

**MONROE COUNTY EMPLOYEES RETIREMENT SYSTEM**  
**BASIC RETIREMENT BENEFITS**  
ACTUARIAL VALUATION REPORT  
DECEMBER 31, 2012



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August 13, 2013

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

**Re: Monroe County Employees Retirement System Actuarial Valuation as of December 31, 2012**

Dear Board Members:

The results of the December 31, 2012 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.

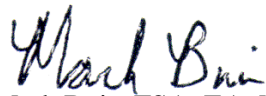
The purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending December 31, 2014, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 25.

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.

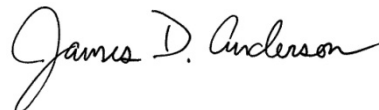
Please see the following page for additional disclosures required by the Actuarial Standards of Practice.

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:sac

## **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, 2012.

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**SECTION A**  
EXECUTIVE SUMMARY

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## 1. Required Total Contributions - Fiscal Year Beginning January 1, 2014

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

Division	Computed Employer Contribution Rates	
	% of Payroll	\$ Based on 12/31/12 Payroll
General County	24.18 %	\$3,405,549
County Agency	31.98	443,264
Sheriff's Office	26.92	2,566,722
County Library	14.01	628,542
Road Commission	22.02	935,032
Mental Health	N/A	627,471
Central Dispatch	19.94	206,597

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 Rate Comparison

Required contribution rates have changed from the last valuation as follows:

Division	Computed Contributions	
	Actual 12/31/11	Actual 12/31/12
General County	23.75 %	24.18 %
County Agency	34.12	31.98
Sheriff's Office	26.26	26.92
County Library	13.11	14.01
Road Commission	19.15	22.02
Mental Health	9.92	\$627,471
Central Dispatch	19.42	19.94

### 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 actuarial assumptions or methods since the last actuarial valuation.

The following were changes in plan provisions:

- The Mental Health Division is now closed.
- The 13<sup>th</sup> check has been eliminated for the General County, County Agency, Sheriff's Office and Central Dispatch groups.

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

### 4. 2012 Plan Experience

Plan experience during the year was unfavorable for most groups with an overall experience gain/(loss) of (\$2,011,776). The gain/loss development is shown on page B-7 separately for each division.

All groups experienced unfavorable investment experience. Investment experience on the smoothed market basis was 3.59% compared to the 7% return assumed in the valuation. Unfavorable investment experience was partially offset by liability gains associated with lower pays than assumed.

Investment Gain/(Loss)	\$(6,474,575)
Non-Investment Gain/(Loss)	<u>4,462,799</u>
Gain/(Loss) from all causes	\$(2,011,776)

### 5. 2012 Funding Position

This year the actuarial value of assets represents 79% of accrued liabilities; last year the ratio was 80%.

As of December 31, 2012 valuation assets exceed the market value of assets by \$18,484,599. 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 72%.

## **6. Retiree Reserve Balance**

For the Sherriff's Office, County Library 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.

## **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.



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## **SECTION B**

### **VALUATION RESULTS, COMMENTS AND COMPARABLE SCHEDULES**

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## **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, 2014 are presented on pages B-2 and B-3.

**Contributions to Provide Benefits  
December 31, 2012 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	10.83 %	9.47 %	13.59 %	9.64 %	11.06 %	\$ 574,266	13.27 %
Disability	0.73	0.96	0.85	0.44	1.08	32,536	0.84
Death in service	0.38	0.41	0.35	0.25	0.28	18,437	0.37
Future refunds	0.15	0.00	0.02	0.00	0.38	-	0.12
Administrative expenses	0.65	0.65	0.65	0.65	0.65	35,248	0.65
Totals	12.74	11.49	15.46	10.98	13.45	660,488	15.25
Amortization of UAL	11.44	20.49	11.46	3.03	8.57	(33,017)	4.69
Computed Employer Rate	24.18	31.98	26.92	14.01	22.02	627,471	19.94

**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 12/31/2008 valuation, the unfunded liability for the Mental Health division is amortized over a closed 10 year period, as this group is over 100% funded on a funding valuation basis. Unfunded liabilities for all other divisions are amortized over an open 20 year period, per the 6/26/2006 Board Meeting. Should the Mental Health division fall below 100% funding, unfunded liabilities will be amortized over an open 20 year period. Effective for the 12/31/2012 valuation, the Mental Health division is closed to new hires, a level dollar amortization is now being used.

*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	\$ 61,670,494	\$ 7,654,511	\$ 33,404,986	\$ 8,207,496	\$ 14,304,759	\$ 9,988,751	\$ 1,813,240	\$ 137,044,237
2. For vested terminated members	4,321,805	0	443,709	373,591	711,403	4,175,177	0	10,025,685
3. For present active members								
a. Value of expected future benefit payments	47,914,950	4,543,202	42,008,024	11,891,428	17,285,675	15,477,180	3,818,458	142,938,917
b. Value of future normal costs	13,840,114	1,369,248	14,422,776	3,829,469	4,523,789	5,860,110	1,792,599	45,638,105
c. Active member liability: (a) - (b)	34,074,836	3,173,954	27,585,248	8,061,959	12,761,886	9,617,070	2,025,859	97,300,812
4. Total	100,067,135	10,828,465	61,433,943	16,643,046	27,778,048	23,780,998	3,839,099	244,370,734
B. Valuation Assets	76,894,211	6,743,007	45,714,045	14,685,586	22,542,628	24,020,919	3,139,902	193,740,298
C. Unfunded Accrued Liability: (A.4) - (B)	23,172,924	4,085,458	15,719,898	1,957,460	5,235,420	(239,921)	699,197	50,630,436
D. Funded percentage: (B)/(A.4)	76.8%	62.3%	74.4%	88.2%	81.2%	101.0%	81.8%	79.3%

