

CITY OF MONROE EMPLOYEES RETIREMENT SYSTEM
SEVENTIETH ANNUAL ACTUARIAL VALUATION
DECEMBER 31, 2014

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June 4, 2015

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

Dear Board Members:

Submitted in this report are the results of the Seventieth Annual Actuarial Valuation of the City of Monroe Employees Retirement System. The date of the valuation was December 31, 2014.

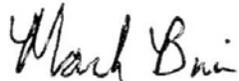
This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

The purpose of the valuation is to measure the System's funding progress and to determine the employer contribution rate for the fiscal year beginning July 1, 2016.

Please see the following page for additional disclosures required by the Actuarial Standards of Practice. 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 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 are reasonable.

Respectfully submitted,



Mark Buis, FSA, EA, MAAA



James D. Anderson, FSA, EA, MAAA

MB/JDA:sc

Additional Disclosures Required by Actuarial Standards of Practice

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

The funded ratio reported in this valuation is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

The funded ratio is not appropriate for assessing the need for or amount of future contributions.

The funded ratio would be different if based on the market value of assets.

The contribution allocation procedure including the amortization period and method is set by the Board. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

This report should not be relied on for any purpose other than the purpose described in the primary communication.

The signing actuaries are independent of the plan sponsor.

The valuation was based upon information, furnished by the City, concerning Retirement System benefits, financial transactions, and individual active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided. This information is summarized in Section B.

Valuation results, comments and conclusion are contained in Section A.

This report relies on the actuarial cost methods and assumptions which are summarized in Section C.

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, 2016 are shown on page A-2.

CITY'S COMPUTED CONTRIBUTIONS FOR THE FISCAL YEAR BEGINNING JULY 1, 2016

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	14.56 %	19.17 %	20.77 %	9.26 %	14.77 %
Member Contributions	(4.17)%	(5.42)%	(5.49)%	(3.67)%	(4.49)%
Employer Normal Cost	10.39 %	13.75 %	15.28 %	5.59 %	10.28 %
Amortization Amounts*	(24.87)%	17.82 %	76.93 %	(1.53)%	8.11 %
Employer Contribution Rate	0.00 %	31.57 %	92.21 %	4.06 %	18.39 %
Estimated Dollar Contribution	\$0	\$926,616	\$788,227	\$130,956	\$1,845,799

* *The Unfunded Accrued Liability is amortized over a period of 25 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, 2016
(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	926,616
Fire	788,227
Hybrid	<u>130,956</u>
Total	\$ 1,845,799

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, 2016. 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
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	1,488,054
2014-15	2012	0.00 % (4,5)	38.86 % (5)			4.12 % (5)	9,543,247	1,622,379	1,622,379 #
2015-16	2013	0.00 % (4,5)	40.36 % (5)			4.07 % (5)	9,524,423	1,695,874	
2016-17	2014	0.00 % (4,5)	45.25 % (5)			4.06 % (5)	9,207,491	1,845,799	

(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	\$ 40,579,076	\$ 25,053,801	\$32,591,544	\$ 954,427	\$ 99,178,848
2. For vested terminated members	433,030	-	596,911	301,905	1,331,846
3. For present active members					
a. Value of expected future benefit payments	17,530,904	17,220,513	5,158,349	5,988,852	45,898,618
b. Value of future normal costs	2,385,323	4,213,255	1,314,788	2,258,122	10,171,488
c. Active member accrued liability: (a) - (b)	15,145,581	13,007,258	3,843,561	3,730,730	35,727,130
4. Total accrued liability	56,157,687	38,061,059	37,032,016	4,987,062	136,237,824
B. Present Assets (Funding Value)	67,280,001	29,962,480	27,058,104	5,756,550	130,057,135
C. Unfunded Accrued Liability: (A.4) - (B)	(11,122,314)	8,098,579	9,973,912	(769,488)	6,180,689
D. Funding Ratio: (B) / (A.4)	119.8%	78.7%	73.1%	115.4%	95.5%
E. Funded Ratio - Market Value Basis	125.2%	82.3%	76.3%	120.6%	99.7%

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 TEST 1 (1) ÷ (3)	Continuation Tests TEST 2 (1) ÷ (4)	TEST 3 (5) ÷ (2)
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 %	-
2014	130,057	9,207	123,494	132,530	2,473	105.3 %	98.1 %	26.9 %

