

MONROE COUNTY EMPLOYEES RETIREMENT SYSTEM
BASIC RETIREMENT BENEFITS
ACTUARIAL VALUATION REPORT
DECEMBER 31, 2013

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July 21, 2014

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

Re: Monroe County Employees Retirement System Actuarial Valuation as of December 31, 2013

Dear Board Members:

The results of the December 31, 2013 Annual Actuarial Valuation of the Monroe County Employees Retirement System are presented in this report.

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

The purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending December 31, 2015, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 25.

Mark Buis and James D. Anderson are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

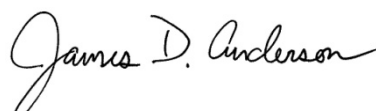
Please see the following page for additional disclosures required by the Actuarial Standards of Practice.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Monroe County Employees Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Respectfully submitted,



Mark Buis, FSA, EA, MAAA



James D. Anderson, FSA, EA, MAAA

MB:dj

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. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This report should not be relied on for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The signing actuaries are independent of the plan sponsor.

The valuation was based upon information furnished by the County, concerning Retirement System benefits, financial transactions, plan provisions and 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 by the County.

The developed findings included in this report consider data or other information through December 31, 2013.

SECTION A

EXECUTIVE SUMMARY

1. Required Total Contributions - Fiscal Year Beginning January 1, 2015

The computed employer contribution rates for basic retirement benefits are as follows:

Division	Computed Employer Contribution Rates	
	% of Payroll	\$ Based on 12/31/13 Payroll
General County	26.19 %	\$3,525,854
County Agency	37.77	478,190
Sheriff's Office	29.40	2,606,686
County Library	14.00	700,160
Road Commission	22.72	951,102
Mental Health	N/A	609,357
Central Dispatch	21.59	240,114

For detail please see page B-2.

Please note that these are the total contribution rates before adjustment for member contributions. The member contributions need to be subtracted to obtain the net employer contribution. Also note that the Mental Health division is now closed to new hires. As such, dollar contribution amounts are shown instead of contribution rates.

The pensions provided by the Retirement System are valuable benefits. As covered members earn additional credit toward pensions and move closer to retirement, the System's liabilities grow. Employer contributions are required to pay for the increases in liabilities. All groups now have employer contribution requirements as prior overfunding has generally been eliminated.

2. Contribution Comparison

Required contributions have changed from the last valuation as follows:

Division	Computed Contributions	
	Actual 12/31/12	Actual 12/31/13
General County	\$3,405,549	\$3,525,854
County Agency	443,264	478,190
Sheriff's Office	2,566,722	2,606,686
County Library	628,542	700,160
Road Commission	935,032	951,102
Mental Health	627,471	609,357
Central Dispatch	<u>206,597</u>	<u>240,114</u>
Total	8,813,177	9,111,463

3. Reasons for Change

There are three general reasons why contribution rates change from one valuation to the next. The first is a change in the benefits or eligibility conditions of the Plan. The second is a change in the valuation assumptions used to predict future occurrences. The third is the effect of differences during the year between the Plan's actual experience and what the assumptions predicted.

There were no changes in benefits or actuarial assumptions or methods since the last actuarial valuation.

The rate changes are primarily due to Plan experience during the year as discussed below.

4. 2013 Plan Experience

Plan experience during the year was unfavorable for most groups with an overall experience gain/(loss) of \$(8,743,222). The gain/loss development is shown on page B-7 separately for each division.

All groups experienced unfavorable investment experience. On a market value basis, investment results were more favorable than expected, with approximately a 11.9% rate of return (see page C-23). 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 recognized rate of return of 4.1%, leading to a loss. Additionally, there was an overall non-investment loss primarily due to the purchase of service for many members.

Investment Gain/(Loss)	\$ (5,457,005)
Non-Investment Gain/(Loss)	<u>(3,286,217)</u>
Gain/(Loss) from all causes	\$ (8,743,222)

5. 2013 Funding Position

This year the actuarial value of assets represents 77% of accrued liabilities; last year the ratio was 79%.

As of December 31, 2013 valuation assets exceed the market value of assets by \$5,904,617. This is the amount of past asset losses not yet realized in the valuation. It will be fully recognized over the next six years putting upward pressure on the contribution rates. On a market value basis, the funding position of the Plan is 74%.

6. Retiree Reserve Balance

For the General County, County Agency, Sheriff's Office, Central Dispatch and Mental Health divisions, the accrued liabilities for members who have already retired and their beneficiaries are larger than the reported balance of the retiree reserve accounts. Transfers will be necessary to balance the retiree reserves with the retiree liabilities. Details regarding the transfers are shown in Comment A of Section B.

7. Recommendations

We recommend that the Board authorize the transfers described in Comment A of Section B of this report. We also recommend the amortization period be closed as described in Comment E.

8. Conclusion

In the short-term, employer contributions are expected to increase as the unfavorable investment returns are working through the asset smoothing. If the markets do not fully rebound, employer contributions will continue to rise.

SECTION B

VALUATION RESULTS, COMMENTS AND COMPARABLE SCHEDULES

Financial Objective

The financial objective of the Retirement System is to establish and receive contributions, expressed as a percentage of active member payroll, which will remain approximately level from year to year and will not have to be increased for future generations of citizens. This objective is stated in the Retirement System Resolution.

Your annual actuarial valuations determine how well the objective is being met.

The Board of Trustees of the Monroe County Employees Retirement System confirms that the System provides for payment of the required employer contribution as described in Section 20m of Michigan Public Act No. 728.

Contribution Rates

The Retirement System is supported by contributions from the participating employers and from some of the members and by the investment income earned on System assets. The employers provide an actuarially determined contribution, the amount needed to meet the financial objective.

Contributions cover both (i) normal cost, and (ii) the financing of the unfunded accrued liability, if any, over a period of future years. The normal cost is the portion of System costs allocated to the current year by the valuation method described in Section D. The unfunded accrued liability is the portion of System costs not covered by present System assets and future normal costs.

The contribution requirements for the fiscal year beginning January 1, 2015 are presented on pages B-2 and B-3.

**Contributions to Provide Benefits
December 31, 2013 Valuation**

Contributions	% of Active Payroll						
	General County	County Agency	Sheriff's Office	County Library	Road Comm.	Mental Health	Central Dispatch
Normal cost of benefits:							
Age & service	9.99 %	8.59 %	13.26 %	9.48 %	10.95 %	\$490,580	12.63 %
Disability	0.70	0.90	0.82	0.43	1.09	30,045	0.85
Death-in-service	0.35	0.36	0.34	0.25	0.29	16,900	0.36
Future refunds	0.43	0.00	0.24	0.00	0.37	-	0.24
Administrative expenses	0.65	0.65	0.65	0.65	0.65	30,515	0.65
Totals	12.12	10.50	15.31	10.81	13.35	568,040	14.73
Amortization of UAL	14.07	27.27	14.09	3.19	9.37	41,317	6.86
Computed Employer Rate	26.19	37.77	29.40	14.00	22.72	609,357	21.59

Please note that these are the total contribution rates before adjustment for member contributions. The member contributions need to be subtracted to obtain the net employer contribution. Also note that the Mental Health division is now closed to new hires. As such, dollar contribution amounts are shown instead of contribution rates.

Effective for the 12/31/2013 valuation, the unfunded liability for the Mental Health division is amortized over an open 20-year period, as this group is less than 100% funded on a funding valuation basis. Effective for the 12/31/2012 valuation, the Mental Health division is closed to new hires. A level dollar amortization is now being used. Unfunded liabilities for all other divisions are amortized over an open 20-year period, per the 6/26/2006 Board Meeting.

The procedure for determining dollar contribution amounts is shown on page B-3.

Page B-4 displays the unfunded accrued liabilities or asset surpluses that are amortized by the contribution rates shown above.

Converting Contribution Rates to Dollar Amounts

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

- (1) Contribute dollar amounts for a period, which are equal to the employer'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 dollar amounts recommended for each valuation group.

The Mental Health Division is now closed to new hires. Because of the declining payroll, option 2 should be contributed.

Timing of Contribution Payments

The contributions in this report anticipate regular payments throughout the year. Examples would be at each payroll date or in 12 monthly installments. If the employer contribution pattern is significantly different, an adjustment to the costs may be appropriate. For example, a lump sum contribution at the beginning of the year is available for investment throughout the year and, therefore, ought to be somewhat smaller than 12 monthly payments. Similarly, a lump sum contribution at the end of the year will not generate any investment income that year and so must be greater than 12 monthly payments.