## 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	\$61,670,494	\$61,769,755	\$ (99,261)
County Agency	7,654,511	7,988,399	(333,888)
Sheriff's Office	33,404,986	33,155,565	249,421
County Library	8,207,496	7,763,047	444,449
Road Commission	14,304,759	14,788,138	(483,379)
Mental Health	9,988,751	8,908,673	1,080,078
Central Dispatch	1,813,240	1,850,271	(37,031)

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 2012 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.

**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.

**Development of Experience Gain/(Loss)  
Year Ended December 31, 2012**

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 2012						
	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch
(1) UAAL* at start of year	\$22,755,700	\$4,278,849	\$ 14,990,458	\$ 1,374,051	\$5,939,171	\$(1,266,737)	\$ 800,443
(2) Normal cost	1,652,440	146,859	1,377,831	456,271	534,319	667,192	147,808
(3) Actual contributions	2,948,228	450,101	2,336,677	384,203	979,117	639,128	216,569
(4) Interest accrual	1,548,065	289,027	1,016,156	98,677	400,352	(87,701)	53,652
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	23,007,977	4,264,634	15,047,768	1,544,796	5,894,725	(1,326,374)	785,334
(6) Change from benefit changes	(351,335)	(30,741)	(204,486)	0	0	0	(13,638)
(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)	22,656,642	4,233,893	14,843,282	1,544,796	5,894,725	(1,326,374)	771,696
(10) Actual UAAL at end of year	23,172,924	4,085,458	15,719,898	1,957,460	5,235,420	(239,921)	699,197
(11) Gain/(loss): (9) - (10)	(516,282)	148,435	(876,616)	(412,664)	659,305	(1,086,453)	72,499
(12) Gain/(loss) as percent of actuarial accrued liability at start of year	(0.52)%	1.35%	(1.47)%	(2.58)%	2.32%	(4.89)%	1.91%

\* *Unfunded actuarial accrued liability*



**Development of Valuation Investment Gain/(Loss)**  
**Year Ended December 31, 2012**  
**(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 2012 Valuation Investment Income	\$ 6,812,024
(2) Average Valuation Assets	189,808,553
(3) Expected Investment Income: (.07) x (2)	13,286,599
(4) Effect of Revised Asset Method	0
(5) Gain (loss): (1) - (3) - (4)	(6,474,575)
(6) 2012 Rate of Return on Valuation Assets	3.59%

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.

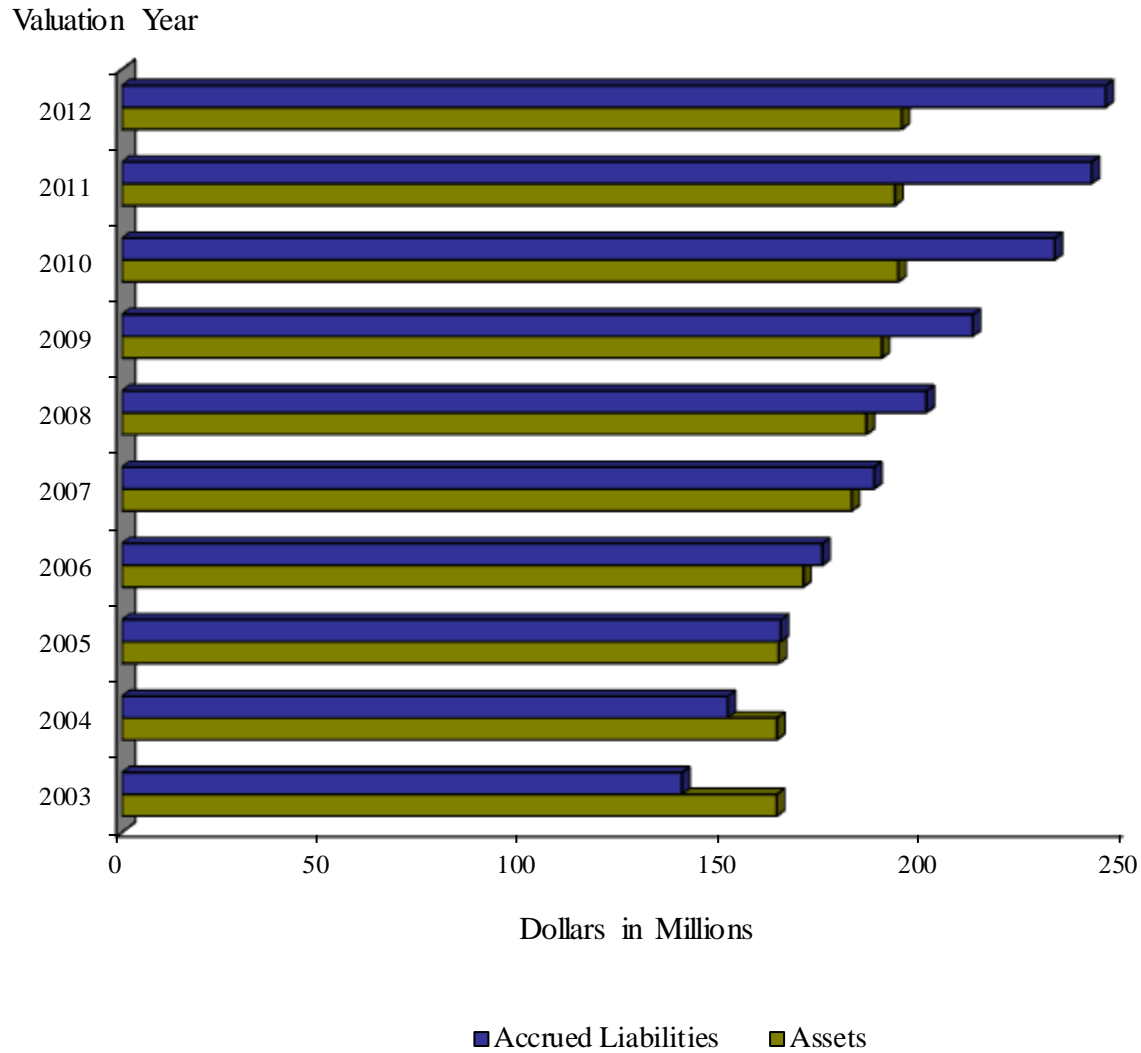
## Liabilities, Assets and Funded Percents