(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	2012	2013	2014	2015	2016	2017	2018	2019	2020
A. Funding Value Beginning of Year	\$131,234,283	\$130,063,087	\$130,299,553						
B. Market Value End of Year	121,436,535	135,144,666	135,893,438						
C. Market Value Beginning of Year	115,400,471	121,436,535	135,144,666						
D. Non-Investment Net Cash Flow	(6,383,460)	(6,400,766)	(6,576,418)						
E. Investment Income									
E1. Market Total: B-C-D	12,419,524	20,108,897	7,325,190						
E2. Amount for Immediate Recognition (7.5%)	9,603,191	9,514,703	9,525,851						
E3. Amount for Phased-In Recognition: E1-E2	2,816,333	10,594,194	(2,200,661)						
F. Phased-In Recog. of Investment Return									
F1. Current Year: (1/7) x E3	402,333	1,513,456	(314,380)						
F2. First Prior Year	(1,270,098)	402,333	1,513,456	\$ (314,380)					
F3. Second Prior Year	523,430	(1,270,098)	402,333	1,513,456	\$ (314,380)				
F4. Third Prior Year	1,309,406	523,430	(1,270,098)	402,333	1,513,456	\$ (314,380)			
F5. Fourth Prior Year	(5,355,998)	1,309,406	523,430	(1,270,098)	402,333	1,513,456	\$ (314,380)		
F6. Fifth Prior Year	0	(5,355,998)	1,309,406	523,430	(1,270,098)	402,333	1,513,456	\$ (314,380)	
F7. Sixth Prior Year	0	0	(5,355,998)	1,309,405	523,430	(1,270,101)	402,335	1,513,458	\$ (314,381)
F8. Total Recognized Investment Gain	(4,390,927)	(2,877,471)	(3,191,851)	2,164,146	854,741	331,308	1,601,411	1,199,078	(314,381)
G. Funding Value End of Year A+D+E2+F8	130,063,087	130,299,553	130,057,135						
H. Difference between Market & Funding Value	(8,626,552)	4,845,113	5,836,303	3,672,157	2,817,416	2,486,108	884,697	(314,381)	0
I. Recognized Rate of Return	4.1%	5.2%	5.0%						
J. Market Rate of Return	11.1%	17.0%	5.6%						
K. Ratio of Funding Value to Market Value	107.1%	96.4%	95.7%						

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, 2014**

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	\$2,408,674
(2)	Total normal cost	1,377,441
(3)	Actual contributions	2,000,011
(4)	Interest accrual	157,726
(5)	Expected UAAL before changes	1,943,830
(6)	Change from Retirement System amendments and/or revised actuarial assumptions/methods	0
(7)	Expected UAAL after changes	1,943,830
(8)	Actual UAAL at end of year	6,180,689
(9)	Gain (loss) (7) - (8)	(4,236,859)
(10)	Gain (loss) as percent of actuarial accrued liabilities at start of year (\$132,708,227)	(3.2)%

* *Unfunded actuarial accrued liability.*

Valuation Date	Actuarial Gain (Loss) as % of Beginning Accrued Liability
December 31	
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)%
2014	(3.2)%

COMMENTS, RECOMMENDATIONS AND CONCLUSION
DECEMBER 31, 2014

COMMENT A: Contribution requirements varied by group. The plan is approximately 95.5% 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	
	<u>July 1, 2015</u>	<u>July 1, 2016</u>
General	\$ -	\$ -
Police	884,297	926,616
Fire	686,420	788,227
Hybrid	125,157	130,956
Total	<u>\$ 1,695,874</u>	<u>\$ 1,845,799</u>

COMMENT B: On a market value basis, investment results were less favorable than expected, with approximately a 5.6% 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 loss was combined with the continued phase-in of investment gains and losses from prior years resulting in a net recognized rate of return of 5.0%, leading to an overall asset loss on the actuarial value of assets. The overall experience gain (loss) this year (including liability gains and losses) was \$(4,236,859) (see page A-8).

COMMENT C: As of this valuation, the Market Value of assets exceeds the Funding Value by \$5.8 million. This means that currently there is \$5.8 million in investment gains yet to be recognized. The deferred 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 99.7% instead of 95.5%.