Determination of Unfunded Accrued Liability

	General County	County Agency	Sheriff's Office	County Library	Road Comm.	Mental Health	Central Dispatch	Totals
A. Accrued Liability								
1. For retirees and beneficiaries	\$ 64,130,590	\$ 8,376,166	\$ 35,319,923	\$ 7,863,752	\$ 14,272,372	\$ 11,009,378	\$ 2,057,513	\$ 143,029,694
2. For vested terminated members	5,128,915	0	778,803	400,946	531,644	3,999,935	0	10,840,243
3. For present active members								
a. Value of expected future benefit payments	47,262,522	4,491,344	41,132,013	13,020,891	17,932,117	15,015,433	4,060,030	142,914,350
b. Value of future normal costs	12,429,400	1,138,324	12,690,776	4,113,100	4,321,393	5,071,816	1,839,609	41,604,418
c. Active member liability: (a) - (b)	34,833,122	3,353,020	28,441,237	8,907,791	13,610,724	9,943,617	2,220,421	101,309,932
4. Total	104,092,627	11,729,186	64,539,963	17,172,489	28,414,740	24,952,930	4,277,934	255,179,869
B. Valuation Assets	76,852,485	6,763,700	46,564,485	14,874,764	22,772,404	24,500,071	3,180,724	195,508,633
C. Unfunded Accrued Liability: (A.4) - (B)	27,240,142	4,965,486	17,975,478	2,297,725	5,642,336	452,859	1,097,210	59,671,236
D. Funded percentage: (B)/(A.4)	73.8%	57.7%	72.1%	86.6%	80.1%	98.2%	74.4%	76.6%

Comments

Comment A: We developed the value of anticipated future benefit payments to retired members and their beneficiaries. We then compared this accrued liability to the reported value of the retirement reserve account. The figures below compare the retired liabilities and reserves for each division.

Division	Accrued Liability	Retiree Reserve	Unfunded Retiree Liability
General County	\$64,130,590	\$61,670,493	\$ 2,460,097
County Agency	8,376,166	7,654,511	721,655
Sheriff's Office	35,319,923	33,404,986	1,914,937
County Library	7,863,752	8,207,496	(343,744)
Road Commission	14,272,372	14,304,759	(32,387)
Mental Health	11,009,378	9,988,751	1,020,627
Central Dispatch	2,057,513	1,813,240	244,273

Amounts should be transferred from the employer reserves to the retiree reserves to cover the unfunded amount for each division.

Comment B: Overall experience during 2013 was unfavorable. The gain/(loss) determination by division is on page B-7. The determination of the investment gain/loss is shown on page B-8.

Comment C: This valuation considers only the basic retirement benefits provided by the Retirement System. The retiree health benefits provided to County employees are not considered in this valuation.

Comments (Concluded)

Comment D: On December 30, 2002 Michigan Public Act 728 became effective. This Act sets new standards for all Michigan State and Local government retirement systems. In particular, the Act requires that supplemental actuarial analysis be performed by the System's actuary (including an analysis of the long term costs associated with any proposed pension benefit change) and provided to the Retirement Board and the decision-making body that will approve the proposed pension benefit change. This analysis is required at least 7 days before a proposed pension benefit change is adopted. There are additional requirements related to the confirmation of receipt by the System of the required employer contributions.

Comment E: The unfunded actuarial liability is currently amortized over an open 20 year period. We recommend that this policy be changed to a closed 20 year period effective with the December 31, 2014 actuarial valuation, whereby the remaining period decreases by 1 year each year (similar to a mortgage). This will help improve the funded position of the plan and will also be advantageous for the new GASB reporting requirements. Under the new GASB requirements, systems using an open (or rolling) amortization period typically will need to report liabilities using a lower discount rate than they would if they used a closed amortization period.

Development of Experience Gain/(Loss) Year Ended December 31, 2013

Actual experience will never (except by coincidence) exactly match assumed experience. It is hoped that gains and losses will 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:

	Gain/Loss for 2013						
	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch
(1) UAAL* at start of year	\$23,172,924	\$4,085,458	\$ 15,719,898	\$ 1,957,460	\$5,235,420	\$(239,921)	\$ 699,197
(2) Normal cost	1,585,739	134,495	1,267,314	507,698	520,564	660,488	156,808
(3) Actual contributions	3,101,051	463,016	2,295,231	443,019	962,795	525,095	180,878
(4) Interest accrual	1,569,675	274,615	1,064,827	139,260	351,178	(12,110)	48,111
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	23,227,287	4,031,552	15,756,808	2,161,399	5,144,367	(116,638)	723,238
(6) Change from benefit changes	0	0	0	0	0	0	0
(7) Change from revised assumptions	0	0	0	0	0	0	0
(8) Change from revised asset method	0	0	0	0	0	0	0
(9) Expected UAAL after changes: (5)+(6)+(7)-(8)	23,227,287	4,031,552	15,756,808	2,161,399	5,144,367	(116,638)	723,238
(10) Actual UAAL at end of year	27,240,142	4,965,486	17,975,478	2,297,725	5,642,336	452,859	1,097,210
(11) Gain/(loss): (9) - (10)	(4,012,855)	(933,934)	(2,218,670)	(136,326)	(497,969)	(569,497)	(373,972)
(12) Gain/(loss) as percent of actuarial accrued liability at start of year	(4.01)%	(8.62)%	(3.61)%	(0.82)%	(1.79)%	(2.39)%	(9.74)%

* *Unfunded Actuarial Accrued Liability.*

Development of Valuation Investment Gain (Loss)
Year Ended December 31, 2013
(Total System Assets)

The valuation assumes a 7.0% return on valuation assets. Net investment return in excess of 7.0% represents a gain. If net investment return falls short of 7.0%, the difference between an income of 7.0% and the net return represents a loss.

(1) Net 2013 Valuation Investment Income	\$ 7,893,049
(2) Average Valuation Assets	190,715,062
(3) Expected Investment Income: (.07) x (2)	13,350,054
(4) Effect of Revised Asset Method	0
(5) Gain (Loss): (1) - (3) - (4)	(5,457,005)
(6) 2013 Rate of Return on Valuation Assets	4.14%

Please note that this analysis uses asset values and investment income as defined for the actuarial valuation. It may not, therefore, be appropriate as a measure of manager performance.

Financial Objective Tests

Testing how well the financial objective is being met can be done in many ways. There is no single all-encompassing test.

Contribution rates designed to remain level will do so, as long as:

- (1) the indicated contributions are paid on a timely basis, and
- (2) experience, as it develops, is in accord with the assumptions used in the calculations.

Of course changes in benefits or assumptions will cause discontinuities. But, if these two conditions are satisfied, and the System continues indefinitely, the ultimate test will be met -- the System will be able to meet all promised benefit payments when due.

Since nothing continues in its projected pattern indefinitely, short-term tests of achievement are appropriate. One such test is a comparison of the System's present assets to:

- (1) benefit values attributable to present retired members and beneficiaries;
- (2) benefit values attributable to vested terminated members;
- (3) benefit values allocated to present active members on account of service already rendered (the value of benefits that would be incurred by the System if future service was honored solely for the purpose of qualifying for a benefit and determining final average compensation).

In a system that has been using level percent-of-payroll financing discipline, items (1) and (2) will be fully covered by present assets except in unusual demographic or benefit development circumstances. Item (3) will only be fully covered if the plan's liabilities are at least 100% funded.