Valuation Date	Dollar Amounts in Thousands				Percent Covered			
	Item (1)	Item (2)	Item (3)	Total	Assets	Items (1)+(2)	Item (3)	Total
12-31-98 *	\$31,463	\$3,145	\$56,528	\$ 91,136	\$ 117,699	100.0%	147.0	129.1 %
12-31-99 *	32,247	3,378	62,026	97,651	132,837	100.0	156.7	136.0
12-31-00 *	35,797	4,082	65,949	105,825	143,765	100.0	157.5	135.9
12-31-01 *	37,296	4,764	74,300	116,360	150,305	100.0	145.7	129.2
12-31-02 *#	45,207	5,585	74,861	125,653	148,405	100.0	130.4	118.1
12-31-03 *#	49,666	6,005	83,471	139,142	162,683	100.0	128.2	116.9
12-31-04 *	55,011	6,781	88,718	150,510	162,726	100.0	113.8	108.1
12-31-05	65,187	7,371	91,084	163,642	163,152	100.0	99.5	99.7
12-31-06	74,012	7,925	92,064	174,001	169,284	100.0	94.9	97.3
12-31-07 *	80,000	9,052	97,789	186,841	181,320	100.0	94.4	97.0
12-31-08 *#	82,998	9,360	107,503	199,861	184,968	100.0	86.1	92.5
12-31-09	98,784	9,126	103,423	211,333	188,779	100.0	78.2	89.3
12-31-10	131,317	9,597	90,767	231,681	192,859	100.0	57.2	83.2
12-31-11	136,224	8,948	95,714	240,886	192,014	100.0	48.9	79.7
12-31-12	137,044	10,026	97,301	244,371	193,740	100.0	48.0	79.3

\* Retirement System amended.

# Actuarial assumptions and methods were revised.

## Assets & Accrued Liabilities



2003 assets equaled 117% of accrued liabilities.  
 2012 assets equaled 79% 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
1998 #	874	\$29,309,641	0.00%	\$	0.00%	0.00%	3.08%	0.86%	2.24%
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

# 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.

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## **SECTION C**

### **SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA**

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**Brief Summary of Benefit Provisions  
(December 31, 2012)**

<b>Eligibility</b>	<b>Amount</b>
<b>REGULAR RETIREMENT</b>	
<b>General, Library, Road Commission and Mental Health hired prior to June 1, 2012:</b> Age 55 with 30 or more years of service or age 60 with 8 or more years of service.	General County: Service multiplied by 2.5% of final average earnings. Multiplier is 2.0% for Library and 2.25% for Mental Health and Road Commission. (Certain Road Commission members have a 2.0% multiplier.)
<b>Sheriff's Office and Central Dispatch:</b> Age 50 with 25 years of service or age 60 with 8 or more years of service.	Service multiplied by 2.5% of final average earnings (2.75% for Sheriff Command Officers).  Highest 3 consecutive years out of last 10 for all groups.  Maximum Benefit: 75% of final average earnings.
Certain union groups and the General non-union group adopted a 1.5% multiplier for members hired on or after 1/1/11 and 3% member contribution rate.	
<b>DEFERRED RETIREMENT</b>	
8 or more years of service.	Computed as a regular retirement but based upon service and final average earnings at termination date.
<b>NON-DUTY DEATH IN SERVICE</b>	
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.
<b>DUTY DEATH IN SERVICE</b>	
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.
<b>NON-DUTY DISABILITY</b>	
10 or more years of service.	Computed as a regular retirement.

**Brief Summary of Benefit Provisions  
(December 31, 2012)**

<b>Eligibility</b>	<b>Amount</b>
<b>DUTY DISABILITY</b>	
No age or service requirements.	Computed as a regular retirement benefit but computed as if the member had at least 10 years of service.
<b>POST-RETIREMENT INCREASES</b>	
	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 “13 <sup>th</sup> check”. The 13 <sup>th</sup> 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.
<b>MEMBER CONTRIBUTIONS</b>	
Central Dispatch Supervisors:	3.00% of the first \$7,800 and 5.00% of excess.
Road Commission Management:	3.10%,
Road Commission Union:	3.25%.
Sheriff Command Officers:	1.53%.
General County:	0% or 3% based on employment group and hire date.
All Others:	None.