COMMENTS, RECOMMENDATIONS AND CONCLUSION
DECEMBER 31, 2014

RECOMMENDATION A: 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		
	Amounts Transferred to		
	Balance Before Transfer	Reserve for Retired Benefit Payments	Balance After Transfer
General	\$26,107,706	\$ 109,625	\$ 25,998,081
Police & Fire	(411,678)	1,378,576	(1,790,254)
Hybrid	3,100,190	(183,512)	3,283,702
Total	\$28,796,218	\$1,304,689	\$ 27,491,529

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 1/1/2015 for each valuation group.

RECOMMENDATION B: Useful and reliable valuation results are dependent on an underlying set of appropriate actuarial assumptions. From time to time the assumptions should be reevaluated in the light of emerging experience - the plan's own and the experience of similar groups -- and expected future experience. With a plan the size of the City of Monroe Employees Retirement System, credible experience is limited and can vary significantly from year to year. Over an extended period however, some trends can be detected. We believe that it is timely for an analysis to be made of the Retirement System's experience during the last 5 years. **Additionally, the GFOA recommends that a study be performed at least once every 5 years.** Such a study would:

- Analyze retirement probabilities, termination probabilities, probabilities of disablement, mortality rates and pay changes;
- Look at economic and demographic experience separately;
- Suggest appropriate changes in economic and demographic assumptions and show their effect on computed contribution rates; and
- Review the amortization policy.

COMMENTS, RECOMMENDATIONS AND CONCLUSION
DECEMBER 31, 2014

It is recommended that an experience study be conducted prior to the next regular annual actuarial valuation.

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

ACTUARIAL BALANCE SHEET - DECEMBER 31, 2014
(\$ 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	\$70,299	\$31,307	\$28,272	\$6,015	\$135,893
2. Market value adjustment	(3,019)	(1,345)	(1,214)	(258)	(5,836)
3. Actuarial value of assets	67,280	29,962	27,058	5,757	130,057
B. Actuarial present value of expected future employer contributions					
1. For normal costs	1,695	2,954	966	1,307	6,922
2. For unfunded actuarial accrued liabilities	(11,122)	8,099	9,974	(769)	6,182
3. Total	(9,427)	11,053	10,940	538	13,104
C. Actuarial present value of expected future member contributions	690	1,259	350	950	3,249
D. Total Present and Expected Future Resources	\$58,543	\$42,274	\$38,348	\$7,245	\$146,410

Actuarial Present Value of Expected Future Benefit Payments and Reserves

A. To retirants and beneficiaries	\$40,579	\$25,054	\$32,592	\$ 954	\$ 99,179
B. To vested terminated members	433	0	597	302	1,332
C. To present active members					
1. Allocated to service rendered prior to valuation date	15,146	13,007	3,844	3,731	35,728
2. Allocated to service likely to be rendered after valuation date	2,385	4,213	1,315	2,258	10,171
3. Total	17,531	17,220	5,159	5,989	45,899
D. Total Actuarial Present Value of Expected Future Benefit payments	58,543	42,274	38,348	7,245	146,410
E. Total Actuarial Present Value of Expected Future Payments and Reserves	\$58,543	\$42,274	\$38,348	\$7,245	\$146,410

Note: Not all sums balance due to rounding.

20-YEAR PROJECTION OF BENEFIT PAYMENTS

Year	Projected Benefit Payment
2015	\$ 8,980,445
2016	9,261,358
2017	9,533,683
2018	9,808,004
2019	10,101,952
2020	10,423,401
2021	10,721,214
2022	11,002,189
2023	11,280,302
2024	11,588,865
2025	11,916,869
2026	12,276,462
2027	12,626,082
2028	12,914,513
2029	13,159,907
2030	13,358,900
2031	13,539,702
2032	13,640,300
2033	13,749,374
2034	13,797,554

SECTION B

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

BRIEF SUMMARY* OF NON-HYBRID BENEFIT PROVISIONS

DECEMBER 31, 2014

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, 2014 (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, 2014**

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, 2014**

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, 2014

Unit Name	No.	GRS Code	Eligibility	FAC ⁽¹⁾		Retirement Benefit		Employee Contrib.
				Months	Lump	PCT	COLA ⁽²⁾	
				In	Sums			
General Unit I	13	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	8	19	60 & 10, 65 & 5, 80 pts	48	Y	2.2%	2% Fixed	5%
Water Unit I	2	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	6	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	5	16	60 & 10, 65 & 5, 80 pts	48	Y	2.2%	2% Fixed	5%
Police Patrol	20	22	50 & 25, 55 & 10, or 60 & 5	36	Y ⁽⁴⁾	2.65% (80% cap)	3% CPI	5.5%
Police Patrol (Hired on or After 7/1/2008)	10	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% CPI	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	10	33	50 & 25, 55 & 10, or 60 & 5	36	Y ⁽³⁾	2.65% (80% cap)	3% CPI	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	8	50+	60 & 10 or 62 & 3	36	Y	1.5%	2% CPI	2%
Hybrid	47	50+	60 & 10 or 62 & 3	36	Y	1.5%	2% CPI	4%
Total Active Members	148							