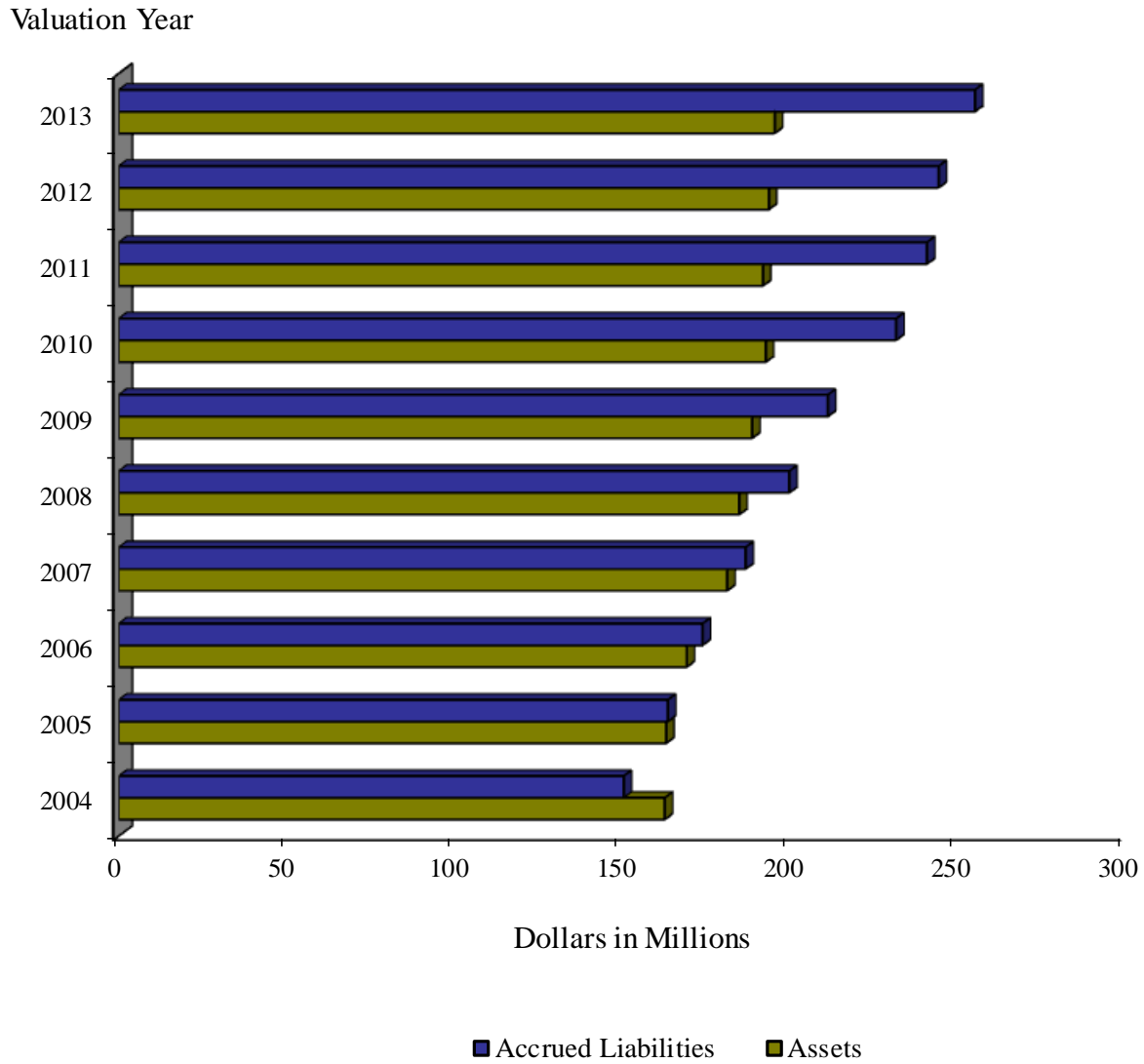
Liabilities, Assets and Funded Percents

Valuation Date	Dollar Amounts in Thousands				Percent Covered			
	Item (1)	Item (2)	Item (3)	Total	Assets	Items (1)+(2)	Item (3)	Total
12-31-1999 *	\$32,247	\$3,378	\$62,026	\$ 97,651	\$ 132,837	100.0%	156.7 %	136.0 %
12-31-2000 *	35,797	4,082	65,949	105,825	143,765	100.0	157.5	135.9
12-31-2001 *	37,296	4,764	74,300	116,360	150,305	100.0	145.7	129.2
12-31-2002 *#	45,207	5,585	74,861	125,653	148,405	100.0	130.4	118.1
12-31-2003 *#	49,666	6,005	83,471	139,142	162,683	100.0	128.2	116.9
12-31-2004 *	55,011	6,781	88,718	150,510	162,726	100.0	113.8	108.1
12-31-2005	65,187	7,371	91,084	163,642	163,152	100.0	99.5	99.7
12-31-2006	74,012	7,925	92,064	174,001	169,284	100.0	94.9	97.3
12-31-2007 *	80,000	9,052	97,789	186,841	181,320	100.0	94.4	97.0
12-31-2008 *#	82,998	9,360	107,503	199,861	184,968	100.0	86.1	92.5
12-31-2009	98,784	9,126	103,423	211,333	188,779	100.0	78.2	89.3
12-31-2010	131,317	9,597	90,767	231,681	192,859	100.0	57.2	83.2
12-31-2011	136,224	8,948	95,714	240,886	192,014	100.0	48.9	79.7
12-31-2012	137,044	10,026	97,301	244,371	193,740	100.0	48.0	79.3
12-31-2013	143,030	10,840	101,310	255,180	195,509	100.0	41.1	76.6

* Retirement System amended.

Actuarial assumptions and methods were revised.

Assets & Accrued Liabilities



2004 assets equaled 108% of accrued liabilities.
2013 assets equaled 77% of accrued liabilities.

Computed Employer Contributions Comparative Schedule

Valuation Date December 31	Active Members	Valuation Payroll	Employer Contributions As Payroll Percents						
			General	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch
1999 #	918	\$31,064,894	0.21%	\$	0.00%	0.00%	0.00%	0.00%	0.00%
2000 #	953	35,059,040	0.00	\$	0.00	0.00	0.00	0.00	2.52
2001 #	961	35,250,392	0.00	0.00	0.00	0.00	0.00	0.00	4.92
2002 #*	942	35,895,185	1.60	0.00	8.54	0.00	6.72	0.00	14.62
2003 *	958	37,862,618	3.42	0.00	9.06	0.00	10.73	0.00	15.50
2004 *	950	38,712,508	7.11	3.54	12.72	0.00	15.03	0.05	19.43
2005	974	41,047,874	12.17	12.12	14.78	4.77	15.01	3.41	18.67
2006	981	41,821,305	13.05	12.87	15.33	4.94	15.37	6.14	20.16
2007 #	961	43,152,156	13.26	14.79	17.58	5.44	14.80	4.89	18.79
2008 #*	955	43,961,798	14.92	17.63	19.43	9.60	17.17	7.12	19.45
2009	912	42,893,801	17.29	17.39	20.50	10.76	17.21	8.67	19.09
2010	818	38,418,135	22.23	32.33	24.11	11.23	18.35	10.42	20.48
2011	813	38,891,988	23.75	34.12	26.26	13.11	19.15	9.92	19.42
2012	771	37,587,747	24.18	31.98	26.92	14.01	22.02	\$ 627,471&	19.94
2013	751	36,065,439	26.19	37.77	29.40	14.00	22.72	\$ 609,357&	21.59

Retirement System amended.

* Revised actuarial assumptions or method.

\$ Prior to 2001 the County Agency group was included with the General group.

& The Mental Health division closed June 1, 2012 as such a level dollar amount should be contributed.

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

**Brief Summary of Benefit Provisions
(December 31, 2013)**

Eligibility	Amount
REGULAR RETIREMENT	
General, Library, Road Commission, Mental Health, Sheriff's Office and Central Dispatch.	See Page C-3 for details. Highest 3 consecutive years out of last 10 for all groups. Maximum Benefit: 75% of final average earnings.
DEFERRED RETIREMENT	
8 or more years of service.	Computed as a regular retirement but based upon service and final average earnings at termination date.
NON-DUTY DEATH-IN-SERVICE	
15 years of service or age 60 with 10 years of service.	Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election.
DUTY DEATH-IN-SERVICE	
No age or service requirements.	Computed as regular retirement but computed as if the member had at least 15 years of service. Must be in receipt of worker's compensation.
NON-DUTY DISABILITY	
10 or more years of service.	Computed as a regular retirement.

**Brief Summary of Benefit Provisions
(December 31, 2013)**

Eligibility	Amount
--------------------	---------------

DUTY DISABILITY

No age or service requirements.

Computed as a regular retirement benefit but computed as if the member had at least 10 years of service.

POST-RETIREMENT INCREASES

Beginning January 1, 1994 for the Road Commission Local 543 members, a program of discretionary annual increases was begun.

Other payments.

The System may from year to year pay a “13th check”. The 13th check will be based upon investment earnings that are in excess of the assumed level on assets to cover retiree liabilities. Only Road Commission has this provision within the pension fund beginning in 2012.

MEMBER CONTRIBUTIONS

Please see page C-3 for summary description. See Plan document for details.

