

CITY OF MONROE EMPLOYEES RETIREMENT SYSTEM
SIXTY-NINTH ANNUAL ACTUARIAL VALUATION
DECEMBER 31, 2013

OUTLINE OF CONTENTS

Page	Items
	<i>Cover Letter</i>
	<i>Valuation Results, Comments, Recommendations and Conclusion</i>
A-1	Funding objective
A-2	City's computed contributions
A-4	Computed contributions - comparative schedule
A-5	Present value of future benefits and accrued liabilities
A-6	Funding progress information
A-7	Development of funding value of assets
A-8	Derivation of experience gain (loss)
A-9	Comments, recommendation and conclusion
A-11	Actuarial balance sheet
A-12	20-year projection of benefit payments
	<i>Summary of Benefit Provisions and Valuation Data</i>
B-1	Summary of benefit provisions
B-6	Sample benefit computations
B-11	Reported asset information
B-14	Retired life data
B-17	Active member data
	<i>Actuarial Valuation Process, Actuarial Cost Methods, Actuarial Assumptions, and Definitions of Technical Terms</i>
C-1	Financing diagram
C-2	Actuarial valuation process
C-3	Actuarial cost methods
C-4	Amortization schedules
C-5	Actuarial assumptions in the valuation process
C-7	Actuarial assumptions used for the valuation
C-12	Definitions of technical terms
C-14	Public Employee Retirement Investment Act
	<i>Financial Reporting in Compliance with Governmental Accounting Standards Board (GASB) Requirements</i>
D-1	Financial reporting
D-2	Statement of plan net assets
D-3	Statement of changes in plan net assets
D-4	Notes to financial statements
D-6	Schedule of funding progress
D-7	Schedule of employer contributions
D-8	Summary of actuarial methods and assumptions

April 8, 2014

The Board of Trustees
City of Monroe Employees Retirement System
Monroe, Michigan

Dear Board Members:

The results of the December 31, 2013 annual actuarial valuation of the City of Monroe Employees Retirement System are presented in this report. The purpose of the valuation is to measure the System's funding progress, provide actuarial information in connection with applicable Governmental Accounting Standards Board Statements and to determine the employer contribution for the fiscal year ending June 30, 2016. This report should not be relied upon for any other purpose. This report may be distributed to parties other than the System only in its entirety and only with the permission of the Board.

The valuation was based upon information, furnished by the City, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year to year consistency, but was not otherwise audited, by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the applicable state statutes. Mark Buis and James D. Anderson are independent of the plan sponsor and are Members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,



Mark Buis, FSA, EA, MAAA



James D. Anderson, FSA, EA, MAAA

MB/JDA:sc

SECTION A

VALUATION RESULTS, COMMENTS, RECOMMENDATIONS AND CONCLUSION

FUNDING OBJECTIVE

The funding objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year to year and will not result in intergenerational cost transfers. This objective is stated in the Retirement System Ordinance and meets the requirements of the Constitution of the State of Michigan.

CONTRIBUTION RATES

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

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

- (1) cover the actuarial costs allocated to the current year by the actuarial cost methods described in Section C (the normal cost); and
- (2) finance over a period of future years the actuarial costs not covered by present assets and anticipated future normal costs (unfunded actuarial accrued liability).

Computed Contributions for the fiscal year beginning July 1, 2015 are shown on page A-2.

CITY'S COMPUTED CONTRIBUTIONS FOR THE FISCAL YEAR BEGINNING JULY 1, 2015

City's Contributions Expressed as Percents of Active Member Payroll - Weighted Averages					
Contributions for	General Members	Police Members	Fire Members	Hybrid Members	Total
Total Normal Cost	14.54 %	19.38 %	21.16 %	9.15 %	14.96 %
Member Contributions	(4.22)%	(5.44)%	(5.49)%	(3.69)%	(4.53)%
Employer Normal Cost	10.32 %	13.94 %	15.67 %	5.46 %	10.43 %
Amortization Amounts*	(24.10)%	16.39 %	54.68 %	(1.39)%	5.91 %
Employer Contribution Rate	0.00 %	30.33 %	70.35 %	4.07 %	16.34 %
Estimated Dollar Contribution	\$0	\$884,297	\$686,420	\$125,157	\$1,695,874

* *The Unfunded Accrued Liability is amortized over a period of 26 years.*

These amounts are for pension contributions only. Effective 1/1/2000, the Board decided that a minimum contribution rate of 4% per valuation group would be contributed to the Post-Retirement Health Care Fund.

All members of the Retirement System except police officers and firefighters are covered by Social Security. Social Security taxes are not included in the above amounts.

**CITY'S COMPUTED CONTRIBUTIONS
FOR THE FISCAL YEAR BEGINNING JULY 1, 2015
(CONCLUDED)**

Determining Dollar Contributions

For any period of time, the percent-of-payroll contribution rate needs to be converted to dollar amounts. We recommend one of the following procedures.

- (1) Contribute dollar amounts at the end of each payroll period which are equal to the City's percent-of-payroll contribution requirement multiplied by the covered active member payroll for the period. Adjustments should be made as necessary to exclude items of pay that are not covered compensation for Retirement System benefits and to include non-payroll payments that are covered compensation.

- (2) Contribute the annual amounts to the designated fund from the following schedule:

<u>Group</u>	<u>Pension Fund</u>
General	\$ 0
Police	884,297
Fire	686,420
Hybrid	<u>125,157</u>
Total	\$ 1,695,874

These dollar amounts are derived by multiplying the City's percent-of-payroll contribution requirement by the projected valuation payroll for the fiscal year beginning July 1, 2015. The projected valuation payroll reflects the pay increase assumptions described on page C-8.

The above amounts (Methods 1 and 2) are assumed to be contributed, on average, halfway through the fiscal year. If contributions are made on a later schedule, interest should be added at the rate of 0.625% (=0.075 ÷ 12) for each month of delay.

CITY'S COMPUTED CONTRIBUTIONS - COMPARATIVE SCHEDULE

Fiscal Year	Valuation Date		As Percents of Valuation Payroll					Valuation Payroll	Employer Contribution	
			General Members	Police and Fire Members	Water Dept. Members	Sewage Disposal Members	Hybrid Members		Computed	Actual
1985-86	1984	(3)	11.29 %	13.44 % (1)	12.78 %	10.33 %		\$ 6,551,873	\$ 847,632	\$ 847,632
1986-87	1985		10.69 %	13.14 % (1)	12.30 %	10.07 %		6,791,152	846,903	846,903
1987-88	1986		10.34 % (1)	12.70 % (1)	12.54 % (1)	9.91 % (1)		6,898,835	836,738	836,738
1988-89	1987		10.03 % (1,4)	12.62 %	13.07 % (1)	9.40 % (1,4)		7,082,224	850,875	850,875
1989-90	1988		8.39 % (1,4)	12.07 %	13.82 % (1)	11.77 % (1,4)		7,827,433	895,701	895,701
1990-91	1989		4.20 % (1,4)	13.43 % (1,4)	13.00 % (1,4)	9.35 % (1,4)		7,787,845	791,566	791,566
1991-92	1990	(2)	5.48 % (4)	9.24 %	10.64 %	7.78 % (4)		9,106,876	737,022	737,021
1992-93	1991		5.00 % (4,5)	5.45 % (4)	11.11 %	6.03 % (4)		8,817,472	551,961	551,961
1993-94	1992		5.00 % (4,5)	5.00 % (4,5)	10.45 %	6.61 % (4)		9,354,039	565,293	565,293
1993-94	1992	(2)	5.00 %	5.00 %	9.36 %	5.40 %		9,354,039	536,817	565,293
1994-95	1993		5.00 %	5.00 %	7.13 %	5.00 %		9,190,716	462,980	520,675
1994-95	1993	(1)	5.00 % (4,5)	5.00 % (4,5)	7.55 %	5.00 % (4,5)		9,190,716	520,675	520,675
1995-96	1994		4.00 % (4,5)	4.00 % (4,5)	5.07 %	4.00 % (4,5)		9,651,905	425,850	425,850
1996-97	1995	(1)	4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)		9,978,002	417,297	417,297
1997-98	1996		4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)		10,172,609	317,709	317,709
1998-99	1997	(1)	4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)	4.00 % (4,5)	10,529,011	440,112	547,316
1999-00	1998	(1)	4.00 % (4,5)	4.00 % (4,5)			4.00 % (4,5)	10,584,002	442,412	426,131
2000-01	1999	(1)	0.00 % (4,5)	0.00 % (4,5)			0.32 % (4,5)	10,474,156	3,790	11,596
2001-02	2000	(1)	0.00 % (4,5)	0.00 % (4,5)			3.61 % (4,5)	11,856,866	67,664	0
2002-03	2001	(1)	0.00 % (4,5)	0.00 % (4,5)			0.00 % (4,5)	11,906,969	0	0
2003-04	2002	(1,2)	0.00 % (4,5)	0.00 % (4,5)			0.00 % (4,5)	12,514,944	0	0
2004-05	2003		0.00 % (4,5)	0.00 % (4,5)			0.00 % (4,5)	12,572,732	0	0
2005-06	2004		0.00 % (4,5)	8.28 % (4,5)			0.00 % (4,5)	13,015,919	479,028	479,028
2006-07	2004	(1)	0.00 % (4,5)	8.28 % (4,5)			0.00 % (4,5)	13,232,960	487,016	487,368
2007-08	2005	(1)	0.00 % (4,5)	21.31 % (4,5)			5.21 % (5)	13,232,960	1,444,879	1,444,880
2008-09	2006		0.00 % (4,5)	20.95 % (5)			5.07 % (5)	13,007,162	1,439,268	1,439,269
2009-10	2007		0.00 % (4,5)	20.92 % (5)			4.80 % (5)	13,371,922	1,483,539	1,483,539
2010-11	2008	(2)	0.00 % (4,5)	20.49 % (1,5)			2.74 % (5)	11,289,204	1,191,553	1,191,553
2011-12	2009	(2)	0.00 % (4,5)	22.67 % (5)			3.48 % (5)	11,061,644	1,274,568	1,274,568
2012-13	2010		0.00 % (4,5)	25.04 % (5)			3.83 % (5)	10,758,097	1,351,541	1,351,541
2013-14	2011		0.00 % (4,5)	36.24 % (5)			3.87 % (5)	9,636,542	1,488,154	1,488,154 #
2014-15	2012		0.00 % (4,5)	38.86 % (5)			4.12 % (5)	9,543,247	1,622,379	
2015-16	2013		0.00 % (4,5)	40.36 % (5)			4.07 % (5)	9,524,423	1,695,874	

(1) After Retirement System amendments.

(2) After assumptions revised.

(3) After change in valuation method to Entry-Age Normal Cost.

(4) Reflects Temporary (Credit)/Charge.

(5) Minimum Contribution Rate per Board Resolution.

Scheduled contributions for the fiscal year.

PRESENT VALUE OF FUTURE BENEFITS AND ACCRUED LIABILITIES

	General Members	Police Members	Fire Members	Hybrid Members	Total
A. Accrued Liability					
1. For retirees and beneficiaries	\$ 37,585,308	\$ 24,394,877	\$31,071,791	\$ 841,224	\$ 93,893,200
2. For vested terminated members	401,079	-	553,758	277,207	1,232,044
3. For present active members					
a. Value of expected future benefit payments	19,862,557	16,911,105	5,815,030	5,722,459	48,311,151
b. Value of future normal costs	2,784,423	4,338,064	1,422,330	2,183,351	10,728,168
c. Active member accrued liability: (a) - (b)	17,078,134	12,573,041	4,392,700	3,539,108	37,582,983
4. Total accrued liability	55,064,521	36,967,918	36,018,249	4,657,539	132,708,227
B. Present Assets (Funding Value)	67,536,981	29,598,079	27,794,559	5,369,934	130,299,553
C. Unfunded Accrued Liability: (A.4) - (B)	(12,472,460)	7,369,839	8,223,690	(712,395)	2,408,674
D. Funding Ratio: (B) / (A.4)	122.7%	80.1%	77.2%	115.3%	98.2%
E. Funded Ratio - Market Value Basis	127.2%	83.0%	80.0%	119.6%	101.8%

FUNDING PROGRESS TESTS

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

There is no single all-encompassing test to measure a Retirement System's funding progress and current funded status.