⁽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, 2014**

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)
2015	\$26,899	\$26,899	\$26,899
2016	27,437	27,437	27,437
2017	27,975	27,975	27,975
2018	28,513	28,513	28,513
2019	29,051	29,051	29,051
2020	29,589	29,589	29,589
2021	30,127	30,127	30,127
2022	30,665	30,665	30,665
2023	31,203	31,203	31,203
2024	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, 2014 (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)
2015	\$29,896	\$29,896	\$29,896
2016	30,793	30,793	30,793
2017	31,690	31,690	31,690
2018	32,587	32,587	32,587
2019	33,484	33,484	33,484
2020	34,381	34,381	34,381
2021	35,278	35,278	35,278
2022	36,175	36,175	36,175
2023	37,072	37,072	37,072
2024	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, 2014 (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)
2015	\$29,896	\$29,896	\$29,896
2016	30,793	30,793	30,793
2017	31,690	31,690	31,690
2018	32,587	32,587	32,587
2019	33,484	33,484	33,484
2020	34,381	34,381	34,381
2021	35,278	35,278	35,278
2022	36,175	36,175	36,175
2023	37,072	37,072	37,072
2024	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, 2014
(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)
2039	\$7,520	\$7,520	\$7,520
2040	7,670	7,670	7,670
2041	7,820	7,820	7,820
2042	7,970	7,970	7,970
2043	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, 2014
(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)
2015	\$18,340	\$18,340	\$18,340
2016	18,707	18,707	18,707
2017	19,074	19,074	19,074
2018	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, 2014

The ledger balances of the Retirement System as of December 31, 2014 were reported to the actuary to total \$135,893,438, as follows:

Accounts	December 31, 2014	December 31, 2013
Reserve for Employees' Contributions		
General members	\$ 3,722,028	\$ 4,031,696
Police and Fire members	3,724,287	3,829,283
Hybrid members	1,776,746	1,536,057
Totals	9,223,061	9,397,036
Reserve for Employer Contributions		
General members	26,107,706	36,175,567
Police and Fire members	(411,678)	(7,463,444)
Hybrid members	3,100,190	3,919,463
Totals	28,796,218	32,631,586
Reserve for Retired Members' Benefits	97,666,365	92,990,820
Reserve for DROP Accounts	207,794	125,224
Reserve for Market Value Difference	0	0
Market Value of Assets	\$135,893,438	\$135,144,666

SUMMARY OF FINANCIAL AND ACTUARIAL INFORMATION

Revenues and Expenditures

	Year Ended December 31	
	2014	2013
REVENUES:		
a. Member contributions	\$ 444,745	\$ 427,515
b. City contributions	1,555,266	1,410,555
c. Investment income		
1. Interest and dividends	2,056,830	1,999,826
2. Gain or (loss) on sales	6,177,694	18,940,148
3. Asset appreciation	0	0
d. Total revenues	10,234,535	22,778,044
EXPENDITURES:		
a. Refunds of member contributions	36,938	26,201
b. Annuity withdrawal	0	0
c. Retirement benefits paid	8,539,491	8,212,635
d. Miscellaneous	20,583	21,368
e. Investment expense	888,751	809,709
f. Total expenditures	9,485,763	9,069,913
RESERVE INCREASE:		
Total revenues minus total expenditures	\$ 748,772	\$ 13,708,131

Market Value of Assets

	2014	2013
Cash	\$ 0	\$ 0
Receivables/Payables	(602,583)	(449,306)
Other short-term	1,584,824	1,623,883
Accrued interest and dividends	351,212	376,769
Bonds - government	10,609,004	14,759,723
- corporate	27,017,486	27,384,418
- mortgages and foreign bonds	10,342,664	2,459,756
- other bonds	0	0
Stocks - common	31,948,990	33,049,280
- preferred	0	0
- other stocks	46,010,108	47,968,149
Real estate investments	8,625,929	7,962,426
Other assets	5,804	9,568
Total Market Value of Assets	135,893,438	135,144,666
Increase in Assets		
From reserve increase	748,772	13,708,131
Unreconciled difference	0	0