**Monroe County Employees Retirement System
Summary of Plan Provisions by Division**

Valuation Group	Union Name	GRS Code	Tier 1				Tier 2 (If Applicable)*				
			Benefit Multiplier	FAC	EE Contribution	Normal Retirement Eligibility	Effective Date	Benefit Multiplier	FAC	EE Contribution	Normal Retirement Eligibility
General	Non-Union Other	0	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	Michigan Nurses Association	3	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	TPOAM General	4	2.50%	3 yr	3.00%	55/30 or 60/8	10/26/2010	1.50%	3 yr	3.00%	60/8
General	UAW/Friend of the Court	6	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	TPOAM District Court	26	2.50%	3 yr	3.00%	55/30 or 60/8	10/26/2010	1.50%	3 yr	3.00%	60/8
General	POAM/District Court Unit I	7	2.50%	3 yr	1.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	POAM/District Court Unit II	27	2.50%	3 yr	1.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	TPOAM Youth Center	8	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	UAW/Youth Center	28	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	United Steelworkers/Youth Center	29	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	UAW/Probate Court	11	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	POAM/Assistant Prosecutor's	14	2.50%	3 yr	3.00%	55/30 or 60/8	04/03/2012	1.50%	3 yr	3.00%	60/8
General	Non-Union Management	20	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	Elected Officials - Non-Union	22	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
General	County (Non-Union) Part-time	25	2.50%	3 yr	3.00%	55/30 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
Sheriff	POAM/Sheriff Deputies	1	2.50%	3 yr	3.00%	50/25 or 60/8	07/01/2013	1.50%	3 yr	3.00%	50/25 or 60/8
Sheriff	POLC/Command Officers	9	2.75%	3 yr	4.53%	50/25 or 60/8	04/25/2013	Retirement Benefits provided in previous position (Deputies Unit)			
Sheriff	POAM/Correctional Officers Unit I	10	2.50%	3 yr	3.00%	50/25 or 60/8	01/01/2011	1.50%	3 yr	3.00%	50/25 or 60/8
Sheriff	POAM/Correctional Officers Unit II	17	2.50%	3 yr	3.00%	50/25 or 60/8	01/01/2011	1.50%	3 yr	3.00%	50/25 or 60/8
Sheriff	Non-Union Command	30	2.75%	3 yr	4.53%	50/25 or 60/8	04/25/2013	Retirement Benefits provided in previous position (Deputies Unit)			
Dispatchers	POLC/Communication Officers	50	2.50%	3 yr	3.00%	50/25 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
Dispatchers	POLC/Communication Supervisors	16	2.50%	3 yr	3% to \$7,800 plus 5% over	50/25 or 60/8	01/01/2011	1.50%	3 yr	3% to \$7,800 plus 5% over	60/8
Dispatchers	POLC/Communication Spec	12	2.50%	3 yr	3.00%	50/25 or 60/8	01/01/2011	1.50%	3 yr	3.00%	60/8
Mental Health	AFSCME Mental Health	5	2.25%	3 yr	0.00%	55/30 or 60/8	06/01/2012	None			
Mental Health	Non-Union Mental Health	23	2.25%	3 yr	0.00%	55/30 or 60/8	06/01/2012	None			
Mental Health	Mental Health Management	24	2.25%	3 yr	0.00%	55/30 or 60/8	06/01/2012	None			
Road Commission	Local 543 Utility Workers Union of America	44	2.25%	3 yr	3.25%	55/30 or 60/8					
Road Commission	AFSCME Local 839, Unit I	45	2.25%	3 yr	3.25%	55/30 or 60/8					
Road Commission	Road Commission - Management	46	2.25%	3 yr	3.10%	55/30 or 60/8					
Road Commission	Road Non-Union Part Time	48	2.00%	5 yr	3.10%	60/8					
Library	Library (Non-Union)	73	2.00%	3 yr	0.00%	55/30 or 60/8					
Library	Library (Non-Union) Part-Time	74	2.00%	3 yr	0.00%	55/30 or 60/8					
County Agency	Utility Workers of America/County Agency	2	2.50%	3 yr	0.00%	55/30 or 60/8					
County Agency	Non-Union/County Agency	15	2.50%	3 yr	0.00%	55/30 or 60/8					

Retiree and Beneficiary Comparative Schedule

Valuation Date December 31	Added#@		Removed		End of Year		% Incr. in Annual Pensions	Ratio of Number Active Members to Number Retired	Annual Pensions as a % of Active Payroll
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions			
1989	9	\$ 77,128	3	\$ 3,742	146	\$ 738,322	11.1 %	6	3.7 %
1990	23	212,335	3	10,063	166	940,594	27.4	5	4.3
1991	22	215,357	4	7,603	184	1,148,348	21.5	5	4.9
1992	13	353,438	1	15,774	196	1,486,012	29.4	4	5.3
1993	57	871,050	4	11,283	249	2,345,779	57.9	3	9.8
1994	11	127,455	5	33,167	255	2,440,067	4.0	3	9.8
1995	15	128,773	8	45,620	262	2,523,220	3.4	3	9.6
1996	15	155,424	13	101,327	264	2,577,317	2.1	3	9.7
1997 [¢]	32 [¢]	349,817	7	84,785	289	2,842,351	10.3	3	9.9
1998	29	356,408	13	94,770	305	3,103,989	9.2	3	10.6
1999	20	245,927	19	108,557	306	3,241,359	4.4	3	10.4
2000	27	471,307	12	97,495	321	3,615,170	11.5	3	11.0
2001	18	303,760	12	126,214	327	3,792,716	4.9	3	10.8
2002	37	851,345	14	129,016	350	4,515,045	19.0	3	12.6
2003	24	367,108	10	81,849	364	4,800,304	6.3	3	12.7
2004	50	808,337	32	410,843	382	5,197,798	8.3	2	13.4
2005	64	1,196,093	12	161,273	434	6,232,617	19.9	2	15.2
2006	41	897,712	11	103,828	464	7,026,501	12.7	2	16.8
2007	51	772,282	18	147,009	497	7,651,774	8.9	2	17.7
2008	20	390,306	12	122,465	505	7,919,615	3.5	2	18.0
2009	76	1,691,456	25	289,107	556	9,321,964	17.7	2	21.7
2010	106	2,903,205	17	150,288	645	12,074,881	29.5	1	31.4
2011	40	828,299	19	279,510	666	12,623,670	4.5	1	32.5
2012	38	593,734	31	358,826	673	12,858,578	1.9	1	34.2
2013	44	919,563	17	209,449	700	13,568,692	5.5	1	37.6

Includes beneficiaries of deceased retirees.

@ Includes post-retirement adjustments.

¢ Includes 8 1998 Library retirees and 6 pre-1997 retirees not previously reported.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
General County

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35					1	\$ 7,196	1	\$ 7,196
35-39								
40-44								
45-49								
50-54	12	\$ 395,197	5	\$ 62,561			17	457,758
55-59	33	960,505	3	39,473			36	999,978
60-64	85	1,665,230	3	34,840	1	23,058	89	1,723,128
65-69	64	1,323,886	6	64,589			70	1,388,475
70-74	49	807,087	2	18,871	2	22,824	53	848,782
75-79	29	297,950	3	14,306			32	312,256
80-84	17	285,387					17	285,387
85-89	11	76,951					11	76,951
90+	9	77,037					9	77,037
Total	309	\$ 5,889,230	22	\$ 234,640	4	\$ 53,078	335	\$ 6,176,948

Average Age at Retirement: 59.4 years.

Average Age Now: 68.0 years.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
County Agency

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35								
35-39								
40-44								
45-49			1	\$ 24,158			1	\$ 24,158
50-54	7	\$ 247,413					7	247,413
55-59	2	78,999	1	12,351			3	91,350
60-64	5	175,655					5	175,655
65-69	5	124,551			1	\$ 12,454	6	137,005
70-74								
75-79	3	26,201					3	26,201
80-84	3	23,651					3	23,651
85-89								
90+	2	12,259					2	12,259
Total	27	\$ 688,729	2	\$ 36,509	1	\$ 12,454	30	\$ 737,692

Average Age at Retirement: 55.8 years.

Average Age Now: 65.4 years.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
Sheriff's Office

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35								
35-39								
40-44			2	\$ 28,185			2	\$ 28,185
45-49			2	40,138			2	40,138
50-54	11	\$ 501,049	3	72,258			14	573,307
55-59	15	600,024	5	87,319			20	687,343
60-64	30	918,936	2	30,582	2	\$ 26,161	34	975,679
65-69	17	394,429	4	28,432			21	422,861
70-74	7	133,619	4	32,771			11	166,390
75-79	10	176,288					10	176,288
80-84	3	45,068					3	45,068
85-89	2	23,456					2	23,456
90+								
Total	95	\$ 2,792,869	22	\$ 319,685	2	\$ 26,161	119	\$ 3,138,715

Average Age at Retirement: 53.6 years.