A traditional measure has been the relationship of valuation assets to actuarial accrued liabilities - a method that is influenced by the choice of actuarial cost method. This relationship is shown on page A-5.

We believe a better understanding of funding progress and status can be achieved using the following measures which are independent of the actuarial funding method. A year-by-year comparison of these measures is shown on page A-6 right.

TEST 1 - *The ratio of valuation assets to the actuarial present value of vested benefits (APVVB)* computed as if the Retirement System were terminated on the valuation date - a plan termination test. The ratio is expected to gradually increase in the absence of benefit improvements and changes in actuarial assumptions.

TEST 2 - *The ratio of valuation assets to the actuarial present value of credited projected benefits (APVCPB)* - a plan continuation test. The ratio is expected to gradually increase in the absence of benefit improvements and changes in actuarial assumptions.

TEST 3 - *The ratio of the unfunded actuarial present value of credited projected benefits (UAPVCPB) to member payroll* - a plan continuation test. In a soundly financed retirement system, the amount of the unfunded actuarial present value of credited projected benefits will be controlled and prevented from increasing in the absence of benefit improvements or strengthening of actuarial assumptions. However, in an inflationary environment it is seldom practical to impose this control on dollar amounts which are depreciating in value. The ratio is a relative index of condition where inflation is present in both items. The ratio is expected to gradually decrease in the absence of benefit improvements and changes in actuarial assumptions.

FUNDING PROGRESS MEASURES - COMPARATIVE SCHEDULE
(\$ AMOUNTS IN THOUSANDS)

Valuation Date December 31	(1) Valuation Assets	(2) Member Payroll	(3) APVVB	(4) APVCPB	(5) UAPVCPB	Termination		
						Measure	Continuation Tests	
						TEST 1 (1) ÷ (3)	TEST 2 (1) ÷ (4)	TEST 3 (5) ÷ (2)
1986(1,3)	\$ 21,374	\$ 6,899	\$ 14,677	\$ 21,567	\$ 193	145.6 %	99.1 %	2.8 %
1987(1)	24,032	7,082	15,679	23,367	(665)	153.3 %	102.8 %	-
1988(1)	27,163	7,827	17,445	25,838	(1,325)	155.7 %	105.1 %	-
1989(1)	31,228	7,787	19,316	28,887	(2,341)	161.7 %	108.1 %	-
1990(2)	34,603	9,107	21,491	31,119	(3,484)	161.0 %	111.2 %	-
1991	39,320	8,817	22,899	32,949	(6,371)	171.7 %	119.3 %	-
1992(3)	43,834	9,354	25,639	36,882	(6,952)	171.0 %	118.8 %	-
1993(1,2)	49,703	9,191	28,481	38,633	(11,070)	174.5 %	128.7 %	-
1994	54,055	9,652	31,254	42,409	(11,646)	173.0 %	127.5 %	-
1995(1)	59,462	9,978	33,285	45,707	(13,755)	178.6 %	130.1 %	-
1996	65,597	10,173	34,719	48,508	(17,089)	188.9 %	135.2 %	-
1997(1)	72,727	10,529	42,155	54,843	(17,884)	172.5 %	132.6 %	-
1998	83,049	10,584	42,305	55,146	(27,903)	196.3 %	150.6 %	-
1999(1)	94,155	10,474	45,827	58,143	(36,012)	205.5 %	161.9 %	-
2000(1)	104,266	11,857	50,310	64,229	(40,037)	207.2 %	162.3 %	-
2001(1)	110,126	11,907	53,161	67,124	(43,002)	207.2 %	164.1 %	-
2002(1,2)	110,362	12,515	59,278	76,417	(33,945)	186.2 %	144.4 %	-
2003	110,752	12,573	64,316	81,705	(29,047)	172.2 %	135.6 %	-
2004	111,524	13,016	72,927	93,215	(18,309)	152.9 %	119.6 %	-
2005(1,3)	118,935	13,233	77,866	97,222	(21,713)	152.7 %	122.3 %	-
2006	124,033	13,007	83,477	100,726	(23,307)	148.6 %	123.1 %	-
2007	130,366	13,372	87,361	106,681	(23,685)	149.2 %	122.2 %	-
2008(1,2,3)	130,512	11,289	95,032	111,661	(18,851)	137.3 %	116.9 %	-
2009(2)	131,184	11,062	99,789	115,213	(15,971)	131.5 %	113.9 %	-
2010	132,119	10,758	105,476	119,415	(12,704)	125.3 %	110.6 %	-
2011	131,234	9,637	111,010	124,343	(6,891)	118.2 %	105.5 %	-
2012	130,063	9,543	113,438	126,541	(3,522)	114.7 %	102.8 %	-
2013	130,300	9,524	116,527	128,719	(1,581)	111.8 %	101.2 %	-

(1) After Retirement System amendments.

(2) Economic assumptions revised.

(3) Asset valuation method revised.

APVVB - actuarial present value of vested benefits (see page A-6 Left).

APVCPB - actuarial present value of credited projected benefits (see page A-6 Left).

UAPVCPB - unfunded actuarial present value of credited projected benefits (see page A-6 Left).

DEVELOPMENT OF FUNDING VALUE OF ASSETS

Year Ended December 31	2011	2012	2013	2014	2015	2016	2017	2018	2019
A. Funding Value Beginning of Year	\$132,118,603	\$131,234,283	\$130,063,087						
B. Market Value End of Year	115,400,471	121,436,535	135,144,666						
C. Market Value Beginning of Year	120,382,220	115,400,471	121,436,535						
D. Non-Investment Net Cash Flow	(5,783,089)	(6,383,460)	(6,400,766)						
E. Investment Income									
E1. Market Total: B-C-D	801,340	12,419,524	20,108,897						
E2. Amount for Immediate Recognition (7.5%)	9,692,029	9,603,191	9,514,703						
E3. Amount for Phased-In Recognition: E1-E2	(8,890,689)	2,816,333	10,594,194						
F. Phased-In Recog. of Investment Return									
F1. Current Year: (1/7) x E3	(1,270,098)	402,333	1,513,456						
F2. First Prior Year	523,430	(1,270,098)	402,333	\$ 1,513,456					
F3. Second Prior Year	1,309,406	523,430	(1,270,098)	402,333	\$ 1,513,456				
F4. Third Prior Year	(5,355,998)	1,309,406	523,430	(1,270,098)	402,333	\$ 1,513,456			
F5. Fourth Prior Year	0	(5,355,998)	1,309,406	523,430	(1,270,098)	402,333	\$ 1,513,456		
F6. Fifth Prior Year	0	0	(5,355,998)	1,309,406	523,430	(1,270,098)	402,333	\$ 1,513,456	
F7. Sixth Prior Year	0	0	0	(5,355,998)	1,309,405	523,430	(1,270,101)	402,335	\$ 1,513,458
F8. Total Recognized Investment Gain	(4,793,260)	(4,390,927)	(2,877,471)	(2,877,471)	2,478,526	1,169,121	645,688	1,915,791	1,513,458
G. Funding Value End of Year A+D+E2+F8	131,234,283	130,063,087	130,299,553						
H. Difference between Market & Funding Value	(15,833,812)	(8,626,552)	4,845,113	7,722,584	5,244,058	4,074,937	3,429,249	1,513,458	0
I. Recognized Rate of Return	3.8%	4.1%	5.2 %						
J. Market Rate of Return	0.7%	11.1%	17.0%						
K. Ratio of Funding Value to Market Value	113.7%	107.1%	96.4 %						

The Funding Value of Assets recognizes assumed investment return (line E2) fully each year. Differences between actual and assumed investment return (line E3) are phased-in over a closed 7-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. The Funding Value of Assets is *unbiased* with respect to Market Value. At any time it may be either greater or less than Market Value. If assumed rates are exactly realized for 6 consecutive years, it will become equal to Market Value.

DERIVATION OF EXPERIENCE GAIN (LOSS) YEAR ENDED DECEMBER 31, 2013

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Gains and losses are expected to cancel each other over a period of years but sizable year to year fluctuations are common. Detail on the derivation of the actuarial gain (loss) is shown below, along with a year-by-year comparative schedule.

(1)	UAAL* at end of prior year	\$677,858
(2)	Total normal cost	1,434,378
(3)	Actual contributions	1,838,070
(4)	Interest accrual	35,975
(5)	Expected UAAL before changes	310,141
(6)	Change from Retirement System amendments and/or revised actuarial assumptions/methods	0
(7)	Expected UAAL after changes	310,141
(8)	Actual UAAL at end of year	2,408,674
(9)	Gain (loss) (7) - (8)	(2,098,533)
(10)	Gain (loss) as percent of actuarial accrued liabilities at start of year (\$130,740,945)	(1.6)%

* *Unfunded actuarial accrued liability.*

Valuation	Actuarial Gain (Loss)
Date	As % of Beginning Accrued Liability
December 31	As % of Beginning Accrued Liability
2004	(6.9)%
2005	0.6 %
2006	2.0 %
2007	0.3 %
2008	(8.0)%
2009	(2.9)%
2010	(3.0)%
2011	(4.8)%
2012	(2.6)%
2013	(1.6)%

COMMENTS, RECOMMENDATION AND CONCLUSION
DECEMBER 31, 2013

COMMENT A: Contribution requirements varied by group. The plan is approximately 98.2% funded on a system-wide basis. Total contribution requirements increased primarily due to the phasing-in of past unfavorable investment performance. Shown below are the contribution requirements from last year's valuation compared to this year's valuation.

	Employer Contribution for	
	Fiscal Year Beginning	
	July 1, 2014	July 1, 2015
General	\$ -	\$ -
Police	815,298	884,297
Fire	684,228	686,420
Hybrid	122,853	125,157
Total	\$ 1,622,379	\$ 1,695,874

COMMENT B: On a market value basis, investment results were more favorable than expected, with approximately a 17.0% rate of return (see page A-7). However, under the asset valuation method, investment gains and losses are spread over a 7-year period. Partial recognition of this year's gain was combined with the continued phase-in of investment gains and losses from prior years resulting in a new recognized rate of return of 5.2%, leading to a loss. The overall experience gain (loss) this year (including liability gains and losses) was \$(2,098,533) (see page A-8).

COMMENT C: As of this valuation, the Market Value of assets exceeds the Funding Value by \$4.8 million. This means that currently there is \$4.8 million in investment gains recognized in the unfunded liability. The gains will be phased-in over the next six years and amortized. If the Market Value had been used this year, the funded status would be about 101.8% instead of 98.2%.

COMMENTS, RECOMMENDATION AND CONCLUSION
DECEMBER 31, 2013

RECOMMENDATION: The actuary recommends that transfers be made from the reserve for employer contributions to the reserve for retired benefit payments, as shown below:

Reserve for Employer Contributions			
	Balance Before Transfer	Amounts Transferred to Reserve for Retired Benefit Payments	Balance After Transfer
General	\$36,175,567	\$ 7,744,266	\$ 28,431,301
Police & Fire	(7,463,444)	(7,694,242)	230,798
Hybrid	3,919,463	727,132	3,192,331
Total	\$32,631,586	\$ 777,156	\$ 31,854,430

The computed employer contribution rates developed in this report assume that these transfers have been made.