In financing the accrued service costs and reserves, the ledger balances of \$135,893,438 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	\$ 3,722,028	\$ 0	\$ 0	\$ 3,722,028
Police and Fire members	3,724,287			3,724,287
Hybrid members	1,776,746			1,776,746
Totals	9,223,061	0	0	9,223,061
Employer Contributions				
General members	25,998,081	109,625	(3,019,184)	23,088,522
Police and Fire members	(1,790,254)	1,378,576	(2,558,794)	(2,970,472)
Hybrid members	3,283,702	(183,512)	(258,325)	2,841,865
Totals	27,491,529	1,304,689	(5,836,303)	22,959,915
Retired Benefit Payments [#]		97,874,159		97,874,159
Totals	\$36,714,590	\$99,178,848	\$(5,836,303)	\$130,057,135

[#] Includes reserves for DROP accounts.

RETIRANT AND BENEFICIARY COMPARATIVE SCHEDULE

Valuation Date December 31	Annual Allowances						% Incr.	Expected Removed		Ratio of No. Active to No. Retired	Annual Allowances as a % of Payroll
	Added		Removed		End of Year			No.^	Annual Amount		
	No.	Amount	No.	Amount	No.	Amount					
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 %
2014	14	621,502	7	167,007	274	8,810,872	5.4 %	10.9	246,720	0.5	95.7 %

* 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.

^ Expected number of removals in the coming year.

RETIRANTS AND BENEFICIARIES DECEMBER 31, 2014
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	70	\$2,320,921
Option B allowance - 100% joint and survivor benefit	73	2,535,135
Option C allowance - 50% joint and survivor benefit	45	1,946,934
Option D 120 - 120 months certain and life or Option D180 - 180 months certain and life	18	615,669
Allowance to survivor beneficiary of deceased retiree	35	632,576
Total age and service allowances	243	8,071,936
<i>Casualty Allowances</i>		
Duty disability allowance	4	92,228
Non-duty disability allowance	18	418,971
Total Non-duty disability	22	511,199
Allowance to survivor beneficiary of deceased member		
Duty death	0	0
Non-duty death	11	248,438
Total	11	248,438
Total casualty allowances	33	759,637
<i>Total Allowances Being Paid</i>	276	\$8,831,573

RETIRANTS AND BENEFICIARIES DECEMBER 31, 2014
TABULATED BY AGE

Ages	Age & Service		Casualty		Totals	
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
Under 40	1	\$ 42,876	1	\$ 3,203	2	\$ 46,079
40-44						
45-49						
50-54	15	856,008	3	102,467	18	958,475
55-59	39	1,757,233	9	286,105	48	2,043,338
60	4	132,222	1	17,524	5	149,746
61	6	218,472			6	218,472
62	6	250,629	1	16,601	7	267,230
63	9	391,052	1	10,145	10	401,197
64	7	244,678			7	244,678
65	13	491,042	1	30,568	14	521,610
66	17	684,637	1	30,349	18	714,986
67	4	102,153	2	31,049	6	133,202
68	8	362,226	1	6,242	9	368,468
69	3	164,210			3	164,210
70	7	222,667			7	222,667
71	4	149,414	1	19,826	5	169,240
72	4	37,592			4	37,592
73	8	172,500			8	172,500
74	7	174,420			7	174,420
75	9	204,172			9	204,172
76	5	92,169	1	35,461	6	127,630
77	4	88,510	1	22,021	5	110,531
78	2	72,724	2	46,617	4	119,341
79	9	246,666	1	18,435	10	265,101
80	4	90,544			4	90,544
81	3	39,868			3	39,868
82	5	57,304	1	11,647	6	68,951
83	6	116,127			6	116,127
84	6	63,070	2	22,677	8	85,747
85	4	82,519	2	44,749	6	127,268
86	3	83,963			3	83,963
87	5	99,588			5	99,588
88	2	32,198			2	32,198
89	1	20,778	1	3,951	2	24,729
90 & Over	11	207,004			11	207,004
Totals	241	\$8,051,235	33	\$759,637	274	\$8,810,872