Depending on date of hire, some groups contribute at a different rate than shown above. See Plan document for details.



## 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			
1988	25	\$ 185,464	5	\$ 27,285	140	\$ 664,936	31.2 %	6	3.5 %
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 $\phi$	32 $\phi$	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

# Includes beneficiaries of deceased retirees.

@ Includes post-retirement adjustments.

$\phi$  Includes 8 1998 Library retirees and 6 pre-1997 retirees not previously reported.

**Retirees and Beneficiaries December 31, 2012**  
**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	3	\$ 102,550					3	102,550
50-54	14	418,031	4	\$ 49,382			18	467,413
55-59	38	1,055,849	4	54,517			42	1,110,366
60-64	78	1,548,930	6	70,159	1	23,058	85	1,642,147
65-69	51	1,014,442	5	48,141	1	9,012	57	1,071,595
70-74	48	724,718	1	7,845	1	13,812	50	746,375
75-79	26	280,297	2	6,461			28	286,758
80-84	20	305,356					20	305,356
85-89	8	56,911					8	56,911
90+	10	61,559					10	61,559
<b>Total</b>	<b>296</b>	<b>\$ 5,568,643</b>	<b>22</b>	<b>\$ 236,505</b>	<b>4</b>	<b>\$ 53,078</b>	<b>322</b>	<b>\$ 5,858,226</b>

Average Age at Retirement: 59.3 years.

Average Age Now: 67.6 years.

**Retirees and Beneficiaries December 31, 2012**  
**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	2	\$ 73,873	1	\$ 24,158			3	\$ 98,031
50-54	6	221,310					6	221,310
55-59								
60-64	6	210,338					6	210,338
65-69	3	58,496			1	\$ 12,454	4	70,950
70-74								
75-79	3	26,201					3	26,201
80-84	3	23,651					3	23,651
85-89	1	7,281			1	5,337	2	12,618
90+	1	4,978					1	4,978
<b>Total</b>	<b>25</b>	<b>\$ 626,128</b>	<b>1</b>	<b>\$ 24,158</b>	<b>2</b>	<b>\$ 17,791</b>	<b>28</b>	<b>\$ 668,077</b>

Average Age at Retirement: 55.6 years.

Average Age Now: 65.9 years.

**Retirees and Beneficiaries December 31, 2012**  
**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	10	\$ 434,453	4	100,529			14	534,982
55-59	15	619,710	5	64,885			20	684,595
60-64	29	838,766	2	37,967	2	\$ 26,161	33	902,894
65-69	15	349,532	3	15,210			18	364,742
70-74	8	153,460	4	32,771			12	186,231
75-79	8	145,521					8	145,521
80-84	4	60,696					4	60,696
85-89	2	10,861					2	10,861
90+								
<b>Total</b>	<b>91</b>	<b>\$ 2,612,999</b>	<b>22</b>	<b>\$ 319,685</b>	<b>2</b>	<b>\$ 26,161</b>	<b>115</b>	<b>\$ 2,958,845</b>

Average Age at Retirement: 53.6 years.

Average Age Now: 63.7 years.

**Retirees and Beneficiaries December 31, 2012**  
**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	13	339,774					13	339,774
65-69	13	217,745					13	217,745
70-74	6	64,960					6	64,960
75-79	5	61,838					5	61,838
80-84	5	85,583					5	85,583
85-89	3	14,715					3	14,715
90+	2	6,563					2	6,563
<b>Total</b>	<b>48</b>	<b>\$ 831,133</b>					<b>48</b>	<b>\$ 831,133</b>

Average Age at Retirement: 61.0 years.

Average Age Now: 71.2 years.

**Retirees and Beneficiaries December 31, 2012**  
**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	7	\$ 156,196	1	\$ 13,741			8	\$ 169,937
60-64	8	166,878	3	33,699			11	200,577
65-69	21	396,309	1	19,206			22	415,515
70-74	8	216,032	1	6,673			9	222,705
75-79	9	143,157			1	\$ 10,542	10	153,699
80-84	15	205,851			1	9,698	16	215,549
85-89	5	43,723					5	43,723
90+								
<b>Total</b>	<b>73</b>	<b>\$ 1,328,146</b>	<b>6</b>	<b>\$ 73,319</b>	<b>2</b>	<b>\$ 20,240</b>	<b>81</b>	<b>\$ 1,421,705</b>

Average Age at Retirement: 58.2 years.

Average Age Now: 71.7 years.

**Retirees and Beneficiaries December 31, 2012**  
**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	\$ 108,849			1	\$ 19,195	10	128,044
60-64	29	379,175			1	16,654	30	395,829
65-69	14	209,328					14	209,328
70-74	8	120,858					8	120,858
75-79	4	41,412					4	41,412
80-84	3	25,827					3	25,827
85-89								
90+								
<b>Total</b>	<b>67</b>	<b>\$ 885,449</b>	<b>2</b>	<b>\$ 39,485</b>	<b>2</b>	<b>\$ 35,849</b>	<b>71</b>	<b>\$ 960,783</b>

Average Age at Retirement: 59.4 years.