Average Age Now: 63.9 years.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
Library

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35								
35-39								
40-44								
45-49								
50-54								
55-59	1	\$ 39,955					1	\$ 39,955
60-64	9	252,114					9	252,114
65-69	15	249,792					15	249,792
70-74	5	96,551					5	96,551
75-79	6	61,696					6	61,696
80-84	4	68,843					4	68,843
85-89	4	30,406					4	30,406
90+	2	6,563					2	6,563
Total	46	\$ 805,920					46	\$ 805,920

Average Age at Retirement: 60.8 years.

Average Age Now: 71.9 years.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
Road Commission

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35								
35-39								
40-44								
45-49								
50-54								
55-59	6	\$ 138,940	1	\$ 13,741			7	\$ 152,681
60-64	10	203,259	2	22,233			12	225,492
65-69	22	399,604	2	30,672			24	430,276
70-74	8	178,453	1	6,673			9	185,126
75-79	9	178,116					9	178,116
80-84	11	172,472			2	\$ 20,240	13	192,712
85-89	9	92,919					9	92,919
90+								
Total	75	\$ 1,363,763	6	\$ 73,319	2	\$ 20,240	83	\$ 1,457,322

Average Age at Retirement: 58.4 years.

Average Age Now: 72.2 years.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
Mental Health Authority

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35								
35-39								
40-44								
45-49			1	\$ 15,745			1	\$ 15,745
50-54			1	23,740			1	23,740
55-59	9	\$ 99,493			1	\$ 19,195	10	118,688
60-64	30	393,391			1	16,654	31	410,045
65-69	16	266,150					16	266,150
70-74	14	179,592					14	179,592
75-79	3	38,097					3	38,097
80-84	2	16,234					2	16,234
85-89								
90+								
Total	74	\$ 992,957	2	\$ 39,485	2	\$ 35,849	78	\$ 1,068,291

Average Age at Retirement: 59.5 years.

Average Age Now: 65.4 years.

Retirees and Beneficiaries December 31, 2013
Tabulated by Attained Age
Central Dispatchers

Age	Age & Service		Disability		Survivor		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 35								
35-39								
40-44								
45-49			1	\$ 16,739			1	\$ 16,739
50-54	1	\$ 41,491					1	41,491
55-59			2	36,721			2	36,721
60-64	2	50,322	1	14,786			3	65,108
65-69								
70-74	2	23,745					2	23,745
75-79								
80-84								
85-89								
90+								
Total	5	\$ 115,558	4	\$ 68,246			9	\$ 183,804

Average Age at Retirement: 55.4 years.

Average Age Now: 61.4 years.

Inactive Vested Members December 31, 2013
Tabulated by Attained Age

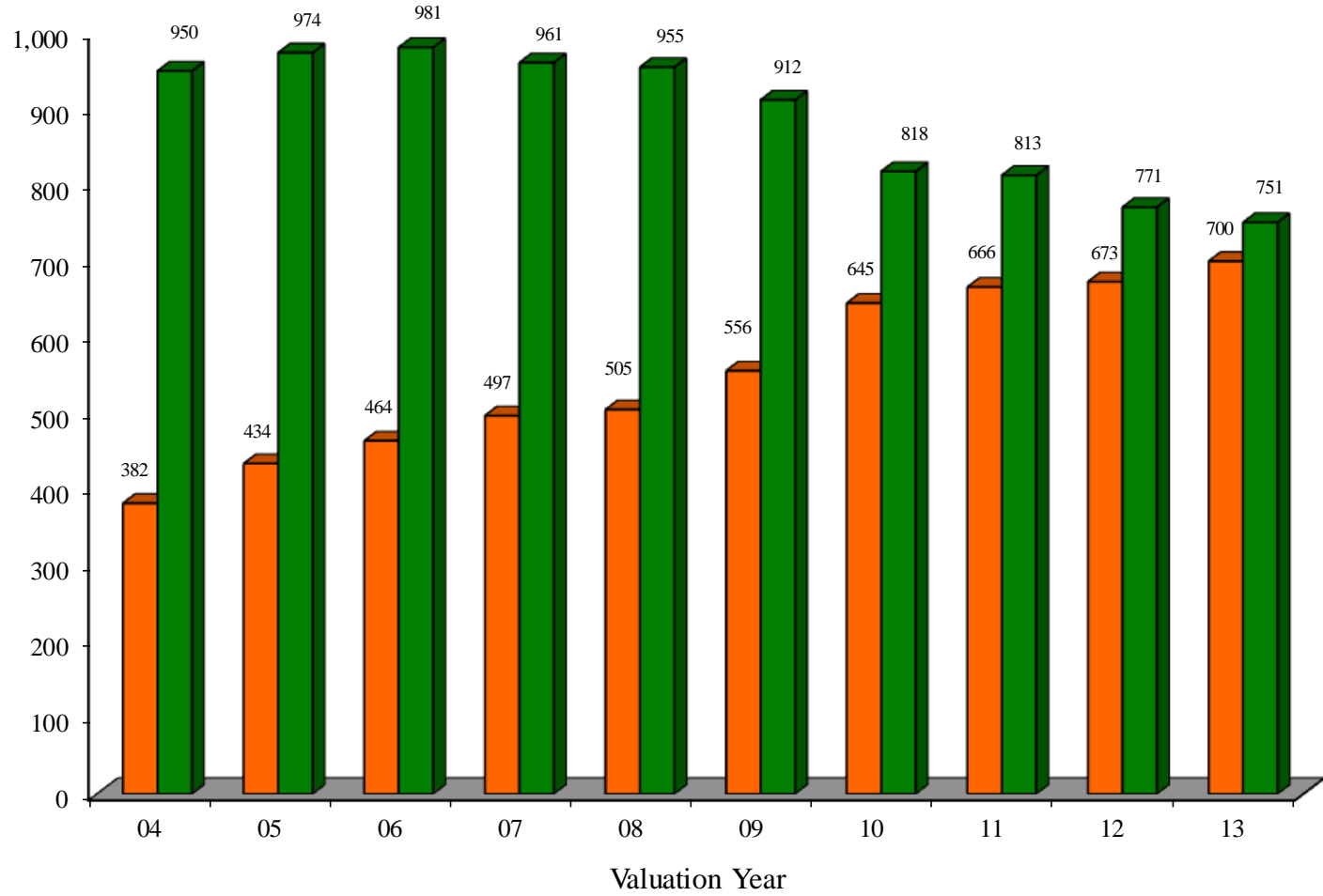
<u>Age & Service</u>		
<u>Age</u>	<u>No.</u>	<u>Annual Benefits</u>
30	1	\$ 8,470
33	2	19,733
34	2	16,857
35	1	7,929
36	3	28,842
37	2	18,969
38	1	37,921
39	2	15,841
40	5	43,954
41	5	63,892
42	3	26,155
43	4	48,754
44	1	6,088
45	6	58,977
46	4	30,367
47	5	40,455
48	7	43,874
49	7	83,599
50	7	107,011
51	9	94,912
52	9	90,455
53	5	86,215
54	5	51,303
55	6	73,350
56	5	74,371
57	12	223,748
58	6	81,315
59	11	140,537
61	1	10,278

Total	137	\$1,634,172
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Average Age at Termination: 40.6 years.
Average Age Now: 50.0 years.

Active Members & Benefit Recipients

Covered Persons



Benefit Recipients Active Members

Active Members December 31, 2013

Division	Total	
	No.	Annual Pays
General County	287	\$12,446,928
County Agency	24	1,170,542
Sheriff's Office	136	8,197,373
County Library	122	4,623,839
Road Commission	72	3,870,367
Mental Health	89	4,728,139
Central Dispatchers	21	1,028,250
Total	751	\$36,065,439

Comparative Schedule

Valuation Date December 31	Active Members	Valuation Payroll	Average			% Increase
			Age	Service	Pay	
1989	817	\$20,190,049	41.5	9.7	\$24,712	2.8 %
1990	836	21,801,469	41.3	9.6	26,078	5.5
1991	873	23,521,982	41.4	9.6	26,944	3.3
1992	861	24,393,164	41.9	10.1	28,331	5.1
1993	867	23,999,619	41.1	9.3	27,681	(2.3)
1994	862	24,966,463	41.7	9.9	28,963	4.6
1995	892	26,408,333	41.8	10.1	29,606	2.2
1996	870	26,643,235	42.3	10.8	30,624	3.4
1997	890	28,814,126	42.6	10.9	32,375	5.7
1998	874	29,309,641	42.5	10.8	33,335	3.6
1999	918	31,064,894	42.8	10.7	33,840	1.5
2000	953	32,749,688	42.8	10.5	34,365	1.6
2001	961	35,250,392	42.8	10.5	36,681	6.7
2002	942	35,895,185	43.3	10.8	38,105	3.9
2003	958	37,862,618	43.9	11.1	39,523	3.7
2004	950	38,712,508	44.0	11.2	40,750	3.1
2005	974	41,047,874	44.1	10.8	42,144	3.4
2006	981	41,821,305	44.1	10.8	42,631	1.2
2007	961	43,152,156	44.4	11	44,903	5.3
2008	955	43,961,798	45.1	11.4	46,033	2.5
2009	912	42,893,801	44.9	11.2	47,033	2.2
2010	818	38,418,135	44.5	11.0	46,966	(0.1)
2011	813	38,891,988	44.9	11.2	47,838	1.9
2012	771	37,587,747	45.4	11.9	48,752	1.9
2013	751	36,065,439	45.6	12.8	48,023	(1.5)

Certain Road Commission employees were included in this schedule for the first time in 1984. Certain other Road Commission employees were included in this schedule for the first time in 1987.