ACTIVE MEMBERS DECEMBER 31, 2014 TABULATED BY VALUATION DIVISIONS

Valuation Divisions	Teamsters		Others		Total	
	No.	Annualized	No.	Annualized	No.	Annualized
		Payroll		Payroll		Payroll
General members	8	\$ 423,240	18	\$1,174,452	26	\$1,597,692
Police and Fire members	0	0	48	3,477,093	48	3,477,093
Water Department members	6	339,873	3	252,566	9	592,439
Sewage Disposal members	5	265,674	5	315,327	10	581,001
Hybrid members	0	0	55	2,959,266	55	2,959,266
Total Active Members	19	\$1,028,787	129	\$8,178,704	148	\$9,207,491

Also included in the valuation were 20 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	
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 %
2014	26	48	9	10	55	148	9,207,491	46.6	15.1	62,213	4.5 %

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

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	\$ 55,651
40-44					1			1	91,551
45-49				3		2		5	319,403
50-54				2	1	3	2	8	416,060
55-59				2	3	4		9	547,516
60					1			1	63,829
63		1						1	103,682
Totals		1		8	6	9	2	26	\$1,597,692

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

Age: 52.7 years

Service: 23.6 years

Annual Pay: \$61,450

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

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	\$ 91,632
25-29	5							5	246,268
30-34	3		1					4	221,170
35-39		1	4	1				6	464,528
40-44			3	4				7	564,869
45-49		1		2	3	3		9	675,509
50-54				1	1	1		3	247,645
55-59					1	1		2	181,216
Totals	10	2	8	8	5	5		38	\$2,692,837

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

Age: 40.3 years

Service: 13.8 years

Annual Pay: \$70,864

FIRE DEPARTMENT ACTIVE MEMBERS - DECEMBER 31, 2014
BY AGE AND YEARS OF SERVICE

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	\$ 87,859
40-44			3	2				5	349,429
45-49				1	1			2	182,593
50-54			1		1			2	164,375
Totals			4	4	2			10	\$784,256

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

Age: 44.3 years

Service: 15.9 years

Annual Pay: \$78,426

WATER DEPARTMENT ACTIVE MEMBERS - DECEMBER 31, 2014
BY AGE AND YEARS OF SERVICE

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	\$ 55,613
45-49				2	3			5	310,154
50-54					2	1		3	226,672
Totals				3	5	1		9	\$592,439

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

Age: 48.1 years

Service: 21.8 years

Annual Pay: \$65,827

SEWAGE DISPOSAL ACTIVE MEMBERS - DECEMBER 31, 2014
BY AGE AND YEARS OF SERVICE

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
45-49				1	1			2	\$139,641
50-54					2	2	1	5	258,778
55-59				2	1			3	182,582
Totals				3	4	2	1	10	\$581,001

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

Age: 51.5 years

Service: 23.0 years

Annual Pay: \$58,100

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

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	1							1	\$ 33,763
25-29	2							2	82,310
35-39	3	1	1	1				6	269,973
40-44	5	3	5	3				16	900,021
45-49	3	2	4	1				10	591,479
50-54	1		1	2				4	194,100
55-59	1	3	1	1				6	304,356
60		2	2	1	1			6	351,801
61			1					1	61,532
62		1						1	75,664
64			1					1	50,678
65			1					1	43,589
Totals	16	12	17	9	1			55	\$2,959,266

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

Age: 47.3 years

Service: 9.3 years

Annual Pay: \$53,805

ACTIVE MEMBERS ADDED TO AND REMOVED FROM ROLLS

Year Ended December 31	Number Added During Year		Terminations During Year								Active Members End of Year
	A	E	Retired		Disabled		Died-in-Service		Other		
			A	E	A	E	A	E	A	E	
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
2014	5	17	10	7.0	1	0.4	2	0.2	4	4.2	148
15-Year Total	128	229	141	91.4	9	5.1	5	4.0	74	84.3	

