projected salary increases*	3.0%-7.93%
Future annual increases in subsidy amount	4.0%
*Includes price inflation at	2.75%

Membership of the plan consisted of the following at December 31, 2014, the date of the latest actuarial valuation:

Retirees and Beneficiaries receiving benefits	242
Terminated plan members entitled to but not yet receiving benefits	99
Active plan members	<u>1,200</u>
Total	1,541

SECTION E

OPERATION OF THE RETIREMENT SYSTEM

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement system 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 system acquires a unit of service credit they are, in effect, handed an “IOU” which reads: “The Employees 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?

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

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

Normal Cost (the current value of benefits likely to be paid on account of members’ 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 System 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 systems must operate; that is:

$$\mathbf{B = C + I - E}$$

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

Contributions received on behalf of the group

... plus ...

Interest earnings on contributions received

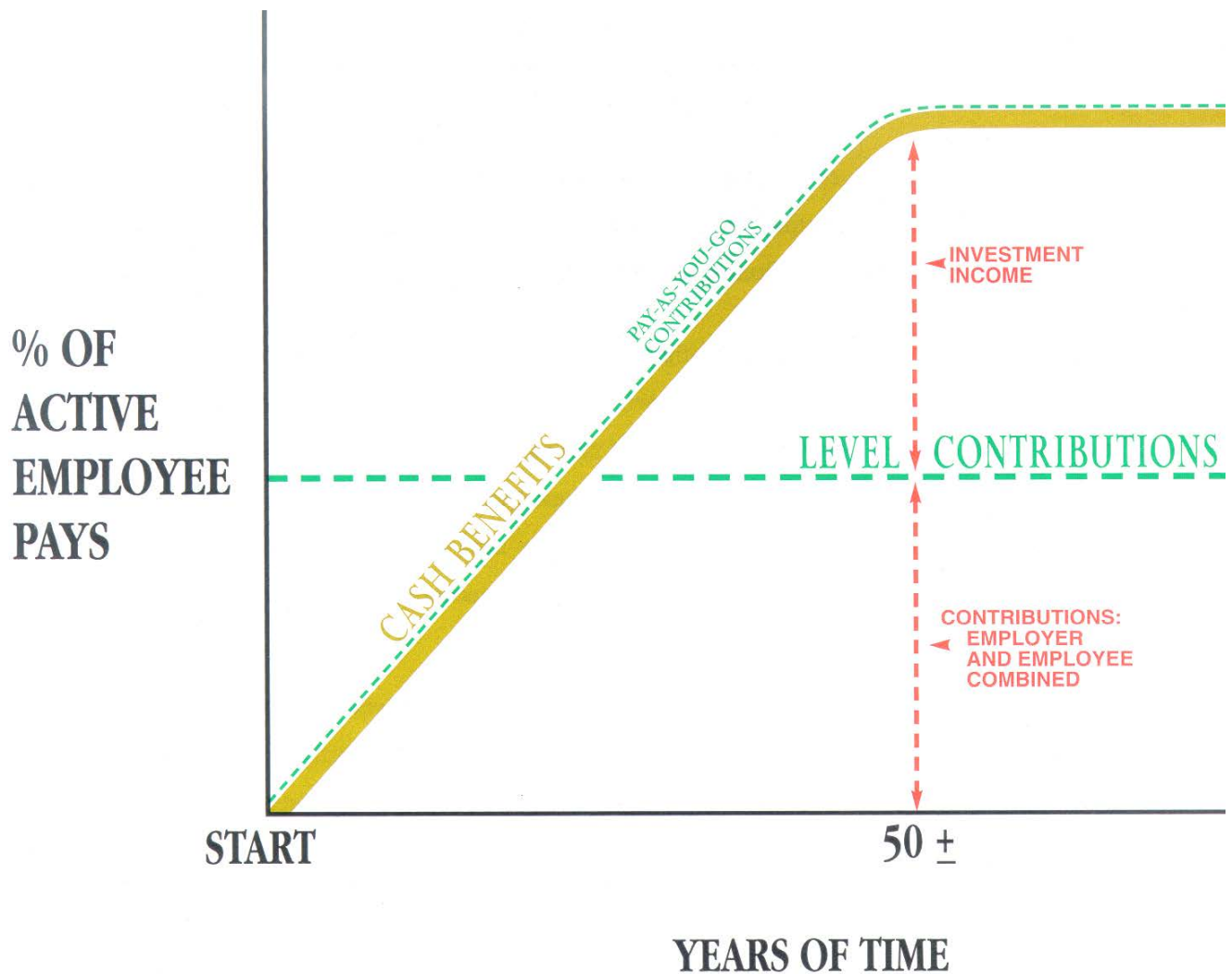
... minus ...

Expenses incurred in the operation of the system.