Average Age Now: 65.2 years.

**Retirees and Beneficiaries December 31, 2012**  
**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			1	12,726			1	12,726
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+								
<b>Total</b>	<b>5</b>	<b>\$ 115,558</b>	<b>3</b>	<b>\$ 44,251</b>			<b>8</b>	<b>\$ 159,809</b>

Average Age at Retirement: 55.2 years.

Average Age Now: 61.0 years.



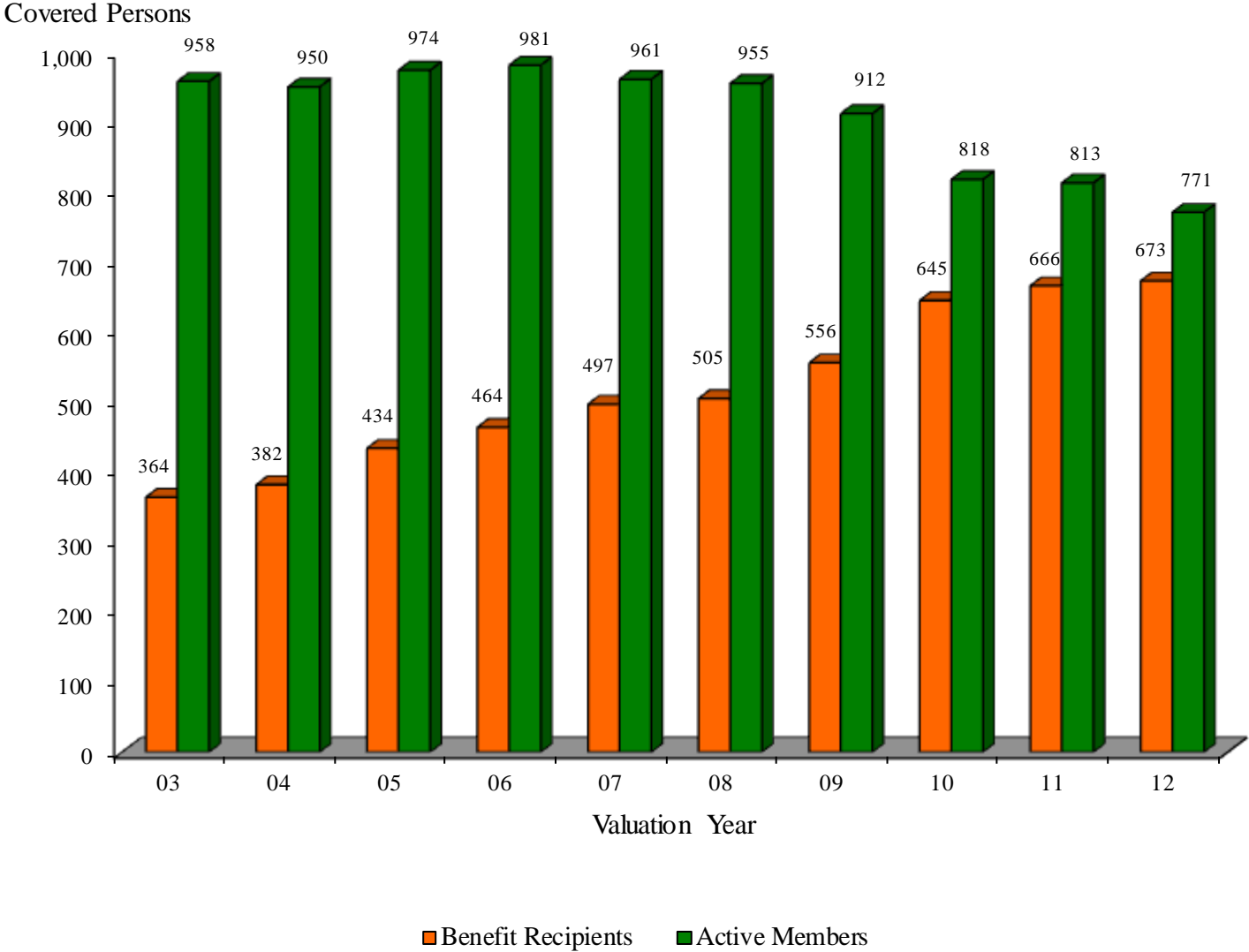
**Inactive Vested Members December 31, 2012**  
**Tabulated by Attained Age**

Age	Age & Service	
	No.	Annual Benefits
29	1	\$ 8,470
33	1	8,915
34	1	7,929
35	3	28,842
36	2	18,969
38	2	15,841
39	4	35,607
40	3	38,873
41	4	48,230
42	4	48,754
43	1	6,088
44	5	44,402
45	4	30,367
46	5	40,455
47	7	43,874
48	7	83,600
49	7	107,011
50	8	63,739
51	9	90,455
52	5	86,215
53	4	37,994
54	6	73,350
55	5	74,371
56	11	146,396
57	6	81,315
58	11	140,537
59	5	58,289
60	2	14,703
62	1	16,848
66	1	21,031
<b>Total</b>	<b>135</b>	<b>\$1,521,470</b>

Average Age at Termination: 40.8 years.

Average Age Now: 50.2 years.