* Change in assumptions

“A” denotes actual experience

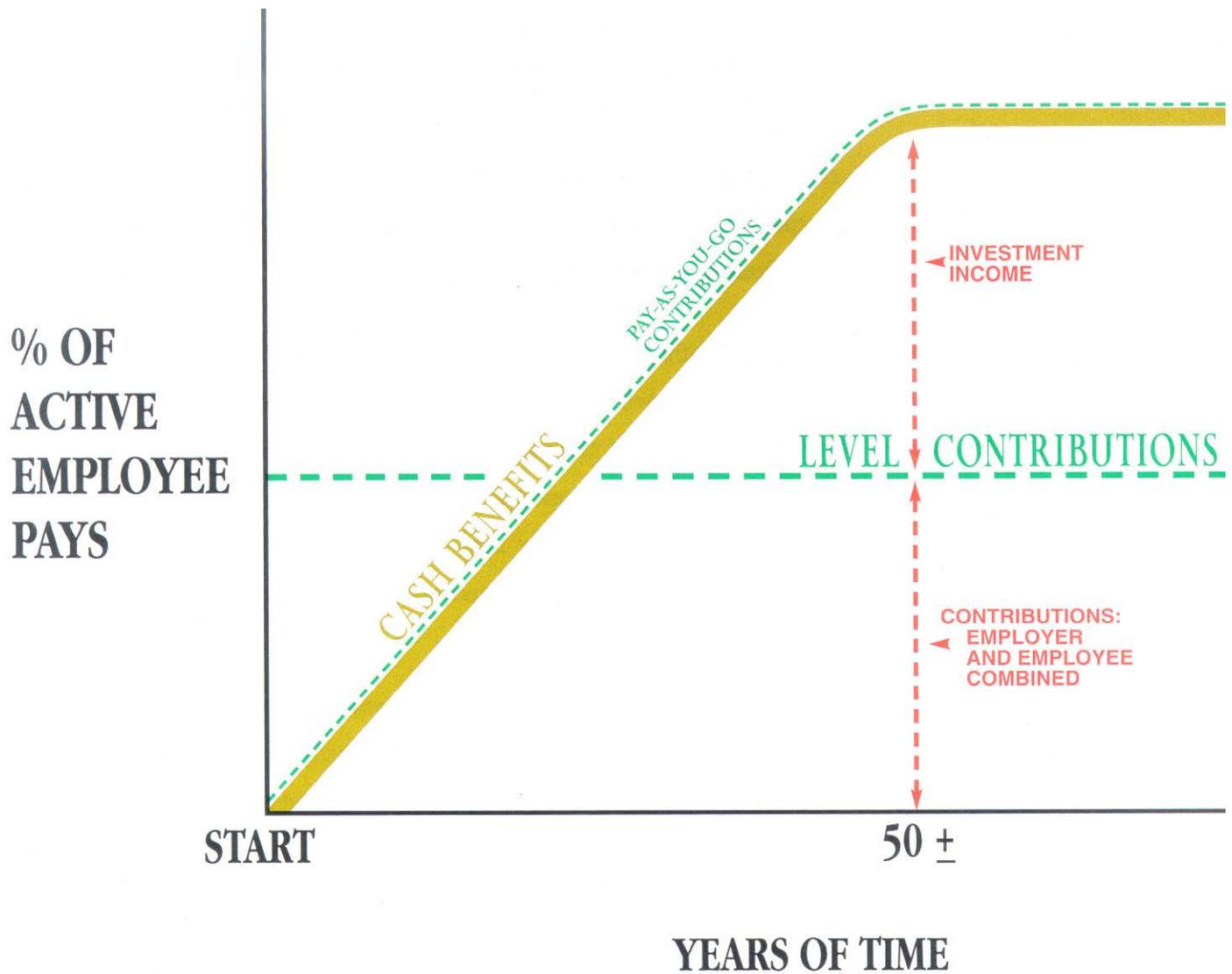
“E” denotes expected experience

DEFERRED MEMBERS

	Count	Average Benefit
General	6	8,560
Police	0	0
Fire	3	30,054
Hybrid	11	5,259
Total	20	9,968

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, 2014 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 25 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	\$ (11,122,314)	30	25	\$ (751,187)	(24.87)%
HYBRID	(769,488)	30	25	(49,350)	(1.53)%
POLICE	8,098,579	30	25	523,037	17.82 %
FIRE	<u>9,973,912</u>	30	25	<u>657,611</u>	76.93 %
TOTAL	\$ 6,180,689			\$ 380,111	

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). The rationale for the assumptions used in this valuation is included in the 5-year experience study ending December 31, 2009.

**ACTUARIAL ASSUMPTIONS USED
FOR THE DECEMBER 31, 2014 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
	2014	2013	2012	2011	2010		
Average pay	4.5 %	1.1 %	(4.0)%	2.7 %	2.1 %	0.5 %	1.2 %
Total payroll	(3.3)%	(0.2)%	(1.0)%	(10.4)%	(2.7)%	(1.5)%	(3.6)%

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, 2014

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.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
DECEMBER 31, 2014 (CONCLUDED)

Hybrid Benefit Election:

Upon normal retirement eligibility, Hybrid members can choose the Monthly Benefit Option or the Lump Sum Option. For valuation purposes, it was assumed that 80% of members would elect the Monthly Benefit Option and 20% would elect the Lump Sum Option.