The table above shows appropriate beginning reserve balances at 1/1/2014 for each valuation group. Based upon Board action, accounting staff should maintain the separation going forward.

CONCLUSION: The Retirement System continues to operate in accordance with the actuarial principles of level percent of payroll financing.

ACTUARIAL BALANCE SHEET - DECEMBER 31, 2013
(\$ AMOUNTS IN THOUSANDS)

Present Resources and Expected Future Resources

	General Members	Police Members	Fire Members	Hybrid Members	Total
A. Actuarial value of system assets					
1. Net assets from system financial statements	\$70,048	\$30,699	\$28,828	\$5,570	\$135,145
2. Market value adjustment	(2,511)	(1,101)	(1,034)	(200)	(4,846)
3. Actuarial value of assets	67,537	29,598	27,794	5,370	130,299
B. Actuarial present value of expected future employer contributions					
1. For normal costs	1,969	3,070	1,048	1,238	7,325
2. For unfunded actuarial accrued liabilities	(12,472)	7,370	8,224	(712)	2,410
3. Total	(10,503)	10,440	9,272	526	9,735
C. Actuarial present value of expected future member contributions	814	1,268	375	944	3,401
D. Total Present and Expected Future Resources	\$57,848	\$41,306	\$37,441	\$6,840	\$143,435

Actuarial Present Value of Expected Future Benefit Payments and Reserves

A. To retirants and beneficiaries	\$37,585	\$24,395	\$31,072	\$ 841	\$ 93,893
B. To vested terminated members	401	0	554	277	1,232
C. To present active members					
1. Allocated to service rendered prior to valuation date	17,078	12,573	4,393	3,539	37,583
2. Allocated to service likely to be rendered after valuation date	2,784	4,338	1,422	2,183	10,727
3. Total	19,862	16,911	5,815	5,722	48,310
D. Total Actuarial Present Value of Expected Future Benefit payments	57,848	41,306	37,441	6,840	143,435
E. Reserves					
1. Allocated to retirants and beneficiaries	0	0	0	0	0
2. Unallocated investment income & adjustments	0	0	0	0	0
3. Total	0	0	0	0	0
F. Total Actuarial Present Value of Expected Future Payments and Reserves	\$57,848	\$41,306	\$37,441	\$6,840	\$143,435

Not all sums balance due to rounding.

20-YEAR PROJECTION OF BENEFIT PAYMENTS

Year	Projected Benefit Payment
2014	\$ 8,445,190
2015	8,691,577
2016	9,008,729
2017	9,320,757
2018	9,638,524
2019	9,966,594
2020	10,322,902
2021	10,636,270
2022	10,916,911
2023	11,199,104
2024	11,505,065
2025	11,828,906
2026	12,166,937
2027	12,483,694
2028	12,746,824
2029	12,963,464
2030	13,137,507
2031	13,273,385
2032	13,366,934
2033	13,419,820

SECTION B

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

BRIEF SUMMARY* OF NON-HYBRID BENEFIT PROVISIONS

DECEMBER 31, 2013

REGULAR RETIREMENT (no reduction factor for age): The eligibility conditions and benefit factors for regular retirement are shown on page B-5.

EARLY RETIREMENT

Eligibility - Teamsters Local 214 and COMEA Unit I and II: Age 50 with 10 or more years of service.

Annual Amount - Actuarial equivalent of the accrued Regular Retirement benefit.

DEFERRED RETIREMENT (vested benefit):

Eligibility - 10 or more years of service. Benefit begins at age 60.

Annual Amount - Computed as a regular benefit but based upon service and final average compensation at time of termination.

DUTY DISABILITY RETIREMENT:

Eligibility - No age or service requirements. Must be in receipt of worker's compensation.

Annual Amount - Computed as a regular retirement. If a retirant is paid a worker's compensation benefit which is more than the difference between the retirant's final average compensation and the amount of retirement allowance computed the amount of the retirement allowance shall be reduced to the amount which is the difference between final average compensation and the worker's compensation benefit. The reduction shall continue for the worker's compensation period. Upon termination of worker's compensation or attainment of age 65, whichever occurs first, additional service credit is granted and the benefit is recomputed.

NON-DUTY DISABILITY RETIREMENT:

Eligibility - 10 or more years of service.

Annual Amount Computed as a regular retirement.

DUTY DEATH BEFORE RETIREMENT:

Eligibility - No age or service requirements.

Annual Amount - Refund of member contributions paid at time of death. A benefit equal to the worker's compensation benefit is paid beginning at the end of the worker's compensation period. Payments to spouse terminate upon remarriage or death.

* In case of disagreement between this summary and either City ordinance or labor agreements, the latter supersedes.

**BRIEF SUMMARY* OF NON-HYBRID BENEFIT PROVISIONS
DECEMBER 31, 2013 (CONCLUDED)**

NON-DUTY DEATH BEFORE RETIREMENT:

Eligibility - 10 years of service.

Annual Amount - Computed according to the regular retirement formula but actuarially reduced in accordance with Joint and 100% Survivor option.

MEMBER CONTRIBUTIONS: Vary by employment unit as shown on page B-5.

ANNUITY WITHDRAWAL: Annuity withdrawal is not available to persons hired January 1, 1989 and later. Members of the police and fire units of the City may withdraw their accumulated contributions at the time of retirement. The retirement allowances of such members will be reduced in accordance with the interest and mortality assumptions (50% Unisex Mix) used in calculating option factors as of December 31, preceding the date of retirement.

OPTIONAL FORMS OF BENEFIT PAYMENT:

Option A - Straight life retirement allowance

Option B - 100% survivor allowance

Option C - 50% survivor allowance

Option D 120 - 120 months certain and life

Option D 180 - 180 months certain and life

Option E - Members electing early retirement may choose to have the formula amount payable to age 62 (if possible) and a reduced amount thereafter. Option E cannot be elected in conjunction with another option, and does not provide a survivor benefit.

Social Security Coordination: members covered by Social Security may elect to receive their benefit paid in a form that pays more initially but reduces at age 65 by the amount of the estimated Social Security P.I.A.

Benefit amounts under these optional forms of payment are calculated using a unisex mortality table consisting of 90% male mortality rates and 10% female rates.

* *In case of disagreement between this summary and either City ordinance or labor agreements, the latter supersedes.*

**BRIEF SUMMARY* OF HYBRID BENEFIT PROVISIONS
(THAT BECAME EFFECTIVE MAY 1, 1997)
DECEMBER 31, 2013**

REGULAR RETIREMENT (no reduction for age):

Eligibility - Age 60 with 10 or more years of service or age 62 with 3 or more years of service.

Benefits -

(1) *Monthly Benefit Option* equal to the greater of (a) and (b):

(a) 1.5% times Final Average Compensation (FAC) times service, plus Cost-of-Living Adjustment (COLA).

(b) Annuitized Value of 2.0 times member contributions with interest plus COLA.

(2) *Lump Sum Option* equal to 1.5 times member contributions with interest.

EARLY RETIREMENT:

Eligibility - Age 55 with 15 or more years of service.

Benefits -

(1) *Monthly Benefit Option* equal to the annuitized value of 1.5 times member contributions with interest plus COLA.

DEFERRED RETIREMENT (vested benefit):

Eligibility - 3 or more years of service. No age requirement.

Benefits - *Immediate Option* equal to a lump sum distribution in accordance with the following:

Years of Service	Immediate Lump Sum
Less than 3	1.0 times member contributions with interest
At least 3, but less than 7	1.25 times member contributions with interest
7 or more	1.5 times member contributions with interest

OR

Deferred Option: Member can leave own contributions and the credited interest on them in the plan to earn additional interest until retirement, then elect either the Monthly Benefit Option or the Lump Sum Option described under Regular Retirement.

* In case of disagreement between this summary and either City ordinance or labor agreements, the latter supersedes.

**BRIEF SUMMARY* OF HYBRID BENEFIT PROVISIONS
THAT BECAME EFFECTIVE MAY 1, 1997
DECEMBER 31, 2013**

DISABILITY RETIREMENT (the same provisions apply to duty and non-duty disabilities):

Eligibility - No age or service requirements.

Benefits - Payable in accordance with the following:

<u>Years of Service</u>	<u>Benefit Payable (includes COLA)</u>
Less than 3	1.0% times FAC times Service
At least 3, but less than 7	1.25% times FAC times Service
7 or more	1.5% times FAC times Service

DEATH BEFORE RETIREMENT:

Eligibility - No age or service requirements.

Benefits - 1.0 times member contribution with interest is payable to the deceased member's beneficiary. In addition, if the member had at least 3 years of service at death, the beneficiary will receive the greater of (a) and (b):

(a) If monthly worker's compensation benefits were being paid prior to the member's death, the Retirement System will continue to pay the same amount to the beneficiary on a monthly basis.

(b) A life annuity to the beneficiary of 1.5% times the member's FAC (just prior to death) times service.

Note: The monthly amounts from (a) and (b) include COLAs.

RETIREES' BURIAL BENEFIT:

Eligibility - The death of a member who is receiving monthly retirement benefits.

Benefits - A one-time cash payment of \$2,500.

SPECIAL NOTES:

COLAs - The percent increase in the CPI up to 2%.

Interest on Member Contributions - The annual rate of return on the market value of the Fund-1%.

* In case of disagreement between this summary and either City ordinance or labor agreements, the latter supersedes.

BENEFIT PROVISIONS BY UNIT

DECEMBER 31, 2013

Unit Name	No.	GRS Code	Eligibility	FAC ⁽¹⁾		Retirement Benefit		Employee Contrib.
				Months	Lump	PCT	COLA ⁽²⁾	
				In	Sums			
General Unit I	16	11	55 & 25, 60 & 10 or 65 & 5	36	Y	2.2%	2% Fixed	4%
General Unit II	2	36	55 & 25, 60 & 10, 65 & 5	36	Y	2.2%	2% CPI	4%
General Teamsters	9	19	60 & 10, 65 & 5, 80 pts	48	Y	2.2%	2% Fixed	5%
Water Unit I	3	14	55 & 25, 60 & 10 or 65 & 5	36	Y	2.2%	2% Fixed	4%
Water Unit II	1	37	55 & 25, 60 & 10, 65 & 5	36	Y	2.2%	2% CPI	4%
Water Teamsters	7	15	60 & 10, 65 & 5, 80 pts	48	Y	2.2%	2% Fixed	5%
Sewage Unit I	4	17	55 & 25, 60 & 10 or 65 & 5	36	Y	2.2%	2% Fixed	4%
Sewage Unit II	1	38	55 & 25, 60 & 10, 65 & 5	36	Y	2.2%	2% CPI	4%
Sewage Teamsters	7	16	60 & 10, 65 & 5, 80 pts	48	Y	2.2%	2% Fixed	5%
Police Patrol	21	22	50 & 25, 55 & 10, or 60 & 5	36	Y ⁽⁴⁾	2.65% (80% cap)	3% Fixed	5.5%
Police Patrol (Hired on or After 7/1/2008)	9	22	55 & 10, or 60 & 5	36	N	2.0%/2.25% ⁽⁵⁾ (80% cap)	2% CPI	5.5%
Police Command	8	23	50 & 25, 55 & 10, or 60 & 5	36	Y ⁽³⁾	2.65% (80% cap)	3% Fixed	5.5%
Police Command (Hired on or After 7/1/2008)	0	23	55 & 10, or 60 & 5	36	N	2.0%/2.25% ⁽⁵⁾ (80% cap)	2% CPI	5.5%
Fire	12	33	50 & 25, 55 & 10, or 60 & 5	36	Y ⁽³⁾	2.65% (80% cap)	3% Fixed	5.5%
Fire (Hired on or After 7/1/2008)	0	33	55 & 10, or 60 & 5	36	N	2.0%/2.25% ⁽⁵⁾ (80% cap)	2% CPI	5.5%
Appointed/Confidential	3	35	55 & 15, 60 & 10, 65 & 5	36	Y	2.2%	2% Fixed	2%
Elected	0	34	55 & 25, 60 & 10, 65 & 5	36	Y	2.2%	No	2%
Appointed/Elected Hybrid	9	50+	60 & 10 or 62 & 3	36	Y	1.5%	2% CPI	2%
Hybrid	48	50+	60 & 10 or 62 & 3	36	Y	1.5%	2% CPI	4%
Total Active Members	160							

⁽¹⁾ Final Average Compensation. The benefit multiplier times FAC times credited service is the amount of retirement allowance payable. For Police and Fire members hired prior to 7/1/2008, FAC is frozen at 30.2 years of service. For Police and Fire members hired on or after 7/1/2008, FAC is frozen at 37.2 years of service.