# Active Members & Benefit Recipients



## Active Members December 31, 2012

Division	Total	
	No.	Annual Pays
General County	289	\$13,021,594
County Agency	27	1,281,495
Sheriff's Office	140	8,815,300
County Library	113	4,147,914
Road Commission	74	3,925,930
Mental Health	108	5,437,587
Central Dispatchers	20	957,927
<b>Total</b>	<b>771</b>	<b>\$37,587,747</b>

## Comparative Schedule

Valuation Date December 31	Active Members	Valuation Payroll	Average			% Increase
			Age	Service	Pay	
1988	796	\$19,142,880	41.1	9.4	\$24,049	4.8 %
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

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, 2012  
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	4							4	\$ 133,985
25-29	9	3						12	441,026
30-34	10	11	5	1				27	1,020,043
35-39	8	12	11	3	1			35	1,613,354
40-44	7	7	4	10	3			31	1,398,027
45-49	7	6	14	9	6	5	1	48	2,108,931
50-54	9	8	13	13	2	7	5	57	2,625,637
55-59	7	6	11	7	4	2	3	40	1,944,679
60	2		1	1	1	1		6	288,942
61	2	1		1				4	139,558
62	3	1	4	3			2	13	600,041
63				1	1			2	102,156
64	1		1					2	104,102
65	1						1	2	89,824
66									
67					1			1	95,994
68	1		1					2	138,428
69									
70 & Up			1			1	1	3	176,867
<b>Totals</b>	<b>71</b>	<b>55</b>	<b>66</b>	<b>49</b>	<b>19</b>	<b>16</b>	<b>13</b>	<b>289</b>	<b>\$13,021,594</b>

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

Age: 47.1 years.

Service: 12.3 years.

Annual Pay: \$45,057.

**Active County Agency Members December 31, 2012  
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	\$ 36,222
25-29	2	1						3	136,021
30-34		2						2	99,461
35-39	1	2		1				4	190,285
40-44		2						2	112,681
45-49			1	1	2	1		5	244,866
50-54		3	1	2	1	1		8	370,005
55-59						1		1	44,442
62					1			1	47,512
<b>Totals</b>	<b>4</b>	<b>10</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>3</b>		<b>27</b>	<b>\$1,281,495</b>

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

Age: 43.0 years.  
 Service: 12.8 years.  
 Annual Pay: \$47,463.

**Active Sheriff's Office Members December 31, 2012  
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	2							2	\$ 83,919
25-29	3							3	130,597
30-34	1	13	6					20	1,257,958
35-39	2	7	21	5				35	2,189,958
40-44	2	6	14	8	5			35	2,253,174
45-49		1	9	4	7	5		26	1,721,781
50-54			4	3	4	1		12	748,383
55-59			2	3	1			6	391,670
64		1						1	37,860
<b>Totals</b>	<b>10</b>	<b>28</b>	<b>56</b>	<b>23</b>	<b>17</b>	<b>6</b>		<b>140</b>	<b>\$8,815,300</b>

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

Age: 41.3 years.

Service: 13.5 years.

Annual Pay: \$62,966.

**Active County Library Members December 31, 2012  
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	2							2	\$ 56,797
25-29	8	4						12	381,950
30-34	5	2						7	260,239
35-39	2	2	1					5	195,475
40-44	7	3	2	1				13	486,121
45-49	9	1	3		3		1	17	614,647
50-54	10	2	3		1	3	3	22	881,525
55-59	6	2	5			1	2	16	600,369
60	1	1	1		1			4	130,850
61	2		1		1			4	158,107
62				1				1	54,571
63	1	2		1				4	147,263
64	2							2	60,000
65 & Up	4							4	120,000
<b>Totals</b>	<b>59</b>	<b>19</b>	<b>16</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>113</b>	<b>\$4,147,914</b>

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

Age: 47.7 years.

Service: 8.5 years.

Annual Pay: \$36,707.

**Active Road Commission Members December 31, 2012  
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	2					3	\$ 152,527
35-39		3	3	1				7	403,277
40-44	1		6	7	1			15	774,758
45-49		1	7	7	4	4		23	1,184,337
50-54		2	7	2	1	1		13	675,100
55-59		1	4	4	1	1	1	12	658,037
65		1						1	77,894
<b>Totals</b>	<b>1</b>	<b>9</b>	<b>29</b>	<b>21</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>74</b>	<b>\$3,925,930</b>

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

Age: 47.0 years.

Service: 16.0 years.

Annual Pay: \$53,053.



**Active Mental Health Members December 31, 2012  
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	7	1						8	\$ 321,997
30-34	10	5	2					17	707,905
35-39	3	4	2	1				10	450,414
40-44	5	4	6	3	1			19	996,975
45-49	8	2	5		5	2		22	1,056,774
50-54	5	2	2	1	4	1		15	755,395
55-59	1	1	2		3			7	425,753
60				2	1			3	219,225
62			1					1	52,113
64		1						1	64,515
66		2						2	230,706
68		1	1					2	102,585
69		1						1	53,230
70									
<b>Totals</b>	<b>39</b>	<b>24</b>	<b>21</b>	<b>7</b>	<b>14</b>	<b>3</b>		<b>108</b>	<b>\$5,437,587</b>

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: 9.6 years.

Annual Pay: \$50,348.