Upon deferred retirement eligibility, Hybrid members can choose the Immediate Option or the Deferred Option. For valuation purposes, it was assumed that 30% would elect the Immediate Option and 70% would elect the Deferred Option.

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

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

The information on the following pages should be used for Employer Reporting under GASB Statement No. 27. Information to be used for plan reporting is now issued in a separate report in accordance with GASB Statement No. 67.

**STATEMENT OF PLAN NET ASSETS
AS OF DECEMBER 31, 2013 AND 2014**

	2014	2013
Assets		
Cash and short-term investments		
Cash	\$ 0	\$ 0
Money market mutual funds	1,584,824	1,623,883
Subtotals	1,584,824	1,623,883
 Receivables		
Accounts receivable/(payable)	(602,583)	(449,306)
Accrued interest and dividends	351,212	376,769
Subtotals	(251,371)	(72,537)
 Investments, at fair value		
Bonds - government	10,609,004	14,759,723
- corporate	27,017,486	27,384,418
- foreign bonds	10,342,664	2,459,756
Stocks - common	31,948,990	33,049,280
- preferred	0	0
- other equity	15,713,943	15,906,773
Mutual Funds	30,296,165	32,061,376
Real Estate & Mortgages	8,625,929	7,962,426
Other Assets	5,804	9,568
Subtotals	134,559,985	133,593,320
 Net assets held in trust for pension benefits (A schedule of funding progress for the plan is presented on page D-6)		
	\$135,893,438	\$135,144,666

**STATEMENT OF CHANGES IN PLAN NET ASSETS
FOR THE YEARS ENDED DECEMBER 31, 2013 AND 2014**

	Reconciliation as of December 31, 2014	Reconciliation as of December 31, 2013
	<hr/>	<hr/>
Additions		
Contributions		
Employer	\$ 1,555,266	\$ 1,410,555
Plan members	444,745	427,515
Total contributions	<hr/> 2,000,011	<hr/> 1,838,070
Investment return		
Net appreciation	0	0
Interest and dividends	2,056,830	1,999,826
Gain on sale of securities	6,177,694	18,940,148
Miscellaneous	0	0
	<hr/> 8,234,524	<hr/> 20,939,974
Less investment expense	888,751	809,709
Net investment return	<hr/> 7,345,773	<hr/> 20,130,265
Total additions	9,345,784	21,968,335
Deductions		
Benefits	8,539,491	8,212,635
Refunds of contributions	36,938	26,201
Other	20,583	21,368
Total deductions	<hr/> 8,597,012	<hr/> 8,260,204
Net increase	748,772	13,708,131
Net assets held in trust for pension benefits		
Beginning of year	<hr/> 135,144,666	<hr/> 121,436,535
End of year	<hr/> <hr/> \$135,893,438	<hr/> <hr/> \$135,144,666

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2014**

Plan Description and Contribution Information

Membership information as of December 31, 2014, the date of the latest actuarial valuation, is as follows:

	General	Police	Fire	Hybrid	Total
Retirees and beneficiaries	147	50	61	16	274
Terminated vested members	6	0	3	11	20
Active members	45	38	10	55	148
Total	198	88	74	82	442

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, 2014 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	14.56 %	19.17 %	20.77 %	9.26 %	14.77 %
(2) Accrued Liability	(24.87)%	17.82 %	76.93 %	(1.53)%	8.11 %
(3) Total	(10.31)%	36.99 %	97.70 %	7.73 %	22.88 %
(4) Member Contribution	4.17 %	5.42 %	5.49 %	3.67 %	4.49 %
(5) Net	(14.48)%	31.57 %	92.21 %	4.06 %	18.39 %
(6) Employer Rate: (5) but not less than 0%	0.00 %	31.57 %	92.21 %	4.06 %	18.39 %

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)
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 %
2014	130,057	136,238	6,181	95.5 %	9,207	67.1 %

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
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
2016-2017	1,845,799

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, 2014
Actuarial cost method	Entry age actuarial cost method
Amortization method	Level percent-of-pay
Amortization period	25 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