**Active General County Members December 31, 2013
by Attained 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	3							3	\$ 78,669
25-29	13	3						16	500,667
30-34	7	9	5	1				22	772,793
35-39	10	3	19	2				34	1,563,063
40-44	11	8	6	6	7	1		39	1,737,087
45-49	7	3	9	8	8	7	1	43	1,833,771
50-54	10	4	9	14	8	8	4	57	2,619,082
55-59	8	5	11	6	3	3	2	38	1,603,670
60		1	1	5		1	2	10	530,922
61	1	1		1	2	1		6	290,998
62	1		1			1		3	91,849
63		1	1	1			2	5	275,647
64					2			2	102,132
65	1			1				2	105,936
66	1	1					1	3	114,888
67									
68									
69	1			1				2	159,256
70 & Up	1					1		2	66,498
Totals	75	39	62	46	30	23	12	287	\$12,446,928

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

Age: 46.9 years.
 Service: 13.0 years.
 Annual Pay: \$43,369.

**Active County Agency Members December 31, 2013
by Attained 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	\$ 38,315
25-29	2	1						3	142,305
30-34		1						1	49,342
35-39		2	1	1				4	200,263
40-44	1	1	1					3	159,450
45-49					3	2		5	251,137
50-54			2	1	3			6	292,846
55-59						1		1	36,884
Totals	4	5	4	2	6	3		24	\$1,170,542

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

Age: 42.3 years.

Service: 14.8 years.

Annual Pay: \$48,773.

Active Sheriff's Office Members December 31, 2013
by Attained 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	3							3	\$ 120,943
25-29	2							2	74,684
30-34	3	8	8					19	1,119,889
35-39	3	2	21	8				34	1,977,912
40-44	2	4	5	18	6			35	2,202,390
45-49			6	5	9	5		25	1,677,358
50-54			1	5	3	3		12	646,922
55-59			1	2	3			6	377,275
Totals	13	14	42	38	21	8		136	\$8,197,373

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

Age: 41.4 years.

Service: 14.9 years.

Annual Pay: \$60,275.

**Active County Library Members December 31, 2013
by Attained 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	5							5	\$ 183,403
25-29	8	3						11	353,073
30-34	6	4						10	366,478
35-39	1	1	3					5	225,973
40-44	7	4		1				12	428,924
45-49	6	2	3	1	2	1		15	566,052
50-54	9	3	3		1	2	4	22	894,920
55-59	9	4	5		1	1	2	22	883,552
60						1		1	36,414
61	1	1		1		1		4	133,342
62	2			1	1			4	160,208
63					1			1	54,596
64	1	2		1				4	148,954
65 & Up	6							6	187,950
Totals	61	24	14	5	6	6	6	122	\$4,623,839

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

Age: 47.6 years.
Service: 8.6 years.
Annual Pay: \$37,900.

**Active Road Commission Members December 31, 2013
by Attained 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
25-29									
30-34		1						1	\$ 51,451
35-39		2	4	2				8	464,751
40-44	1	1	6	2	5			15	793,759
45-49		1	3	3	7	5		19	1,025,576
50-54		1	8	4	2	2		17	868,668
55-59		1	4	1	4	1	1	12	666,162
65									
Totals	1	7	25	12	18	8	1	72	\$3,870,367

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

Age: 47.6 years.

Service: 17.1 years.

Annual Pay: \$53,755.

**Active Mental Health Members December 31, 2013
by Attained 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									
25-29	3							3	\$ 134,425
30-34	3	7	1	1				12	537,033
35-39		7	3	1				11	476,081
40-44	3	3	4	2				12	729,926
45-49	3	4	6	1	4	3		21	1,106,818
50-54	3	3	2	1	4	1		14	706,329
55-59	1	3	1		4			9	544,466
61				2	1			3	235,869
63				1				1	52,255
65		1						1	97,021
69		1						1	51,784
70		1						1	56,132
Totals	16	30	17	9	13	4		89	\$4,728,139

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

Age: 45.9 years.

Service: 11.4 years.

Annual Pay: \$53,125.

**Active Central Dispatch Members December 31, 2013
by Attained 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	\$ 42,369
25-29	2	1						3	123,738
30-34	2	2						4	188,861
35-39	1	2	1					4	200,866
40-44			2	1				3	168,864
45-49	1		2	1				4	181,205
50-54				1				1	55,110
55-59						1		1	67,237
Totals	6	6	5	3		1		21	\$1,028,250

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

Age: 38.5 years.
 Service: 9.7 years.
 Annual Pay: \$48,964.

**Summary of Financial Information Furnished for Valuation
(System Totals)**

Market Value

Revenues and Expenditures

REVENUES:

a. Member contributions	\$ 731,761
b. Employer contributions	7,239,324
c. Interest and dividends	4,516,277
d. Realized and unrealized gain (loss)	<u>16,944,164</u>
e. Total revenues	29,431,526

EXPENDITURES:

a. Refunds of member contributions	434,673
b. Retirement benefits paid	13,454,068
c. Administrative expense	207,058
d. Investment expense	<u>987,410</u>
e. Total expenditures	<u>15,083,209</u>

RESERVE INCREASE:

Total revenues minus total expenditures	<u>\$ 14,348,317</u>
---	----------------------

Market Value Assets

Cash and cash equivalents*	\$ 358,307
Other short-term investments	7,270,303
Bonds - U.S. Guaranteed	16,770,170
- Other	23,286,970
Stocks	139,625,835
Real Estate	<u>2,329,552</u>
Total Assets	<u>\$189,641,137</u>

* Net of payables, if any.

Development of Pension Valuation Assets

Valuation Date December 31:	2009	2010	2011	2012	2013
1. Beginning of Year Assets					
a) Market Value	\$148,763,118	\$165,646,245	\$176,702,630	\$166,315,177	\$175,292,820
b) Valuation Assets	184,967,843	188,779,278	192,859,386	192,651,711	193,777,419
2. End of Year Market Value Assets	165,646,245	176,702,630	166,315,177	175,292,820	189,641,137
3. Net Additions to Market Value					
a) Net Contributions	5,743,482	7,774,958	6,657,763	7,954,023	7,971,085
b) Net Investment Income = (3d) - (3a) - (3c)	21,216,280	15,762,089	(3,588,911)	14,663,959	20,473,031
c) Benefit Payments, Refunds, and Admin Expenses	(10,076,635)	(12,480,662)	(13,456,305)	(13,640,339)	(14,095,799)
d) Total Additions to Market Value = (2) - (1a)	16,883,127	11,056,385	(10,387,453)	8,977,643	14,348,317
4. Average Valuation Assets =					
(1b) + .5 x [(3a) + (3c)]	182,801,267	186,426,426	189,460,115	189,808,553	190,715,062
5. Expected Income at Valuation Rate = 7% x (4)	12,796,089	13,049,850	13,262,208	13,286,599	13,350,054
6. Gain (Loss) = (3b) - (5)	8,420,191	2,712,239	(16,851,119)	1,377,360	7,122,977
7. Phased-In Recognition of Investment Return					
a) Current Year: 1/7 x (6)	1,202,884	387,463	(2,407,303)	196,766	1,017,568
b) First Prior Year	(6,932,800)	1,202,884	387,463	(2,407,303)	196,766
c) Second Prior Year	1,078,415	(6,932,800)	1,202,884	387,463	(2,407,303)
d) Third Prior Year	0	1,078,415	(6,932,800)	1,202,884	387,463
e) Fourth Prior Year	0	0	1,078,415	(6,932,800)	1,202,884
f) Fifth Prior Year	0	0	0	1,078,415	(6,932,800)
g) Sixth Prior Year	0	0	0	0	1,078,417
h) Total Recognized Investment Gain	(4,651,501)	(4,264,038)	(6,671,341)	(6,474,575)	(5,457,005)
8. Change in Valuation Assets					
(3a) + (3c) + (5) + (7h)	3,811,435	4,080,108	(207,675)	1,125,708	1,768,335
9. Preliminary Valuation Assets = (1b) + (8)	188,779,278	192,859,386	192,651,711	193,777,419	195,545,754
10. Corridor					
a) Lower Limit: 80% x (2) [80% prior to 2008]	119,265,296	130,759,946	126,399,535	136,728,400	151,712,910
b) Upper Limit: 120% x (2) [120% prior to 2008]	212,027,194	222,645,314	206,230,819	213,857,240	227,569,364
c) Adjustment to (9) to fit Limits	0	0	0	0	0
11. End of Year Assets					
a) Market Value = (2)	165,646,245	176,702,630	166,315,177	175,292,820	189,641,137
b) Valuation Assets = (9) + (10c)	188,779,278	192,859,386	192,651,711	193,777,419	195,545,754
c) Difference Between Market & Valuation Assets	(23,133,033)	(16,156,756)	(26,336,534)	(18,484,599)	(5,904,617)
d) Investment Return = (5) + (7h) + (10c)	8,144,588	8,785,812	6,590,867	6,812,024	7,893,049
12. Recognized Rate of Return = (11d) / (4)	4.46%	4.71%	3.48%	3.59%	4.14%
13. Market Rate of Return = 2 x (3b) / [(1a) + (2) - (3b)]	14.47%	9.65%	(2.07%)	8.97%	11.89%