**Active Central Dispatch Members December 31, 2012  
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	\$ 41,609
25-29	1	1						2	88,316
30-34	1	3						4	198,712
35-39	2		2					4	196,524
40-44		1	1	1				3	158,670
45-49	1	1	1					3	145,746
50-54			1					1	53,572
55-59				1		1		2	74,778
<b>Totals</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>2</b>		<b>1</b>		<b>20</b>	<b>\$957,927</b>

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

Age: 39.3 years.

Service: 9.7 years.

Annual Pay: \$47,896.

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

**Market Value**

**Revenues and Expenditures**

**REVENUES:**

a. Member contributions	\$ 769,920
b. Employer contributions	7,184,103
c. Interest and dividends	4,972,980
d. Realized and unrealized gain (loss)	<u>10,628,017</u>
e. Total revenues	23,555,020

**EXPENDITURES:**

a. Refunds of member contributions	407,201
b. Retirement benefits paid	13,007,231
c. Administrative expense	225,907
d. Investment expense	<u>937,038</u>
e. Total expenditures	<u>14,577,377</u>

**RESERVE INCREASE:**

Total revenues minus total expenditures	<u><u>\$ 8,977,643</u></u>
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**Market Value Assets**

Cash and cash equivalents*	\$ 305,854
Other short-term investments	12,930,083
Bonds - U.S. Guaranteed	26,256,612
- Other	52,946,611
Stocks	80,577,444
Real Estate	<u>2,276,216</u>
Total Assets	<u><u>\$175,292,820</u></u>

\* Net of payables, if any.

## Development of Pension Valuation Assets

Valuation Date December 31:	2008	2009	2010	2011	2012
1. Beginning of Year Assets					
a) Market Value	\$187,790,674	\$148,763,118	\$165,646,245	\$176,702,630	\$166,315,177
b) Valuation Assets	181,320,182	184,967,843	188,779,278	192,859,386	192,651,711
2. End of Year Market Value Assets	148,763,118	165,646,245	176,702,630	166,315,177	175,292,820
3. Net Additions to Market Value					
a) Net Contributions	5,609,406	5,743,482	7,774,958	6,657,763	7,954,023
b) Net Investment Income = (3d) - (3a) - (3c)	(35,945,076)	21,216,280	15,762,089	(3,588,911)	14,663,959
c) Benefit Payments, Refunds, and Admin Expenses	(8,691,886)	(10,076,635)	(12,480,662)	(13,456,305)	(13,640,339)
d) Total Additions to Market Value = (2) - (1a)	(39,027,556)	16,883,127	11,056,385	(10,387,453)	8,977,643
4. Average Valuation Assets =					
(1b) + .5 x [(3a) + (3c)]	179,778,942	182,801,267	186,426,426	189,460,115	189,808,553
5. Expected Income at Valuation Rate = 7% x (4)	12,584,526	12,796,089	13,049,850	13,262,208	13,286,599
6. Gain (Loss) = (3b) - (5)	(48,529,602)	8,420,191	2,712,239	(16,851,119)	1,377,360
7. Phased-In Recognition of Investment Return					
a) Current Year: 1/7 x (6) [20% prior to 2008]	(6,932,800)	1,202,884	387,463	(2,407,303)	196,766
b) First Prior Year	1,078,415	(6,932,800)	1,202,884	387,463	(2,407,303)
c) Second Prior Year	0	1,078,415	(6,932,800)	1,202,884	387,463
d) Third Prior Year	0	0	1,078,415	(6,932,800)	1,202,884
e) Fourth Prior Year	0	0	0	1,078,415	(6,932,800)
f) Fifth Prior Year	0	0	0	0	1,078,415
g) Sixth Prior Year	0	0	0	0	0
h) Total Recognized Investment Gain	(5,854,385)	(4,651,501)	(4,264,038)	(6,671,341)	(6,474,575)
8. Change in Valuation Assets					
(3a) + (3c) + (5) + (7h)	3,647,661	3,811,435	4,080,108	(207,675)	1,125,708
9. Preliminary Valuation Assets = (1b) + (8)	184,967,843	188,779,278	192,859,386	192,651,711	193,777,419
10. Corridor					
a) Lower Limit: 78% x (2) [80% prior to 2008]	104,134,183	119,265,296	130,759,946	126,399,535	136,728,400
b) Upper Limit: 122% x (2) [120% prior to 2008]	193,392,053	212,027,194	222,645,314	206,230,819	213,857,240
c) Adjustment to (9) to fit Limits	0	0	0	0	0
11. End of Year Assets					
a) Market Value = (2)	148,763,118	165,646,245	176,702,630	166,315,177	175,292,820
b) Valuation Assets = (9) + (10c)	184,967,843	188,779,278	192,859,386	192,651,711	193,777,419
c) Difference Between Market & Valuation Assets	(36,204,725)	(23,133,033)	(16,156,756)	(26,336,534)	(18,484,599)
d) Investment Return = (5) + (7h) + (10c)	6,730,141	8,144,588	8,785,812	6,590,867	6,812,024
12. Recognized Rate of Return = (11d) / (4)	3.74%	4.46%	4.71%	3.48%	3.59%
13. Market Rate of Return = 2 x (3b) / [(1a) + (2) - (3b)]	(19.30%)	14.47%	9.65%	(2.07%)	8.97%