⁽²⁾ Cost-of-Living Adjustments (COLAs) apply beginning on the anniversary of retirement following 12 months of receiving benefits. COLAs are either fixed at the stated rate or equal to the lesser of the stated rate and the annual increase in the CPI-U for the preceding calendar year. COLAs are not compounded each year.

⁽³⁾ Police Command and Fire receive three years Sick Pay Bonus included in FAC due to an Arbitration Award which was effective 7/1/1998. However, they do not have vacation pay-off included in FAC. Effective 1/1/2012, FAC for Police Command and Fire will not include more than 200 hours per year of overtime.

⁽⁴⁾ Effective 7/1/2009 Police Patrol will receive three years Sick Pay Bonus included in FAC, for members hired prior to 7/1/2008. However, they do not have vacation pay included in FAC. Effective 8/15/2011, FAC for Police will not include more than 200 hours per year of overtime.

⁽⁵⁾ The pension multiplier for employees hired on or after 7/1/2008 will be 2.0% of the employee's FAC for the first 15 years of service, and 2.25% for each year thereafter.

**SAMPLE BENEFIT COMPUTATIONS FOR
GENERAL MEMBER
RETIRING DECEMBER 31, 2013**

DATA:

A.	<u>\$45,000</u>	Final Average Compensation
B.	<u>32</u>	Years of Credited Service
C.	<u>60</u>	Age of Retirant
D.	<u>55</u>	Age of Spouse
E.	<u>100%</u>	Percentage of Pension to Continue to Spouse after retirant's death (Retirant makes this choice)

COMPUTATIONS:

	<u>Annual Amount</u>
F. Formula Benefit: $0.022 \times 32 \text{ yrs.} \times \$45,000 =$	\$31,680
G. Reduction for Line E Election $(1-0.84909)^* \times (F) =$	<u>4,781</u>
H. Benefit Payable to Retirant while Spouse is Alive: F-G	\$26,899
I. Benefit Payable to Spouse after Retirant's Death	\$26,899
J. Benefit Payable to Retirant after Spouse's Death	\$26,899

PROJECTED BENEFITS:

Year Ended December 31	Retirant's Benefit (Retirant & Spouse Alive)	Spouse's Benefit (After Retirant's Death)	Retirant's Benefit (After Spouse's Death)
2014	\$26,899	\$26,899	\$26,899
2015	27,437	27,437	27,437
2016	27,975	27,975	27,975
2017	28,513	28,513	28,513
2018	29,051	29,051	29,051
2019	29,589	29,589	29,589
2020	30,127	30,127	30,127
2021	30,665	30,665	30,665
2022	31,203	31,203	31,203
2023	31,741	31,741	31,741

* Factors effective January 1, 2011.

In each succeeding year the amount increases by \$538 (amount may vary if CPI applies).

The benefits of elected members do not increase.

**SAMPLE BENEFIT COMPUTATIONS FOR *POLICE* MEMBER
RETIRING DECEMBER 31, 2013 (AND HIRED BEFORE JULY 1, 2008)**

DATA:

A.	<u>\$45,000</u>	Final Average Compensation (FAC)
B.	<u>30.2</u>	Years of Credited Service
C.	<u>55</u>	Age of Retirant
D.	<u>50</u>	Age of Spouse
E.	<u>25,000</u>	Annuity Withdrawal at Retirement (Available if hired before 1989)
F.	<u>100%</u>	Percentage of Pension to Continue to Spouse after retirant's death (Retirant makes this choice)

COMPUTATIONS:

	<u>Annual Amount</u>
G. Formula Benefit: $(0.0265 \times 30.2 \text{ yrs.}) \times \$45,000 =$ (Benefit is capped at 80% of FAC)	\$36,000
H. Reduction for Annuity Withdrawal: $0.00736^* \times 12 \times 25,000 =$	2,208
I. Reduction for Line F Election $(1-0.88472)^* \times (G-H)$	<u>3,896</u>
J. Benefit Payable to Retirant while Spouse is Alive: G-H-I	\$29,896
K. Benefit Payable to Spouse after Retirant's Death	\$29,896
L. Benefit Payable to Retirant after Spouse's Death	\$29,896

PROJECTED BENEFITS:

Year Ended December 31	Retirant's Benefit (Retirant & Spouse Alive)	Spouse's Benefit (After Retirant's Death)	Retirant's Benefit (After Spouse's Death)
2014	\$29,896	\$29,896	\$29,896
2015	30,793	30,793	30,793
2016	31,690	31,690	31,690
2017	32,587	32,587	32,587
2018	33,484	33,484	33,484
2019	34,381	34,381	34,381
2020	35,278	35,278	35,278
2021	36,175	36,175	36,175
2022	37,072	37,072	37,072
2023	37,969	37,969	37,969

* Factors effective January 1, 2011.

In each succeeding year, the amount payable increases by \$897.

**SAMPLE BENEFIT COMPUTATIONS FOR *FIRE* MEMBER
RETIRING DECEMBER 31, 2013 (AND HIRED BEFORE JULY 1, 2008)**

DATA:

A.	<u>\$45,000</u>	Final Average Compensation (FAC)
B.	<u>30.2</u>	Years of Credited Service
C.	<u>55</u>	Age of Retirant
D.	<u>50</u>	Age of Spouse
E.	<u>25,000</u>	Annuity Withdrawal at Retirement (Available if hired before 1989)
F.	<u>100%</u>	Percentage of Pension to Continue to Spouse after retirant's death (Retirant makes this choice)

COMPUTATIONS:

	<u>Annual Amount</u>
G. Formula Benefit: $(0.0265 \times 30.2 \text{ yrs.}) \times \$45,000 =$ (Benefit is capped at 80% of FAC)	\$36,000
H. Reduction for Annuity Withdrawal: $0.00736^* \times 12 \times 25,000 =$	2,208
I. Reduction for Line F Election $(1-0.88472)^* \times (G-H)$	<u>3,896</u>
J. Benefit Payable to Retirant while Spouse is Alive: G-H-I	\$29,896
K. Benefit Payable to Spouse after Retirant's Death	\$29,896
L. Benefit Payable to Retirant after Spouse's Death	\$29,896

PROJECTED BENEFITS:

Year Ended December 31	Retirant's Benefit (Retirant & Spouse Alive)	Spouse's Benefit (After Retirant's Death)	Retirant's Benefit (After Spouse's Death)
2014	\$29,896	\$29,896	\$29,896
2015	30,793	30,793	30,793
2016	31,690	31,690	31,690
2017	32,587	32,587	32,587
2018	33,484	33,484	33,484
2019	34,381	34,381	34,381
2020	35,278	35,278	35,278
2021	36,175	36,175	36,175
2022	37,072	37,072	37,072
2023	37,969	37,969	37,969

* Factors effective January 1, 2011.

In each succeeding year, the amount payable increases by \$897.

**SAMPLE BENEFIT COMPUTATIONS FOR *HYBRID* MEMBER
TERMINATING DECEMBER 31, 2013
(ASSUMES CONTINUOUS HYBRID COVERAGE FROM DATE OF HIRE)**

DATA:

A.	<u>\$28,000</u>	Final Average Compensation
B.	<u>10</u>	Years of Credited Service
C.	<u>35</u>	Age of Member; Spouse's Age = 30
D.	<u>\$11,200</u>	Estimated Accumulated 4% Member Contributions

HYBRID ALTERNATIVES:

- A. Take a one-time cash distribution of 1.5 times \$11,200 = \$16,800, at age 35.
(Plan will not owe Member any other benefits.)
- B. Leave \$11,200 in Plan until age 60:
Assume the Accumulated Member Contributions are credited with 6.5%
return each year: the \$11,200 grows to \$54,070.

Choice B1: Cash option of 1.5 times \$54,070 = \$81,105

No further benefits are payable

Choice B2: Annual pension benefit = the greater of

- (a) 1.5% x 10 years x \$28,000 = \$4,200 OR
(b) 2 x \$54,070 / 12.2104# = \$8,856

plus cost-of-living adjustment* (COLA) each July 1 after one year of retirement.

Assume Member elects B2 under the Joint & 100% Survivor form of benefit and COLA rate = 2% each year:

$$\$8,856 \times 0.84909 = \$7,520$$

* COLA rate = lesser of 2% or the rate of change in the CPI in the prior calendar year; COLA rate is applied to benefit paid the prior July 1.

Factors effective January 1, 2011.

PROJECTED BENEFITS:

Year Ended December 31	Retirant's Benefit (Retirant & Spouse Alive)	Spouse's Benefit (After Retirant's Death)	Retirant's Benefit (After Spouse's Death)
2038	\$7,520	\$7,520	\$7,520
2039	7,670	7,670	7,670
2040	7,820	7,820	7,820
2041	7,970	7,970	7,970
2042	8,120	8,120	8,120

In each succeeding year, the amount payable increases (in this illustration) by \$150 (amount may vary if CPI applies).

**SAMPLE BENEFIT COMPUTATIONS FOR *HYBRID* MEMBER
RETIRING DECEMBER 31, 2013
(ASSUMES CONTINUOUS HYBRID COVERAGE FROM DATE OF HIRE)**

DATA:

A.	<u>\$45,000</u>	Final Average Compensation
B.	<u>32</u>	Years of Credited Service
C.	<u>60</u>	Age of Member; Spouse's Age = 55
D.	<u>\$57,600</u>	Estimated Accumulated 4% Member Contributions

HYBRID ALTERNATIVES:

- A. Take a one-time **cash distribution** of 1.5 times \$57,600 = \$86,400, at age 60.
(Plan will not owe Member any other benefits.)
- B. Elect a **annual pension benefit** = the greater of
 (a) 1.5% x 32 years x \$45,000 = \$21,600 OR
 (b) 2 x \$57,600 / 12.2104# = \$9,435
 plus cost of living adjustment* (COLA) each July 1 after one year of retirement.

Assume Member elects B under the Joint & 100% Survivor form of benefit and COLA rate = 2% each year:

$$\$21,600 \times .84909 = \$18,340$$

* COLA rate = lesser of 2% or the rate of change in the CPI in the prior calendar year; COLA rate is applied to benefit paid the prior July 1.

Factors effective January 1, 2011.

PROJECTED BENEFITS:

Year Ended December 31	Retirant's Benefit (Retirant & Spouse Alive)	Spouse's Benefit (After Retirant's Death)	Retirant's Benefit (After Spouse's Death)
2014	\$18,340	\$18,340	\$18,340
2015	18,707	18,707	18,707
2016	19,074	19,074	19,074
2017	19,441	19,441	19,441

In each succeeding year, the amount payable increases (in this illustration) by \$367 (amount may vary if CPI applies).