Allocation of Pension Valuation Assets December 31, 2013 Valuation

	Allocation of Retirement Systems Assets for 2013						
	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch
(1) Valuation assets at start of year	\$76,894,211	\$6,743,007	\$45,714,045	\$14,685,586	\$22,579,749	\$24,020,919	\$3,139,902
(2) Employee contributions	316,446	15,620	246,825	0	129,079	0	23,791
(3) Employer contributions	2,784,605	447,396	2,048,406	443,019	833,716	525,095	157,087
(4) Benefits paid	6,145,317	700,746	3,068,118	837,446	1,506,093	990,859	205,489
(5) Refund of contributions	32,305	8,202	198,651	0	123,046	13,115	59,354
(6) Administrative expense Allocated on BOY asset value	82,180	7,207	48,856	15,695	24,092	25,672	3,356
(7) Average valuation assets [(1) + 0.5*{(2) + (3) - (4) - (5) - (6)}]	75,314,834	6,616,438	45,203,848	14,480,525	22,234,531	23,768,644	3,096,242
(8) Investment income Allocated on average valuation assets	3,117,025	273,832	1,870,834	599,300	920,212	983,703	128,143
(9) Transfer In	0	0	0	0	0	0	0
Transfer Out	0	0	0	0	0	0	0
Net Transfer of Assets	0	0	0	0	0	0	0
(10) 13th Check Assets	0	0	0	0	37,121	0	0
(11) Valuation assets at end of year [(1) + (2) + (3) - (4) - (5) - (6) + (8) + (9) - (10)]	76,852,485	6,763,700	46,564,485	14,874,764	22,772,404	24,500,071	3,180,724
(12) Total revenues [(2) + (3) + (8)]	6,218,076	736,848	4,166,065	1,042,319	1,883,007	1,508,798	309,021
Percentage of revenue attributable to:							
Employee contributions	5.1%	2.1%	5.9%	0.0%	6.9%	0.0%	7.7%
Employer contributions	44.8%	60.7%	49.2%	42.5%	44.3%	34.8%	50.8%
Investment income	50.1%	37.2%	44.9%	57.5%	48.8%	65.2%	41.5%
(13) Total expenditures [(4) + (5) + (6)]	6,259,802	716,155	3,315,625	853,141	1,653,231	1,029,646	268,199
Percentage of expenditure attributable to:							
Benefits paid	98.2%	97.9%	92.5%	98.2%	91.1%	96.2%	76.6%
Refund of contributions	0.5%	1.1%	6.0%	0.0%	7.4%	1.3%	22.1%
Administrative expenses	1.3%	1.0%	1.5%	1.8%	1.5%	2.5%	1.3%

Note: Revenues and expenditures exclude transfers in/out of assets.

Monroe County
General County, County Agency, Sheriff's and Dispatchers
13th Check Excess Reserve Fund

Year	(a)	(b)	(c)	(d)	(e)	(f)	(g)	Fund Balance EOY	
	Return on AVA	Assumed Return on AVA	Net Rate of Return (a)-(b)	Retiree Liabilities as of 12/31	Annual Transfer Amount Before Limit (c) * (d)	Fund Balance BOY	Distributions During Year	(h) Before Limit (e) + (f) + (g)	(i) After Limit
2003	2.97%	7.00%	0.00%	\$32,530,519	\$ 0	\$ 798,365	\$ (100,000)	\$ 698,365	\$ 698,365
2004	2.68%	7.00%	0.00%	37,200,540	-	698,365	(100,000)	598,365	598,365
2005	3.30%	7.00%	0.00%	45,437,890	-	598,365	(100,000)	498,365	498,365
2006	6.34%	7.00%	0.00%	53,127,878	-	498,365	(100,000)	398,365	398,365
2007	9.24%	7.00%	2.24%	55,057,742	1,233,293	398,365	(100,000)	1,531,658	1,000,000
2008	3.74%	7.00%	0.00%	56,708,971	-	1,000,000	(100,000)	900,000	900,000
2009	4.46%	7.00%	0.00%	72,423,887	-	900,000	(100,000)	800,000	800,000
2010	4.71%	7.00%	0.00%	103,203,265	-	800,000	(99,900)	700,100	700,100
2011	3.48%	7.00%	0.00%	104,763,990	-	700,100	(99,900)	600,200	600,200
2012	3.59%	7.00%	0.00%	104,543,231	(550,200)	600,200	(50,000)	0	0
2013	4.14%	7.00%	0.00%	109,884,192	-	0	0	0	0

This account was closed in 2012.

**Monroe County
Road Commission
13th Check Excess Reserve Fund**

Year	(a)	(b)	(c)	(d)	(e)	(f)	(g)	Fund Balance EOY 1/	
	Return on AVA	Assumed Return on AVA	Net Rate of Return (a)-(b)	Mean Value of Retiree Liabilities as of 12/31	Annual Transfer Amount Before Limit (c) * (d)	Fund Balance BOY	Distributions During Year	(h) Before Limit (e) + (f) + (g)	(i) After Limit
2005	3.30%	7.00%	0.00%	\$12,726,404	\$ 0	\$ 143,151	\$ (46,959)	\$ 96,192	\$ 96,192
2006	6.34%	7.00%	0.00%	13,526,748	-	96,192	(54,213)	41,979	41,979
2007	9.24%	7.00%	2.24%	13,827,789	309,742	41,979	(58,500)	293,221	293,221
2008	3.74%	7.00%	0.00%	14,150,636	-	293,221	(64,900)	228,321	228,321
2009	4.46%	7.00%	0.00%	14,320,440	-	228,321	(62,800)	165,521	165,521
2010	4.71%	7.00%	0.00%	14,662,971	-	165,521	(62,800)	102,721	102,721
2011	3.48%	7.00%	0.00%	15,024,437	-	102,721	(65,100)	37,621	37,621
2012	3.59%	7.00%	0.00%	14,546,449	70,000	37,621	(70,500)	37,121	37,121
2013	4.14%	7.00%	0.00%	14,530,255	70,500	37,121	(70,500)	37,121	37,121

1/ Based on the 13th check provision of crediting 0% to the Excess Reserve Fund.

SECTION D

FINANCIAL PRINCIPLES, ACTUARIAL VALUATION
PROCESS, ACTUARIAL COST METHODS, AND
ACTUARIAL ASSUMPTIONS

Valuation Methods

Actuarial Cost Method. Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- i) the annual normal costs for each individual active member, payable from the hire date to the date of retirement, are sufficient to accumulate to the value of the member's benefit earned.
- ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Asset Valuation Method. Last year's valuation assets are increased by contributions and regular investment income and reduced by refunds, benefit payments and expenses. The difference between the actual investment return and the expected return is phased-in over a 7-year period. The result must be no more than 30% from the market value of assets for the December 31, 2008 valuation. The percentage that the valuation assets can differ from the market value of assets will decrease each subsequent year by 2% until a 20% corridor is reached. In the December 31, 2013 valuation the corridor is 20%.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by level (principal & interest combined) percent-of-payroll contributions (level dollar for Mental Health Division) as follows:

Divisions that are underfunded – 20-year open amortization

Divisions that are over-funded – 10-year open amortization

Actuarial Assumptions Used for the Valuation

Investment Return (net of investment expenses).