There are retirement systems designed to defer the bulk of contributions far into the future. They are lured by artificially low present contributions, but the inevitable consequence is a relentlessly increasing contribution rate to a level greatly in excess of the level percent-of-payroll rate.

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 a major contributor to the Retirement System and the amount is directly related to the amount of 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 system.



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:

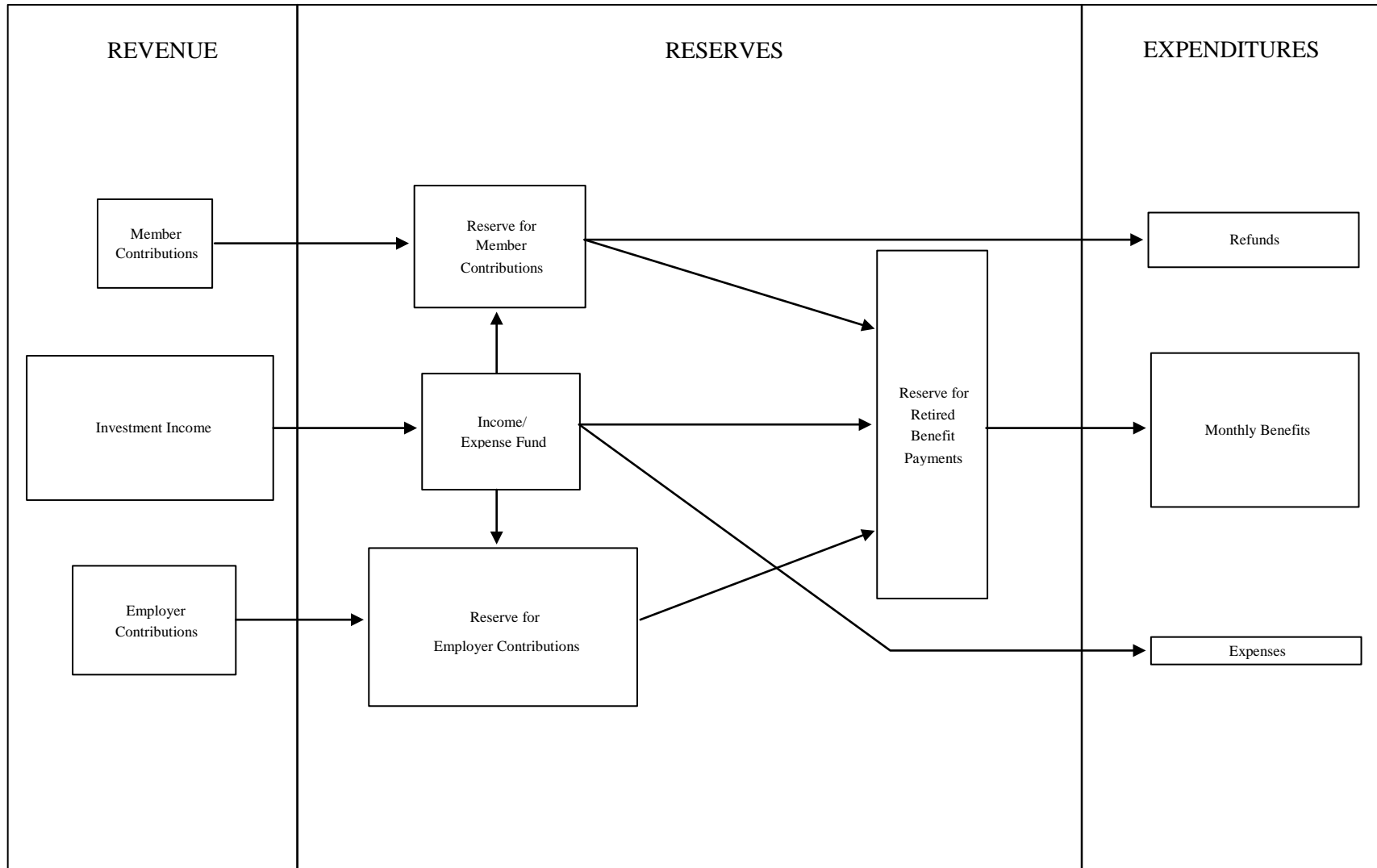
Economic Risk Areas

- 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

FLOW OF MONEY THROUGH THE RETIREMENT SYSTEM



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.

GLOSSARY (CONCLUDED)

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 Liabilities. 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.

April 7, 2015

Mr. Gerard Fleury
Executive Director
City of Manchester Employees'
Contributory Retirement System
1045 Elm Street, Suite 403
Manchester, New Hampshire 03101-1824

Dear Mr. Fleury:

Please find enclosed 15 copies of the report of the Actuarial Valuation of the City of Manchester Employees' Contributory Retirement System.

Sincerely,



Kenneth G. Alberts

KGA:mr
Enclosures