SUMMARY OF REPORTED ASSETS
AS OF DECEMBER 31, 2013

The ledger balances of the Retirement System as of December 31, 2013 were reported to the actuary to total \$135,144,666, as follows:

Accounts	December 31, 2013	December 31, 2012
Reserve for Employees' Contributions		
General members	\$ 4,031,696	\$ 4,011,214
Police and Fire members	3,829,283	3,749,221
Hybrid members	1,536,057	1,330,900
Totals	9,397,036	9,091,335
 Reserve for Employer Contributions		
General members	36,175,567	22,997,837
Police and Fire members	(7,463,444)	(5,246,233)
Hybrid members	3,919,463	2,362,823
Totals	32,631,586	20,114,427
 Reserve for Retired Members' Benefits	92,990,820	92,168,938
Reserve for DROP Accounts	125,224	61,835
 Reserve for Market Value Difference	0	0
 Market Value of Assets	\$135,144,666	\$121,436,535

SUMMARY OF FINANCIAL AND ACTUARIAL INFORMATION

Revenues and Expenditures

	Year Ended December 31	
	2013	2012
REVENUES:		
a. Member contributions	\$ 427,515	\$ 454,997
b. City contributions	1,410,555	1,234,754
c. Investment income		
1. Interest and dividends	1,999,826	2,580,592
2. Gain or (loss) on sales	18,940,148	10,659,335
3. Asset appreciation	0	0
d. Total revenues	22,778,044	14,929,678
EXPENDITURES:		
a. Refunds of member contributions	26,201	123,789
b. Annuity withdrawal	0	0
c. Retirement benefits paid	8,212,635	7,949,422
d. Miscellaneous	21,368	23,510
e. Investment expense	809,709	796,893
f. Total expenditures	9,069,913	8,893,614
RESERVE INCREASE:		
Total revenues minus total expenditures	\$ 13,708,131	\$ 6,036,064

Market Value of Assets

	2013	2012
Cash	\$ 0	\$ 83
Receivables/Payables	(449,306)	(198,404)
Other short-term	1,623,883	3,263,332
Accrued interest and dividends	376,769	392,192
Bonds - government	14,759,723	13,118,121
- corporate	27,384,418	26,321,739
- mortgages and foreign bonds	2,459,756	2,603,798
- other bonds	0	0
Stocks - common	33,049,280	27,279,313
- preferred	0	0
- other stocks	47,968,149	41,188,976
Real estate investments	7,962,426	7,458,563
Other assets	9,568	8,822
Total Market Value of Assets	135,144,666	121,436,535
Increase in Assets		
From reserve increase	13,708,131	6,036,064
Unreconciled difference	0	0

In financing the accrued service costs and reserves, the ledger balances of \$135,144,666 and the funding value adjustment were applied as follows:

	Ledger Balances applied to			
	Member Accrued Service Costs	Retirant and Beneficiary Benefits	Funding Value Adjustment	Total Assets Applied
Employees' Contributions*				
General members	\$ 4,031,696	\$ 0	\$ 0	\$ 4,031,696
Police and Fire members	3,829,283			3,829,283
Hybrid members	1,536,057			1,536,057
Totals	9,397,036	0	0	9,397,036
Employer Contributions				
General members	28,431,301	7,744,266	(2,511,324)	33,664,243
Police and Fire members	230,798	(7,694,242)	(2,134,111)	(9,597,555)
Hybrid members	3,192,331	727,132	(199,678)	3,719,785
Totals	31,854,430	777,156	(4,845,113)	27,786,473
Retired Benefit Payments [#]		93,116,044		93,116,044
Totals	\$41,251,466	\$93,893,200	\$(4,845,113)	\$130,299,553

* Split among divisions by Gabriel, Roeder, Smith & Company.

Includes reserves for DROP accounts.

RETIRANT AND BENEFICIARY COMPARATIVE SCHEDULE

Valuation Date December 31	Annual Allowances						Expected Removed Annual %	Ratio of No. Active to No. Retired	Annual Allowances as a % of Payroll		
	Added		Removed		End of Year						
	No.	Amount	No.	Amount	No.	Amount					
1982	7	\$ 41,756	4	\$ 12,959	87	\$ 350,200	9.0 %	3.1	5.9 %		
1983	6	32,102	3	4,898	90	377,404	7.8 %	3.4	\$ 8,469	2.9	6.0 %
1984	7	73,321	1	1,360	96	449,365	19.1 %	3.6	9,378	2.7	6.9 %
1985	11	106,338	9	28,916	98	526,787	17.2 %	3.7	10,476	2.7	7.8 %
1986	12	183,554	3	11,946	107	698,395	32.6 %	4.2	12,260	2.4	10.1 %
1987	4	61,683	2	4,513	109	755,565	8.2 %	4.3	13,750	2.4	10.7 %
1988	10	117,976	7	31,939	112	841,602	11.4 %	4.6	16,668	2.4	10.8 %
1989	10	133,485	7	30,728	115	944,359	12.2 %	4.6	18,465	2.2	12.1 %
1990	3	21,060	4	12,468	114	952,951	0.9 %	4.8	20,352	2.4	10.5 %
1991	19	250,460	8	30,706	125	1,172,705	23.1 %	4.6	21,722	2.1	13.3 %
1992	16	297,352	6	12,939	135	1,457,118	24.3 %	4.8	23,836	1.9	15.6 %
1993	10	308,378	7	42,985	138	1,722,511	18.2 %	4.8	24,445	1.9	18.7 %
1994	8	191,304	2	8,191	144	1,905,624	10.6 %	4.7	30,636	1.8	19.7 %
1995	19	350,373	9	114,849	153	2,141,148	12.4 %	4.4	71,016	1.6	22.1 %
1996	13	213,394	10	95,392	156	2,259,150	5.5 %	4.8	79,164	1.6	22.8 %
1997	13	259,745	4	34,781	165	2,484,114	10.0 %	5.1	55,092	1.5	23.6 %
1998	10	167,935	12	203,731	163	2,448,318	(1.4)%	5.1	48,216	1.6	23.1 %
1999	14	359,489	7	87,216	170	2,720,591	11.1 %	5.9	64,332	1.5	26.0 %
2000	8	161,432	5	35,632	173	2,846,392	16.3 %	6.2	71,448	1.5	24.0 %
2001	12	322,924	7	63,269	178	3,106,047	9.1 %	6.6	76,284	1.5	26.1 %
2002	4	103,833	4	23,884	178	3,185,996	2.6 %	7.0	83,736	1.5	25.5 %
2003	14	363,172	8	163,536	184	3,385,632	6.3 %	6.1	72,516	1.3	26.9 %
2004*	20	600,971	10	115,910	194	3,870,693	14.3 %	6.6	87,156	1.2	29.7 %
2005	15	886,100	7	73,162	202	4,683,631	21.0 %	6.6	115,488	1.2	35.4 %
2006	14	323,353	6	77,574	210	4,929,410	5.2 %	6.9	126,447	1.1	37.9 %
2007	10	397,641	10	123,374	210	5,203,677	5.6 %	7.3	142,544	1.1	38.9 %
2008	34	1,438,533	2	38,940	242	6,603,270	26.9 %	8.0	162,084	0.8	58.5 %
2009	9	351,759	8	142,896	243	6,812,133	3.2 %	8.1	167,980	0.8	61.6 %
2010#	10	321,610	4	69,176	249	7,064,567	3.7 %	8.7	180,172	0.7	65.7 %
2011	16	854,874	2	44,768	263	7,874,673	11.5 %	9.4	201,591	0.6	81.7 %
2012	8	390,843	3	51,290	268	8,214,226	4.3 %	10.2	218,184	0.6	86.1 %
2013	7	274,106	8	131,955	267	8,356,377	1.7 %	10.6	235,203	0.6	87.7 %

* Annual allowances do not include one-time adjustments made to non-COLA retirees after December 31, 2004.

Annual allowances do not reflect the fixed COLA increase applied to eligible retirees, for valuation purposes.

RETIRANTS AND BENEFICIARIES DECEMBER 31, 2013
TABULATED BY TYPE OF ALLOWANCES BEING PAID

Type of Allowances Being Paid	No.	Annual Allowances
<i>Age and Service Allowances</i>		
Option A allowance - benefit terminating at death of retiree	68	\$2,204,222
Option B allowance - 100% joint and survivor benefit	67	2,278,829
Option C allowance - 50% joint and survivor benefit	46	1,953,716
Option D 120 - 120 months certain and life	18	608,566
Option E	2	20,618
Allowance to survivor beneficiary of deceased retiree	34	598,878
Total age and service allowances	235	7,664,829
<i>Casualty Allowances</i>		
Duty disability allowance	4	91,165
Non-duty disability allowance	18	400,575
Total Non-duty disability	22	491,740
Allowance to survivor beneficiary of deceased member		
Duty death	0	0
Non-duty death	10	199,808
Total	10	199,808
Total casualty allowances	32	691,548
<i>Total Allowances Being Paid</i>	267	\$8,356,377

RETIRANTS AND BENEFICIARIES DECEMBER 31, 2013
TABULATED BY ATTAINED AGE

Attained Ages	Age & Service		Casualty		Totals	
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
Under 40	1	\$ 41,839	1	\$ 3,203	2	\$ 45,042
40-44						
45-49						
50-54	12	715,841	2	41,572	14	757,413
55-59	37	1,618,020	9	284,063	46	1,902,083
60	6	214,530			6	214,530
61	5	236,210	1	16,601	6	252,811
62	9	383,206	1	10,145	10	393,351
63	7	240,665			7	240,665
64	13	482,021	1	30,214	14	512,235
65	17	672,625	1	29,852	18	702,477
66	4	100,137	2	30,715	6	130,852
67	8	356,683	1	6,242	9	362,925
68	3	160,969			3	160,969
69	7	219,083			7	219,083
70	4	147,860	1	19,826	5	167,686
71	4	37,482			4	37,482
72	8	170,551			8	170,551
73	6	148,937			6	148,937
74	10	226,102			10	226,102
75	4	67,160	1	34,988	5	102,148
76	5	111,801	1	22,021	6	133,822
77	3	90,657	2	46,617	5	137,274
78	10	275,965	1	18,435	11	294,400
79	4	90,065			4	90,065
80	3	39,860			3	39,860
81	5	57,304	1	11,647	6	68,951
82	6	116,127			6	116,127
83	7	103,674	2	22,677	9	126,351
84	4	82,183	2	44,749	6	126,932
85	3	83,963			3	83,963
86	5	99,588			5	99,588
87	2	32,198			2	32,198
88	1	20,778	1	3,951	2	24,729
89	1	34,292			1	34,292
90 & Over	11	186,452	1	14,031	12	200,483
Totals	235	\$7,664,828	32	\$691,549	267	\$8,356,377

ACTIVE MEMBERS DECEMBER 31, 2013

TABULATED BY VALUATION DIVISIONS

Valuation Divisions	Teamsters		Others		Total	
	No.	Annualized	No.	Annualized	No.	Annualized
		Payroll		Payroll		Payroll
General members	9	\$ 438,292	21	\$1,296,015	30	\$1,734,307
Police and Fire members	0	0	50	3,570,099	50	3,570,099
Water Department members	7	395,691	4	288,676	11	684,367
Sewage Disposal members	7	365,440	5	348,936	12	714,376
Hybrid members	0	0	57	2,821,274	57	2,821,274
Total Active Members	23	\$1,199,423	137	\$8,325,000	160	\$9,524,423

Also included in the valuation were 19 former members eligible for a deferred pension.