3.0% per year in excess of pay inflation. If pay inflation matches the assumption of 4.0%, this implies a 7% rate of return.

This assumption is used to equate the value of payments due at different points in time and was first used for the December 31, 2002 valuation and re-evaluated for the December 31, 2008 valuation. Approximate rates of investment return, for the purpose of comparisons with assumed rates, are shown below. Actual increases in average active member pay are also shown for comparative purposes.

	Year Ended December 31					5-Year Average*
	2013	2012	2011	2010	2009	
Rate of Investment Return	4.1%	3.6%	3.5%	4.7%	4.5%	4.1%
Increase in Average Pay	(1.5)	1.9	1.9	(0.1)	2.2	0.9%
Real Rate of Return	5.6	1.7	1.6	4.8	2.3	3.2

* Compound rate of increase.

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

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems. The rate of return on member contribution was assumed to be 5.0%.

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, 2008 valuation.

Annual Rate of Pay Increases for Sample Ages							
Years of Service	Base (Economic)	Merit and Longevity			Total		
		General, Library, County Agency, Sheriff's Office, Cent. Dispatch	Road Commission	Mental Health	General, Library, County Agency, Sheriff's Office, Cent. Dispatch	Road Commission	Mental Health
1	4.0%	2.8%	2.0%	7.0%	6.8%	6.0%	11.0%
2	4.0	2.8	2.0	4.0	6.8	6.0	8.0
3	4.0	2.8	2.0	4.0	6.8	6.0	8.0
4	4.0	2.8	2.0	4.0	6.8	6.0	8.0
5	4.0	2.8	0.5	4.0	6.8	4.5	8.0
6	4.0	2.8	0.5	4.0	6.8	4.5	8.0
7	4.0	2.8	0.5	0.5	6.8	4.5	4.5
8	4.0	2.8	0.5	0.5	6.8	4.5	4.5
9+	4.0	0.5	0.5	0.5	4.5	4.5	4.5

Actual average pay has increased at the following rates:

Year Ended December 31					5-Year Average
2013	2012	2011	2010	2009	
(1.5)%	1.9%	1.9%	(0.1)%	2.2%	0.9%

* Compound rate of increase.

The mortality table (a risk assumption) used was the RP-2000 Mortality Table for males and females, projected 20 years using scale AA. The assumptions were first used for the December 31, 2008 valuation.

Sample Ages	Single Life Retirement Values			
	Value at Retirement of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	\$152.58	\$154.61	32.77	34.63
55	144.15	146.80	28.04	29.88
60	133.48	137.08	23.47	25.31
65	120.71	125.53	19.17	21.02
70	106.09	112.39	15.22	17.06
75	89.18	97.66	11.58	13.47
80	71.11	81.35	8.42	10.23

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each pension payment being made after retirement. For disability retirements, the RP-2000 Mortality Table projected 20 years using scale AA, was used with a 3-year set forward.

The ***Rates of Retirement***. (A risk assumption) used to measure the probabilities of an eligible member retiring during the next year were as follows:

Retirement Ages	Percent of Active Members Retiring within Next Year		
	General County, County Agency, Mental Health and County Library	Sheriff's Office & Central Dispatch	Road Commission
50		18.8 %	
51		18.8	
52		18.8	
53		25.0	
54		25.0	
55	37.5 %	25.0	12.5 %
56	12.5	25.0	12.5
57	12.5	12.5	25.0
58	12.5	6.3	25.0
59	12.5	6.3	25.0
60	18.8	6.3	50.0
61	18.8	6.3	50.0
62	18.8	6.3	50.0
63	18.8	6.3	50.0
64	6.3	6.3	50.0
65	6.3	100.0	100.0
66	6.3		
67	6.3		
68	6.3		
69	6.3		
70	100.0		

These rates were first used for the December 31, 2008 valuation for all groups.

Administrative Expenses. 0.65% of payroll.

Active Member Group Size. The number of active members was assumed to remain constant, except Mental Health which is closed to new hires. This assumption is unchanged from previous valuations.

Rates of separation from active membership (a risk assumption) were as follows:

(Rates do not apply to members eligible for regular retirement and do not include separation on account of death or disability.) This assumption measures the probabilities of members remaining in employment. These rates were first used for the December 31, 2008 valuation for all groups.

**Sample Rates of Separation from Active Employment
Before Retirement, Death or Disability**

Sample Ages	% of Active Members Separating within Next Year			
	Years of Service	General County, County Agency, Mental Health and County Library	Sheriff's Office & Central Dispatch	Road Commission
ALL	0	15.00%	15.00%	15.00%
	1	13.00	9.00	12.00
	2	12.00	7.00	10.50
	3	8.00	7.00	9.00
	4	8.00	7.00	9.00
25	5 & Over	7.65	3.00	6.00
30		7.65	3.00	3.00
35		6.80	2.00	3.00
40		5.10	2.00	3.00
45		3.40	1.75	2.00
50		3.40	1.00	2.00
55		0.85	0.50	1.00
60	0.85	0.00	1.00	

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

Sample Ages	Number of Disabilities Per 100 Eligible Members	
	Men	Women
20	0.09%	0.08%
25	0.09	0.08
30	0.09	0.08
35	0.09	0.08
40	0.24	0.28
45	0.32	0.32
50	0.59	0.45
55	1.07	0.61
60	1.70	0.81

85% of the disabilities were assumed to be non-duty related. For the Sheriff's Office and Road Commission employees, 50% of the disabilities are assumed to be duty related.

Miscellaneous and Technical Assumptions

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	On the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined using the age nearest birthday and the service nearest whole year on the anniversary of the valuation date.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and death-in-service decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is straight life form.
Loads:	None.
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. New entrant normal cost contributions are applied to the funding of new entrant benefits.

SECTION E

FINANCIAL DISCLOSURE IN CONFORMANCE WITH STATEMENT NO. 25 OF THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

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

Monroe County Employees Retirement System

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b-a)/c
12/31/2004*	\$162,725,639	\$ 150,510,011	\$ (12,215,628)	108.1	\$38,712,508	(31.6) %
12/31/2005	163,151,579	163,641,875	490,296	99.7	41,047,874	1.2
12/31/2006	169,283,765	174,001,978	4,718,213	97.3	41,821,305	11.3
12/31/2007*	181,320,182	186,841,313	5,521,131	97.0	43,152,156	12.8
12/31/2008*#	184,967,843	199,860,437	14,892,594	92.5	43,961,798	33.9
12/31/2009	188,779,278	211,333,497	22,554,219	89.3	42,893,801	52.6
12/31/2010	192,859,386	231,680,911	38,821,525	83.2	38,418,135	101.0
12/31/2011	192,013,890	240,885,825	48,871,935	79.7	38,891,988	125.7
12/31/2012	193,740,298	244,370,734	50,630,436	79.3	37,587,747	134.7
12/31/2013	195,508,633	255,179,869	59,671,236	76.6	36,065,439	165.5

* Plan amended.

Assumptions revised.

Notes: Values take account of all System benefits except retiree health benefits. 13th checks to retirees that were paid from System assets before the valuation date and as scheduled to be paid during 2014 are reflected in the valuation. No additional 13th checks have been considered.

Actuarial Cost Method

Individual Entry-Age Normal Cost

Asset Valuation

Market value with 7-year smoothing

Amortization Method

Level percent-of-payroll

Equivalent Single Amortization Period

20 years, open

Principal Actuarial Assumptions (last revised for the 12/31/2008 valuation):

- Net Investment Return*

7.0%

- Projected Salary Increases*

4.5% to 11.0%

- Cost-of-Living Adjustments

4.5%, certain Road Commission members only

* Includes pay inflation at 4.0%.

July 21, 2014

Ms. Sandy Calkins
Monroe County Employees Retirement System
840 South Roessler Street
Monroe, MI 48161

Re: December 31, 2013 Annual Actuarial Valuation Report

Dear Ms. Calkins:

Enclosed please find 12 copies of the December 31, 2013 annual actuarial valuation report.

Sincerely,



Mark Buis, FSA, EA, MAAA

MB:dj
Enclosures

cc: Ms. Nancy Bellaire, Director (Monroe County Library System)
Ms. Sherrie Becker (Monroe Community Mental Health Authority)
Mr. Michael Bosanac (County of Monroe)
Ms. Deborah Turner (Monroe County Road Commission)