## Allocation of Pension Valuation Assets December 31, 2012 Valuation

	Allocation of Retirement Systems Assets for 2012						
	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch
(1) Valuation assets at start of year	\$77,276,337	\$6,761,529	\$44,976,762	\$14,626,308	\$22,508,487	\$23,502,554	\$2,999,734
(2) Employee contributions	392,106	35,069	182,791	0	136,238	0	23,716
(3) Employer contributions	2,556,122	415,032	2,153,886	384,203	842,879	639,128	192,853
(4) Benefits paid	5,948,446	698,764	2,961,605	824,431	1,500,910	891,957	181,118
(5) Refund of contributions	9,143	0	183,824	0	175,329	38,905	0
(6) Administrative expense Allocated on BOY asset value	90,504	7,919	52,675	17,208	26,437	27,651	3,513
(7) Average valuation assets [(1) + 0.5*(2) + (3) - (4) - (5) - (6)]	75,726,403	6,633,238	44,546,049	14,397,590	22,146,708	23,342,862	3,015,703
(8) Investment income Allocated on average valuation assets	2,717,739	238,060	1,598,710	516,714	794,821	837,750	108,230
(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)]	76,894,211	6,743,007	45,714,045	14,685,586	22,542,628	24,020,919	3,139,902
(12) Total revenues [(2) + (3) + (8)]	5,665,967	688,161	3,935,387	900,917	1,773,938	1,476,878	324,799
Percentage of revenue attributable to:							
Employee contributions	6.9%	5.1%	4.6%	0.0%	7.7%	0.0%	7.3%
Employer contributions	45.1%	60.3%	54.7%	42.6%	47.5%	43.3%	59.4%
Investment income	48.0%	34.6%	40.7%	57.4%	44.8%	56.7%	33.3%
(13) Total expenditures [(4) + (5) + (6)]	6,048,093	706,683	3,198,104	841,639	1,702,676	958,513	184,631
Percentage of expenditure attributable to:							
Benefits paid	98.3%	98.9%	92.7%	98.0%	88.1%	93.0%	98.1%
Refund of contributions	0.2%	0.0%	5.7%	0.0%	10.3%	4.1%	0.0%
Administrative expenses	1.5%	1.1%	1.6%	2.0%	1.6%	2.9%	1.9%

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

**Monroe County**  
**General County, County Agency, Sheriff's and Dispatchers**  
**13<sup>th</sup> 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
2002	1.92%	7.00%	0.00%	\$29,537,898	\$ 0	\$ 898,365	\$ (100,000)	\$ 798,365	\$ 798,365
2003	2.97%	7.00%	0.00%	32,530,519	-	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

*This account was closed in 2012.*

**Monroe County  
Road Commission  
13<sup>th</sup> Check Excess Reserve Fund**

Year	(a)	(b)	(c)	(d)	(e)	(f)	(g)	Fund Balance EOY 2/	
	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
2004	2.68%	7.00%	0.00%	12,200,993	\$ 0	\$ 187,378	\$ (44,227)	\$ 143,151	\$ 143,151
2005	3.30%	7.00%	0.00%	12,726,404	-	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

1/ Average of retiree liabilities as of beginning and end of year.

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

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## **SECTION D**

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

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## 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, 2012 valuation the corridor is 22%.

**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*
	2012	2011	2010	2009	2008	
Rate of Investment Return	3.6%	3.5%	4.7%	4.5%	3.7%	4.0%
Increase in Average Pay	1.9	1.9	(0.1)	2.2	2.5	1.7%
Real Rate of Return	1.7	1.6	4.8	2.3	1.2	2.3

\* 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
2012	2011	2010	2009	2008	
1.9%	1.9%	(0.1)%	2.2%	2.5%	1.7%

\* 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

<b>Marriage Assumption:</b>	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.
<b>Pay Increase Timing:</b>	On the valuation date.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing:</b>	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.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	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.
<b>Normal Form of Benefit:</b>	The assumed normal form of benefit is straight life form.
<b>Loads:</b>	None.
<b>Incidence of Contributions:</b>	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.

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## **SECTION E**

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

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**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
12/31/03#	\$162,683,115	\$ 139,141,015	\$ (23,542,100)	116.9	\$37,862,618	(62.2) %
12/31/04*	162,725,639	150,510,011	(12,215,628)	108.1	38,712,508	(31.6)
12/31/05	163,151,579	163,641,875	490,296	99.7	41,047,874	1.2
12/31/06	169,283,765	174,001,978	4,718,213	97.3	41,821,305	11.3
12/31/07*	181,320,182	186,841,313	5,521,131	97.0	43,152,156	12.8
12/31/08*#	184,967,843	199,860,437	14,892,594	92.5	43,961,798	33.9
12/31/09	188,779,278	211,333,497	22,554,219	89.3	42,893,801	52.6
12/31/10	192,859,386	231,680,911	38,821,525	83.2	38,418,135	101.0
12/31/11	192,013,890	240,885,825	48,871,935	79.7	38,891,988	125.7
12/31/12	193,740,298	244,370,734	50,630,436	79.3	37,587,747	134.7

\* Plan amended.

# Assumptions revised.

Notes: Values take account of all System benefits except retiree health benefits. 13<sup>th</sup> checks to retirees that were paid from System assets before the valuation date and as scheduled to be paid during 2013 are reflected in the valuation. No additional 13<sup>th</sup> 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

Mental Health 10 years, closed

All Others 20 years, open

Principal actuarial assumptions (last revised for the 12/31/08 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%.