Comparative Schedule

Valuation Date December 31	Active Members						Annualized Payroll	Average			% Inc.
	Gen.	P.F.	Water	Sew.	Hybrid	Total		Age	Service	Pay	
1982	118	95	29	26		268	\$ 5,978,924	40.4	11.4	\$22,309	9.0 %
1983	116	94	29	25		264	6,311,002	40.8	12.1	23,905	7.2 %
1984	112	93	29	26		260	6,551,873	40.8	12.3	25,200	5.4 %
1985	113	95	29	27		264	6,791,152	40.7	12.4	25,724	2.1 %
1986	113	94	28	24		259	6,898,835	40.5	12.4	26,636	3.5 %
1987	108	90	29	25		252	7,082,224	41.1	13.1	28,104	5.5 %
1988	108	94	28	28		258	7,827,433	41.1	13.1	30,339	8.0 %
1989	101	94	30	28		253	7,787,845	41.2	13.3	30,782	1.5 %
1990	121	95	28	28		272	9,106,876	41.2	13.1	33,481	8.8 %
1991	108	92	32	29		261	8,817,472	41.1	13.1	33,783	0.9 %
1992	109	87	32	29		257	9,354,039	41.1	12.6	36,397	7.7 %
1993	110	88	30	31		259	9,190,716	41.2	13.0	35,485	(2.5)%
1994	106	87	29	31		253	9,651,905	41.8	13.4	38,150	7.5 %
1995	109	86	27	29		251	9,707,937	41.3	12.9	38,677	1.4 %
1996	106	86	27	31		250	9,923,449	41.4	12.8	39,694	2.6 %
1997	89	87	28	31	17	252	10,529,013	41.5	13.1	41,782	5.3 %
1998	80	88	27	30	29	254	10,584,003	42.2	13.2	41,669	(0.3)%
1999	76	83	25	30	35	249	10,474,154	42.7	13.2	42,065	0.9 %
2000	73	85	23	28	46	255	11,856,866	42.6	13.1	46,498	10.5 %
2001	72	85	23	28	51	259	11,906,969	43.0	13.2	45,973	(1.1)%
2002	71	87	23	27	51	259	12,514,944	43.8	13.9	48,320	5.1 %
2003	66	86	21	26	46	245	12,572,735	44.2	14.5	51,317	6.2 %
2004	60	86	21	23	52	242	13,015,922	43.9	13.9	53,785	6.2 %
2005	59	85	20	21	62	247	13,232,960	43.8	13.3	53,575	(0.4)%
2006	56	85	19	21	60	241	13,007,162	44.2	13.8	53,972	0.7 %
2007	54	82	18	21	57	232	13,371,922	45.1	14.6	57,638	6.8 %
2008	44	71	15	13	49	192	11,289,204	44.6	13.6	58,798	2.0 %
2009	41	67	14	14	53	189	11,061,644	45.2	14.1	58,527	(0.5)%
2010	37	62	13	14	54	180	10,758,097	45.9	14.7	59,767	2.1 %
2011	36	45	13	12	51	157	9,636,542	46.7	15.4	61,379	2.7 %
2012	33	50	11	12	56	162	9,543,247	46.0	14.7	58,909	(4.0)%
2013	30	50	11	12	57	160	9,524,423	46.6	15.2	59,528	1.1 %

GENERAL ACTIVE MEMBERS - DECEMBER 31, 2013
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34									
35-39				1				1	\$ 52,166
40-44					1			1	90,701
45-49				4	1	3		8	445,750
50-54				1	3	5	1	10	551,683
55-59				2	4	2		8	429,226
60					1			1	62,457
62		1						1	102,324
Totals		1		8	10	10	1	30	\$1,734,307

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

Age: 52.2 years

Service: 23.0 years

Annual Pay: \$57,810

POLICE ACTIVE MEMBERS - DECEMBER 31, 2013
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	2							2	\$ 85,892
25-29	5							5	231,749
30-34	2	1						3	161,439
35-39		1	7					8	624,663
40-44		2	1	4				7	542,597
45-49				2	4	2		8	601,613
50-54					3	1		4	334,048
55-59						1		1	92,916
Totals	9	4	8	6	7	4		38	\$2,674,917

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

Age: 40.1 years

Service: 13.5 years

Annual Pay: \$70,393

FIRE DEPARTMENT ACTIVE MEMBERS - DECEMBER 31, 2013
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
35-39			2	1				3	\$222,673
40-44		1	2		1			4	276,087
45-49				1	1			2	160,464
50-54			1		1			2	165,048
55-59			1					1	70,910
Totals		1	6	2	3			12	\$895,182

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

Age: 44.9 years

Service: 15.5 years

Annual Pay: \$74,599

WATER DEPARTMENT ACTIVE MEMBERS - DECEMBER 31, 2013
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
35-39				1				1	\$ 56,100
40-44					1			1	55,421
45-49				3	1	1		5	304,196
50-54					2	1	1	4	268,650
Totals				4	4	2	1	11	\$684,367

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

Age: 48.3 years

Service: 22.6 years

Annual Pay: \$62,215

SEWAGE DISPOSAL ACTIVE MEMBERS - DECEMBER 31, 2013
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
40-44				1	1			2	\$128,089
45-49						2		2	112,719
50-54				1	2		2	5	275,252
55-59				2		1		3	198,316
Totals				4	3	3	2	12	\$714,376

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

Age: 51.3 years

Service: 23.1 years

Annual Pay: \$59,531

HYBRID ACTIVE MEMBERS - DECEMBER 31, 2013
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
25-29	2							2	\$73,898
30-34	2							2	63,161
35-39	2	4	2	2				10	476,783
40-44	5	3	4	1				13	775,090
45-49	1	3	4					8	359,795
50-54	2	2	3					7	284,042
55-59	1	4	2	2	1			10	519,533
60			1					1	59,815
61		1						1	74,941
62				1				1	42,660
63		1						1	49,443
64			1					1	42,113
Totals	15	18	17	6	1			57	\$2,821,274

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

Age: 47.1 years

Service: 9.0 years

Annual Pay: \$49,496

ACTIVE MEMBERS ADDED TO AND REMOVED FROM ROLLS

Year Ended December 31	Number Added During Year		Terminations During Year								Active Members End of Year
			Retired		Disabled		Died-in-Service		Other		
	A	E	A	E	A	E	A	E	A	E	
1999	11	16	9	3.6	0	0.5	0	0.5	7	11.7	249
2000	18	12	8	3.7	1	0.5	0	0.6	3	10.7	255
2001	13	9	6	4.0	0	0.5	0	0.5	3	11.2	259
2002*	7	7	2	7.2	0	0.2	0	0.2	5	3.4	259
2003	4	18	9	8.1	2	0.2	0	0.2	7	7.2	245
2004	16	19	16	7.2	0	0.3	0	0.3	3	7.2	242
2005	21	16	11	7.2	0	0.3	0	0.3	5	7.2	247
2006	8	14	9	7.9	0	0.2	1	0.2	4	2.5	241
2007	2	11	5	9.1	0	0.3	0	0.3	6	7.5	232
2008	3	43	34	8.7	0	0.3	0	0.2	9	5.6	192
2009*	4	7	3	2.6	2	0.3	1	0.2	1	4.1	189
2010	1	10	7	5.1	1	0.4	0	0.2	2	3.9	180
2011	2	25	13	5.7	0	0.4	0	0.2	12	3.1	157
2012	15	10	5	3.8	2	0.4	0	0.2	3	2.5	162
2013	9	11	3	4.1	0	0.4	1	0.2	7	4.0	160
15-Year Total	134	228	140	88.0	8	5.2	3	4.3	77	91.8	

* Change in assumptions

“A” denotes actual experience

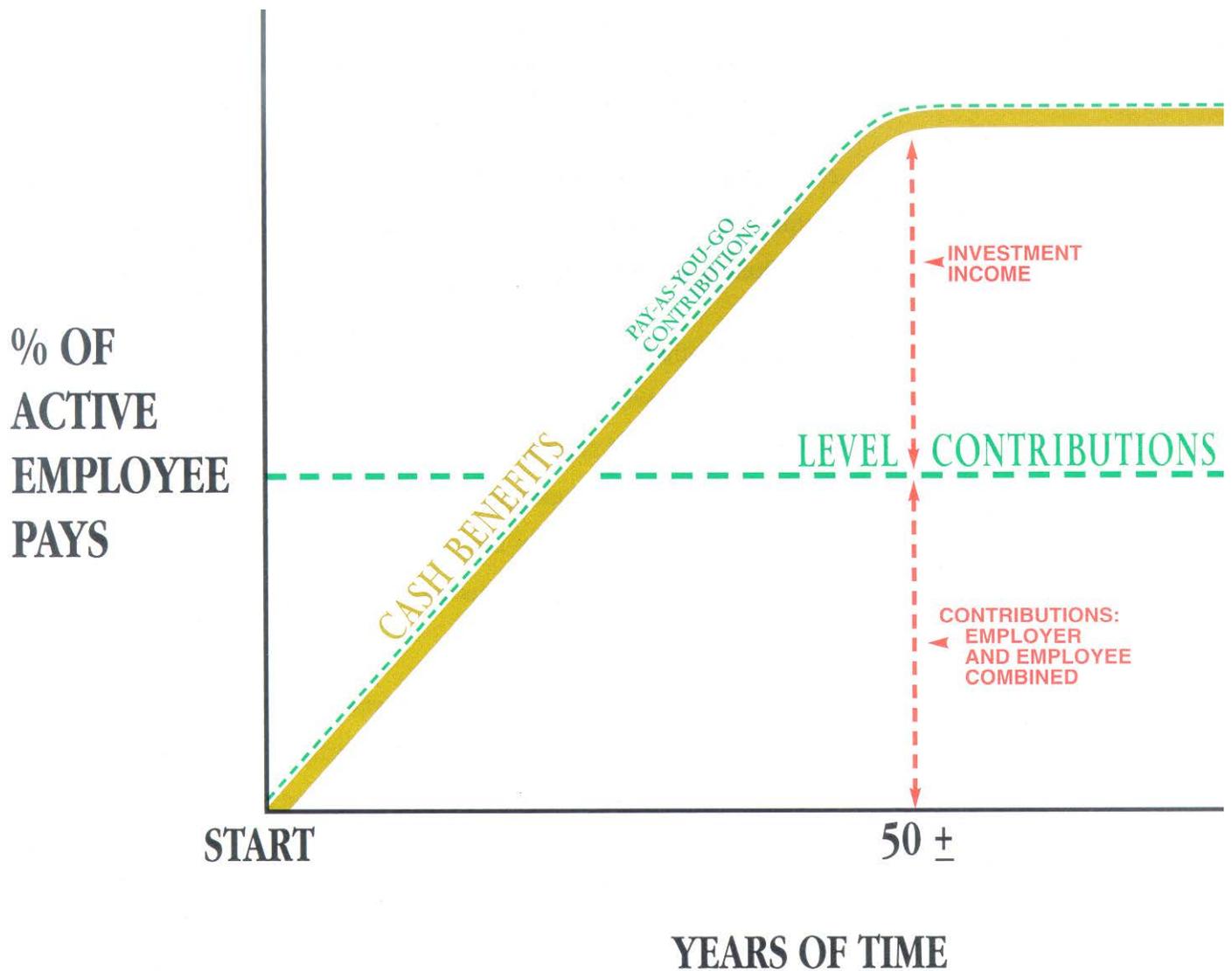
“E” denotes expected experience

DEFERRED MEMBERS

	Count	Average Benefit
General	6	8,560
Police	0	0
Fire	3	30,054
Hybrid	10	5,697
Total	19	10,447

SECTION C

**ACTUARIAL VALUATION PROCESS, ACTUARIAL
COST METHODS, ACTUARIAL ASSUMPTIONS,
AND DEFINITIONS OF TECHNICAL TERMS**



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

A. *Covered person data*, furnished by plan administrator.

Retired lives now receiving benefits

Former employees with vested benefits not yet payable

Active employees

B. + *Asset data* (cash & investments), furnished by plan administrator

C. + *Assumptions concerning future financial experience in various risk areas*, which assumptions are established by the Pension Board after consulting with the actuary

D. + *A schedule of benefits* to be provided by the plan

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

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

G. = Determination of:

Plan Financial Position

and/or *Employer's New Contribution Rate*

ACTUARIAL COST METHODS USED FOR THE DECEMBER 31, 2013 VALUATION

Normal Costs were calculated as follows:

The series of contributions payable from date of employment to accumulate the reserve of each member's projected allowance at time of retirement, death, or disability was computed using the assumptions summarized on the following pages. Each contribution in the series is a constant percentage of the member's year-by-year projected covered compensation. This method is commonly referred to as the entry-age actuarial cost method.

Actuarial Accrued Liability was computed and financed as follows:

Retirants and Beneficiaries. The actuarial present value of retirement allowances likely to be paid retirants and beneficiaries was computed using the investment return and mortality assumptions. This amount was financed by applicable actuarial assets.

Active and Inactive Members. The portion of the actuarial present value of benefits likely to be paid active and inactive members that is not covered by future normal cost contributions was computed using the assumptions outlined on the following pages. **The computed amount was reduced by applicable assets.**

Amortization Charges and Credits: Each year's unfunded actuarial accrued liability is amortized over a 26 year period.

Assets were valued using a 7-year smoothing method illustrated on page A-7.

**SCHEDULE OF AMORTIZATIONS FOR
DEVELOPMENT OF EMPLOYER CONTRIBUTION RATES
ATTRIBUTABLE TO GAINS, LOSSES, AND PLAN AMENDMENTS**

<u>Description</u>	<u>Unfunded (Overfunded)</u>	<u>Amortization Years</u>		<u>Amortization Charge/(Credit)</u>	
		<u>Initial</u>	<u>Remaining</u>	<u>\$</u>	<u>% of Pay</u>
GENERAL	\$ (12,472,460)	30	26	\$ (823,000)	(24.10)%
HYBRID	(712,395)	30	26	(42,744)	(1.39)%
POLICE	7,369,839	30	26	477,864	16.39 %
FIRE	<u>8,223,690</u>	30	26	<u>533,525</u>	54.68 %
TOTAL	\$ 2,408,674			\$ 145,645	

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The actuary calculates contribution requirements and actuarial present values for a retirement system by applying actuarial assumptions to the benefit provisions and people information of the system, using the actuarial cost methods described on page C-3.

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

- (i) long-term rates of investment return to be generated by the assets of the system
- (ii) patterns of pay increases to members
- (iii) rates of mortality among members, retirants and beneficiaries
- (iv) rates of withdrawal of active members
- (v) rates of disability among active members
- (vi) the age patterns of actual retirements

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

The employer contribution rate has been computed to remain level from year to year so long as benefits and the basic experience and make-up of members do not change. Examples of favorable experience which would tend to reduce the employer contribution rate are:

- (1) Investment returns in excess of 7.5 % per year.
- (2) Member terminations at a higher rate than outlined on page C-9.
- (3) Mortality among retirants and beneficiaries at a higher rate than indicated by the Mortality Table that is assumed.
- (4) Increases in the number of active members.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

Examples of unfavorable experience which would tend to increase the employer contribution rate are:

- (1) Pay increases in excess of the rates outlined on page C-8.
- (2) An acceleration in the rate of retirement from the rates outlined on page C-10.
- (3) A pattern of hiring employees at older ages than in the past.

Actual experience of the system will not coincide exactly with assumed experience, regardless of the skill of the actuary and the precision of the calculations. 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 one or more of the assumptions are modified to reflect experience trends (but not random or temporary year-to-year fluctuations).

**ACTUARIAL ASSUMPTIONS USED
FOR THE DECEMBER 31, 2013 VALUATION**

Investment Return

The investment return rate assumed in the valuations was 7.5% per year, compounded annually (net after administrative expenses).

The **Wage Inflation Rate** assumed in this valuation was 3.5% per year. The Wage Inflation Rate is defined to be the portion of total pay increases for an individual that are due to macro economic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes rated to individual merit and seniority effects.

While an exact **Price Inflation** assumption is not required to perform this valuation, we have assumed price inflation would not be lower than the fixed cost-of-living assumption (2% or 3% depending on division). A price inflation assumption on the order of 3.5% to 4.0% would be consistent with the other economic assumptions.

The assumed **real rate of return** over wage inflation is defined to be the portion of total investment return that is more than the assumed total wage growth rate. Considering other economic assumptions, the 7.5% investment return rate translates to an assumed real rate of return over wage inflation of 4.0%. The assumed real rate of return over price inflation would be higher – on the order of 3.5% to 4.5%, considering both an inflation assumption and an average expense provision.

The Active Member Population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at the wage inflation rate – 3.5% per year.

Pay increase assumptions for individual active members are shown for sample ages on page C-8. Part of the assumption for each age is for merit and/or seniority increase, and the other 3.5% recognizes wage inflation, including price inflation, productivity increases, and other macro economic forces. Changes actually experienced in average pay and total payroll have been as follows:

Increase in	Year Ended					3-Year Average	5-Year Average
	2013	2012	2011	2010	2009		
Average pay	1.1 %	(4.0)%	2.7 %	2.1 %	(0.5)%	(0.1)%	0.3 %
Total payroll	(0.2)%	(1.0)%	(10.4)%	(2.7)%	(2.0)%	(4.0)%	(3.3)%

The nominal rate of return was computed using the approximate formula $i = I$ divided by $1/2 (A + B - I)$, where I is recognized investment income net of expenses, A is the beginning of year funding value of assets, and B is the end of year funding value.

These rates of return should not be used for measurement of an investment advisor’s performance or for comparisons with other systems -- *to do so will mislead*.

Pay Projections. These assumptions are used to project current pays to those upon which benefits will be based. The assumptions were first used for the December 31, 2009 valuation.

Sample Ages	Annual Rate of Pay Increase for Sample Ages					
	General, Water, Sewage, Hybrid			Police - Fire		
	Base (Economic)	Merit & Longevity	Total	Base (Economic)	Merit & Longevity	Total
20	3.5%	3.0%	6.5%	3.5%	2.3%	5.8%
25	3.5%	2.4%	5.9%	3.5%	2.3%	5.8%
30	3.5%	2.1%	5.6%	3.5%	2.0%	5.5%
35	3.5%	1.9%	5.4%	3.5%	0.8%	4.3%
40	3.5%	1.7%	5.2%	3.5%	0.2%	3.7%
45	3.5%	1.3%	4.8%	3.5%	0.2%	3.7%
50	3.5%	0.9%	4.4%	3.5%	0.2%	3.7%
55	3.5%	0.5%	4.0%	3.5%	0.1%	3.6%
60	3.5%	0.1%	3.6%	3.5%	0.0%	3.5%
65	3.5%	0.0%	3.5%	3.5%	0.0%	3.5%
Ref.		354			353	

If the number of active members remains constant, the total active member payroll will increase 3.5% annually, the base portion of the individual pay increase assumptions. This increasing payroll was partially recognized in amortizing unfunded actuarial accrued liabilities.

Mortality Table. The RP2000 Mortality Table. This table was first used for the December 31, 2009 valuations. The mortality table is selected by the Board of Trustees. This assumption is needed to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. Sample values follow:

Sample Attained Ages	Single Life Retirement Values			
	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Men	Women	Men	Women
55	\$133.68	\$138.42	26.18	28.91
60	123.21	129.20	21.74	24.38
65	110.73	118.12	17.61	20.12
70	96.66	105.41	13.88	16.23
75	81.22	91.30	10.57	12.74
80	65.29	76.14	7.75	9.68
Ref:	506 x 1.00	507 x 1.00		

The membership size in this group is not sufficiently large to determine if there is a margin for mortality improvements. However, based upon our experience with a broad cross section of public sector plans similar in nature to this plan, it is our opinion that there is no provision for future mortality improvement in the current mortality assumption. We recommend this table be updated with the next experience study to include additional margin for future improvement in mortality.

Rates of separation from active membership. The rates apply to members separating from active employment before retirement, death or disability. It was assumed that general, water and sewage members who quit prior to age 45 will withdraw their accumulated contributions. For Police and Fire, age 50 was assumed.

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		General, Water, and Sewage	Hybrid	Police	Fire
ALL	0	24.00%	24.00%	9.60%	8.00%
	1	16.00%	16.00%	7.20%	5.60%
	2	12.00%	12.00%	5.60%	4.00%
	3	8.00%	8.00%	4.00%	3.20%
	4	5.60%	5.60%	3.60%	2.80%
20	5 & Over	3.60%	7.20%	2.70%	2.10%
25		3.60%	7.20%	2.70%	2.10%
30		3.30%	6.60%	2.34%	1.74%
35		2.64%	5.28%	1.38%	0.90%
40		1.11%	2.22%	0.54%	0.36%
45		0.75%	1.50%	0.30%	0.30%
50		0.75%	1.50%	0.30%	0.30%
55		0.75%	1.50%	0.30%	0.30%
60		0.75%	1.50%	0.30%	0.30%
65		0.75%	1.50%	0.30%	0.30%
Ref.		11 x 0.8 59 x 0.6	11 x 0.8 59 x 1.2	29 x 0.8 53 x 0.6	30 x 0.8 54 x 0.6

The rates in this table were first used in the December 31, 2009 valuation.

Rates of Disability. These assumptions represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled Within Next Year	
	General, Water, Sewage and Hybrid	Police and Fire
20	0.04%	0.12%
25	0.04%	0.12%
30	0.04%	0.12%
35	0.04%	0.12%
40	0.10%	0.30%
45	0.13%	0.40%
50	0.25%	0.74%
55	0.45%	1.34%
60	0.71%	2.12%
65	0.83%	2.49%
Ref.	9 x 0.5	9 x 1.5

The rates in this table were first used in the December 31, 2009 valuation.

Rates of Retirement. These rates are used to measure the probabilities of an eligible member retiring during the next year.

Retirement Ages	Percent of Active Members Retiring within Next Year*					Rule of 80
	General, Water, and Sewage	Appointed	Hybrid	Police	Fire	General, Water, and Sewage
50				40.0%	40.0%	20.0%
51				30.0%	30.0%	20.0%
52				25.0%	25.0%	20.0%
53				25.0%	25.0%	20.0%
54				25.0%	25.0%	20.0%
55	25.0%	22.5%	20.0%	25.0%	25.0%	25.0%
56	25.0%	15.0%	20.0%	25.0%	25.0%	25.0%
57	25.0%	15.0%	20.0%	25.0%	25.0%	25.0%
58	25.0%	15.0%	20.0%	25.0%	25.0%	25.0%
59	25.0%	15.0%	20.0%	25.0%	25.0%	25.0%
60	25.0%	22.5%	40.0%	50.0%	100.0%	30.0%
61	25.0%	12.0%	40.0%	50.0%		30.0%
62	25.0%	22.5%	40.0%	50.0%		30.0%
63	25.0%	13.5%	40.0%	50.0%		30.0%
64	25.0%	22.5%	40.0%	50.0%		30.0%
65	50.0%	70.0%	40.0%	100.0%		50.0%
66	50.0%	30.0%	40.0%			50.0%
67	50.0%	40.0%	40.0%			50.0%
68	50.0%	50.0%	40.0%			50.0%
69	50.0%	60.0%	40.0%			50.0%
70	100.0%	100.0%	100.0%			100.0%
Ref.	1865	1867	1868	1869	1870	1866

* Fire members and Police members hired prior to 7/1/2008, retirement rates were changed to 75% once members reach 30.2 years of service. For Police members hired on or after 7/1/2008, retirement rates were changed to 75% once members reach 37.2 years of service.

The rates in this table were first used in the December 31, 2009 valuation.

The above probabilities apply to members satisfying the conditions described on page B-5.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
DECEMBER 31, 2013

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits for General and Police/Fire members. 80% of males and 70% of females are assumed to be married for purposes of death-in-service benefits for Hybrid members. Male spouses are assumed to be three years older than female spouses for active member valuation purposes. In retired or inactive cases where spouse information is needed, but not available, the three-year age difference is also assumed.
Pay Increase Timing:	Beginning of (Fiscal) year for all groups. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year 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 mortality decrements do not operate during the first 10 years of service.
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.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Normal Form of Benefit:	The assumed normal form of benefit is a straight life benefit, except where otherwise noted.
Final Average Compensation (FAC) Adjustment:	The normal cost and actuarial accrued liability, for age and service benefits were increased by 4% for the General and Hybrid members and 2% for the Police and Fire members to account for inclusion of longevity, overtime pay, vacation pay, etc. in the FAC used to calculate retirement benefits.
Option Factors:	Option factors are based upon 7.5% interest and the RP2000 Mortality table with a 90% Unisex Blend. The Annuity Withdrawal reduction factor is based upon 7.50% interest and the RP2000 Mortality table with a 50% Unisex Blend.

DEFINITIONS OF TECHNICAL TERMS

Accrued Service. Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as “past service liability”.

Actuarial Assumptions. Estimates of future 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 benefits” between future normal costs and actuarial accrued liability. Sometimes referred to as the “actuarial funding method”.

Actuarial Equivalent. One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

Actuarial Gain (Loss). The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payments.

DEFINITIONS OF TECHNICAL TERMS

Amortization. Paying off an interest-discounted amount with periodic payments of interest and (generally) principal -- as opposed to paying off with a lump sum payment.

Credited Projected Benefit. The portion of a member's projected benefit attributable to service before the valuation date - allocated based on the ratio of accrued service to projected total service and based on anticipated future compensation.

Normal Cost. The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as "current service cost".

Unfunded Actuarial Accrued Liabilities. The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as "unfunded past service liability" or "unfunded supplemental present value".

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs.

The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in its amount (after due allowance for devaluation of the dollar).

Valuation Assets. The value of cash, investments and other property belonging to a pension plan, as used for the purpose of an actuarial valuation.

PUBLIC EMPLOYEE RETIREMENT INVESTMENT ACT
ACT 729 OF 2002
REQUIRED EMPLOYER CONTRIBUTIONS

Sec. 20m. The governing board vested with the general administration, management, and operation of a system or other decision-making body that is responsible for implementation and supervision of any system shall confirm in the annual actuarial valuation and the summary annual report required under section 20h(2) that each plan under this act provides for the payment of the required employer contribution as provided in this section and shall confirm in the summary annual report that the system has received the required employer contribution for the year covered in the summary annual report. The required employer contribution is the actuarially determined contribution amount. An annual required employer contribution in a plan under this act shall consist of a current service cost payment and a payment of at least the annual accrued amortized interest on any unfunded actuarial liability and the payment of the annual accrued amortized portion of the unfunded principal liability. For fiscal years that begin before January 1, 2006, the required employer contribution shall not be determined using an amortization period greater than 40 years. For years that begin after December 31, 2005, the required employer contribution shall not be determined using an amortization period greater than 30 years. In a plan year, any current service cost payment may be offset by a credit for amortization of accrued assets, if any, in excess of actuarial accrued liability. A required employer contribution for a plan administered under this act shall allocate the actuarial present value of future plan benefits between the current service costs to be paid in the future and the actuarial accrued liability. The governing board vested with the general administration, management, and operation of a system or other decision-making body of a system shall act upon the recommendation of an actuary and the board and the actuary shall take into account the standards of practice of the actuarial standards board of the American Academy of Actuaries in making the determination of the required employer contribution.

SECTION D

**FINANCIAL REPORTING IN COMPLIANCE
WITH GOVERNMENTAL ACCOUNTING
STANDARDS BOARD (GASB) REQUIREMENTS**

FINANCIAL REPORTING IN COMPLIANCE WITH GOVERNMENTAL ACCOUNTING STANDARDS BOARD (GASB) REQUIREMENTS

The provisions of GASB Statement No. 25 became effective for periods beginning after June 15, 1996. This Statement established financial reporting standards for defined benefit *plans*. (GASB Statement No. 27, which is effective for periods beginning after June 15, 1997 establishes standards for the financial reports of state and local governmental *employers* with regard to pension expense and related liabilities, as well as required supplementary information.)

Defined benefit plan reporting under Statement No. 25 will include two financial statements with notes and two required schedules with notes. In response, the following exhibits appear on the next several pages:

- **Statement of Plan Net Assets Available for Benefits** (page D-2) provides information about the market value of plan assets by investment category.
- **Statement of Changes in Plan Net Assets Available for Benefits** (page D-3) shows a reconciliation of beginning-of-year market value with the end-of-year market value.

The relevant notes to the financial statements are on pages D-4 and D-5.

- **The Schedule of Funding Progress** (page D-6) shows the most recent thirteen-year history of the actuarial value of assets, actuarial accrued liability, their relationship, and the relationship of the unfunded actuarial accrued liability to payroll.
- **The Schedule of Employer Contributions** (page D-7) provides a history of the City's Annual Required Contribution (ARC) and a year-by-year comparison of the ARC to the actual City contributions.

A summary of actuarial methods and assumptions completes the Statement No. 25 information on page D-8.

**STATEMENT OF PLAN NET ASSETS
AS OF DECEMBER 31, 2012 AND 2013**

	2013	2012
Assets		
Cash and short-term investments		
Cash	\$ 0	\$ 83
Money market mutual funds	1,623,883	3,263,332
Subtotals	1,623,883	3,263,415
Receivables		
Accounts receivable/(payable)	(449,306)	(198,404)
Accrued interest and dividends	376,769	392,192
Subtotals	(72,537)	193,788
Investments, at fair value		
Bonds - government	14,759,723	13,118,121
- corporate	27,384,418	26,321,739
- foreign bonds	2,459,756	2,603,798
Stocks - common	33,049,280	27,279,313
- preferred	0	0
- other equity	15,906,773	13,894,893
Mutual Funds	32,061,376	27,294,083
Real Estate & Mortgages	7,962,426	7,458,563
Other Assets	9,568	8,822
Subtotals	133,593,320	117,979,332
Net assets held in trust for pension benefits (A schedule of funding progress for the plan is presented on page D-6)	\$135,144,666	\$121,436,535

**STATEMENT OF CHANGES IN PLAN NET ASSETS
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2013**

	Reconciliation as of December 31, 2013	Reconciliation as of December 31, 2012
	<hr/>	<hr/>
Additions		
Contributions		
Employer	\$ 1,410,555	\$ 1,234,754
Plan members	427,515	454,997
Total contributions	<hr/> 1,838,070	<hr/> 1,689,751
Investment return		
Net appreciation	0	0
Interest and dividends	1,999,826	2,580,592
Gain on sale of securities	18,940,148	10,659,335
Miscellaneous	0	0
	<hr/> 20,939,974	<hr/> 13,239,927
Less investment expense	809,709	796,893
Net investment return	<hr/> 20,130,265	<hr/> 12,443,034
Total additions	21,968,335	14,132,785
Deductions		
Benefits	8,212,635	7,949,422
Refunds of contributions	26,201	123,789
Other	21,368	23,510
Total deductions	<hr/> 8,260,204	<hr/> 8,096,721
Net increase	13,708,131	6,036,064
Net assets held in trust for pension benefits		
Beginning of year	<hr/> 121,436,535	<hr/> 115,400,471
End of year	<hr/> <hr/> \$135,144,666	<hr/> <hr/> \$121,436,535

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2013**

Plan Description and Contribution Information

Membership information as of December 31, 2013, the date of the latest actuarial valuation, is as follows:

	General	Police	Fire	Hybrid	Total
Retirees and beneficiaries	143	50	59	15	267
Terminated vested members	6	0	3	10	19
Active members	53	38	12	57	160
Total	202	88	74	82	446

Plan Description. The City of Monroe Employees Retirement System is a single-employer defined benefit pension plan that includes hybrid (combination of defined benefit and defined contribution) features and covers the General, Police, Fire, Water Department, and Sewage Disposal employees of the City of Monroe.

The plan provides retirement, disability, death, and termination benefits to eligible plan members and their beneficiaries.

Contributions. Plan members contribute between 2.0% and 5.5% of annual pay to the Fund depending on the unit in which they are employed. See the table on page B-5.

The employer’s funding policy provides for periodic employer contributions based upon a *fundamental financial objective of having rates of contribution which remain relatively level from generation to generation of the City of Monroe citizens.* To determine the employer contribution rates and to assess the extent to which the fundamental financial objective is being achieved, the System has actuarial valuations prepared annually. In preparing those valuations, the entry age actuarial cost method is used to determine normal cost and actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized by level percent-of-payroll contributions over a period of future years not in excess of 30.

On the basis of the December 31, 2013 actuarial valuation, the employer contribution rates were determined to be as follows:

Contributions for	Percents of Active Member Payroll				
	General	Police	Fire	Hybrid	Total
(1) Normal Cost	14.54 %	19.38 %	21.16 %	9.15 %	14.96 %
(2) Accrued Liability	(24.10)%	16.39 %	54.68 %	(1.39)%	5.91 %
(3) Total	(9.56)%	35.77 %	75.84 %	7.76 %	20.87 %
(4) Member Contribution	4.22 %	5.44 %	5.49 %	3.69 %	4.53 %
(5) Net	(13.78)%	30.33 %	70.35 %	4.07 %	16.34 %
(6) Employer Rate: (5) but not less than 0%	0.00 %	30.33 %	70.35 %	4.07 %	16.34 %

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS
(DOLLAR AMOUNTS IN THOUSANDS)

Actuarial Valuation Date December 31	Actuarial Value of Assets (a)	Actuarial Liability (AAL) Entry Age (b)	Unfunded (Overfunded) AAL (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll [(b)-(a)]/(c)
2001	\$ 110,126	\$ 72,033	\$ (38,093)	152.9 %	\$ 11,907	-
2002	110,362	81,224	(29,138)	135.9 %	12,515	-
2003	110,752	86,365	(24,387)	128.2 %	12,573	-
2004	111,524	98,058	(13,466)	113.7 %	13,016	-
2005	118,935	101,937	(16,998)	116.7 %	13,233	-
2006	124,033	105,394	(18,639)	117.7 %	13,007	-
2007	130,366	110,753	(19,613)	117.7 %	13,372	-
2008	130,512	117,030	(13,482)	111.5 %	11,289	-
2009	131,184	120,828	(10,356)	108.6 %	11,062	-
2010	132,119	124,415	(7,704)	106.2 %	10,758	-
2011	131,234	128,991	(2,243)	101.7 %	9,637	-
2012	130,063	130,741	678	99.5 %	9,543	7.1 %
2013	130,300	132,708	2,408	98.2 %	9,524	25.3 %

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.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year July-June	Annual Required Contribution
2001-2002	\$ 0
2002-2003	0
2003-2004	0
2004-2005	0
2005-2006	479,028
2006-2007	487,016
2007-2008	1,444,879
2008-2009	1,439,268
2009-2010	1,483,539
2010-2011	1,191,553
2011-2012	1,274,568
2012-2013	1,351,541
2013-2014	1,488,154
2014-2015	1,622,379
2015-2016	1,695,874

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.

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

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	December 31, 2013
Actuarial cost method	Entry age actuarial cost method
Amortization method	Level percent-of-pay
Amortization period	26 years, closed
Asset valuation method	7-year smoothed market
Actuarial assumptions	
Investment rate of return (includes wage inflation at 3.5%)	7.5%
Cost-of-living adjustments	3% simple for Police Unit 2% simple for Police Unit after 7/1/2008 3% simple for Fire Unit 2% simple for Fire Unit after 7/1/2008 2% simple for Hybrid members 2% simple for General