

**OAKLAND COUNTY EMPLOYEES' RETIREMENT SYSTEM
SIXTY-EIGHTH ANNUAL ACTUARIAL VALUATION REPORT
SEPTEMBER 30, 2012**

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April 15, 2013

The Retirement Commission
Oakland County Employees' Retirement System
Pontiac, Michigan

Dear Commission Members:

Submitted in this report are the results of the sixty-eighth annual actuarial valuation of the liabilities, funded position and contribution requirements associated with benefits provided by the Oakland County Employees' Retirement System. The purpose of the valuation was to measure the System's funding progress, determine the employer contribution for the 2013-2014 fiscal year and provide information in connection with applicable Governmental Accounting Standards Board Statements. This report should not be relied upon for any other purpose. This report may be provided to parties other than the Retirement Commission only in its entirety and only with the permission of the Retirement Commission.

The date of the valuation was September 30, 2012. An Executive Summary is included as Section A. Valuation results are contained in report Section B.

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

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

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

Respectfully submitted,



Louise M. Gates, ASA, MAAA



Mark Buis, FSA, EA, MAAA

LMG/MB:mrb

SECTION A
EXECUTIVE SUMMARY

1. Required Employer Contributions – Fiscal Year beginning October 1, 2013

The computed County contributions are as follows:

<u>Division</u>	<u>Computed Employer Contributions</u>	
	<u>% of Payroll</u>	<u>\$ Based on Projected Payroll</u>
General	(5.47)%	\$ 0
Command	105.24%	1,604,469
Road Deputies	47.20%	1,931,520
Corrections Deputies	69.64%	2,234,846
Total		\$ 5,770,835

2. Contribution Rate Comparison

The chart below compares the results of this valuation with the results of the September 30, 2011 valuation. County Contributions are expressed as both percents of payroll and dollar amounts.

<u>Required County Contributions for the Indicated Fiscal Year</u>		
<u>Division</u>	<u>2012-2013</u>	<u>2013-2014</u>
General	(8.96%) \$ 0	(5.47%) \$ 0
Command	112.34% \$1,970,429	105.24% \$1,604,469
Road Deputies	38.40% \$1,779,354	47.20% \$1,931,520
Corrections Deputies	43.45% \$1,650,312	69.64% \$2,234,846
Total	\$5,400,095	\$5,770,835

The County's past practice has been to contribute on the basis of all employment divisions combined. To the extent that the System had a funding surplus, it was used to make required contributions to an employment division(s) as necessary. Since September 30, 2011 the System has had a funding deficiency. The funding deficiency has increased to \$17.3 million as of September 30, 2012. This affects County pension contributions for fiscal years 2012-2013 and 2013-2014. A County contribution of \$5,400,095 will need to be made during FY 2012-2013, since there is no surplus that can be used for this purpose. In addition, County contributions of \$5,770,835 will be needed for FY 2013-2014.

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 difference during the year between the plan's actual experience and what the assumptions predicted.

There were no benefit or assumption changes made in connection with this valuation of the System. The change in contributions from the prior year is due to System experience.

4. Plan Experience

System experience for the year ended September 30, 2012 was overall unfavorable. During the year, the return on pension fund assets was higher than long term expectations. However, the market value smoothing techniques used in this valuation of the System recognize both past and present investment experience. As a result, the recognized investment return for the year was lower than 7.25% resulting in an experience loss. This experience was offset in part or whole by lower than expected pay increases in the General, Command Officer and Road Deputy divisions. In the Corrections division, several long service deputies were reported with large increases in pay over the prior year. These increases were attributed to increases in overtime. This created additional, unexpected liabilities for the division. Additional information on the investment experience for the year is shown on pages C-4 and C-5.

Given the current state of capital markets, and unrecognized investment losses from prior years contribution increases are likely in the near term in the absence of significant offsetting favorable experience.

5. GASB Statement No. 50

Page E-1 of this report includes funded percentages based on Governmental Accounting Standards Board (GASB) Statement No. 50. This statement requires a disclosure of funded status based on the entry age actuarial cost method for financial reporting purposes, and differs from the measurement disclosed in the other sections of this report.

6. Reserve Transfers

For all employment divisions the computed liability for members who have already retired and their beneficiaries is larger than the reported balance of the retiree reserve account. Transfers will be necessary to balance the retiree reserve with the retiree liabilities, as follows:

	<u>General County</u>	<u>Command Officers</u>	<u>Sheriff Deputies*</u>	<u>Total</u>
Retiree Liability	\$409,239,027	\$33,024,343	\$ 61,344,012	\$503,607,382
Retiree Reserve	<u>356,012,215</u>	<u>31,318,419</u>	<u>49,999,915</u>	<u>437,330,549</u>
Difference	\$ 53,226,812	\$ 1,705,924	\$ 11,344,097	\$ 66,276,833

* Road patrol and corrections divisions were combined.

We recommend that the Retirement Commission authorize the transfers described above.

7. Asset Transfers

The County's policy is to use any existing surplus in the General member division to make the recommended contributions (if any) to the Deputy and Command Officer divisions. The 2010 actuarial valuation of the System includes recommended contributions for the 2011-2012 fiscal year as follows:

<u>Division</u>	<u>Dollar Contribution</u>
Command	\$1,428,279
Deputy	1,850,828
General	<u>0</u>
	\$3,279,107

Based on the contribution requirements and current policy, the actuary transferred \$3,279,107 from General division assets to the Sheriff's department assets as part of the determination of 2012 valuation assets.

8. Other Asset Transfers

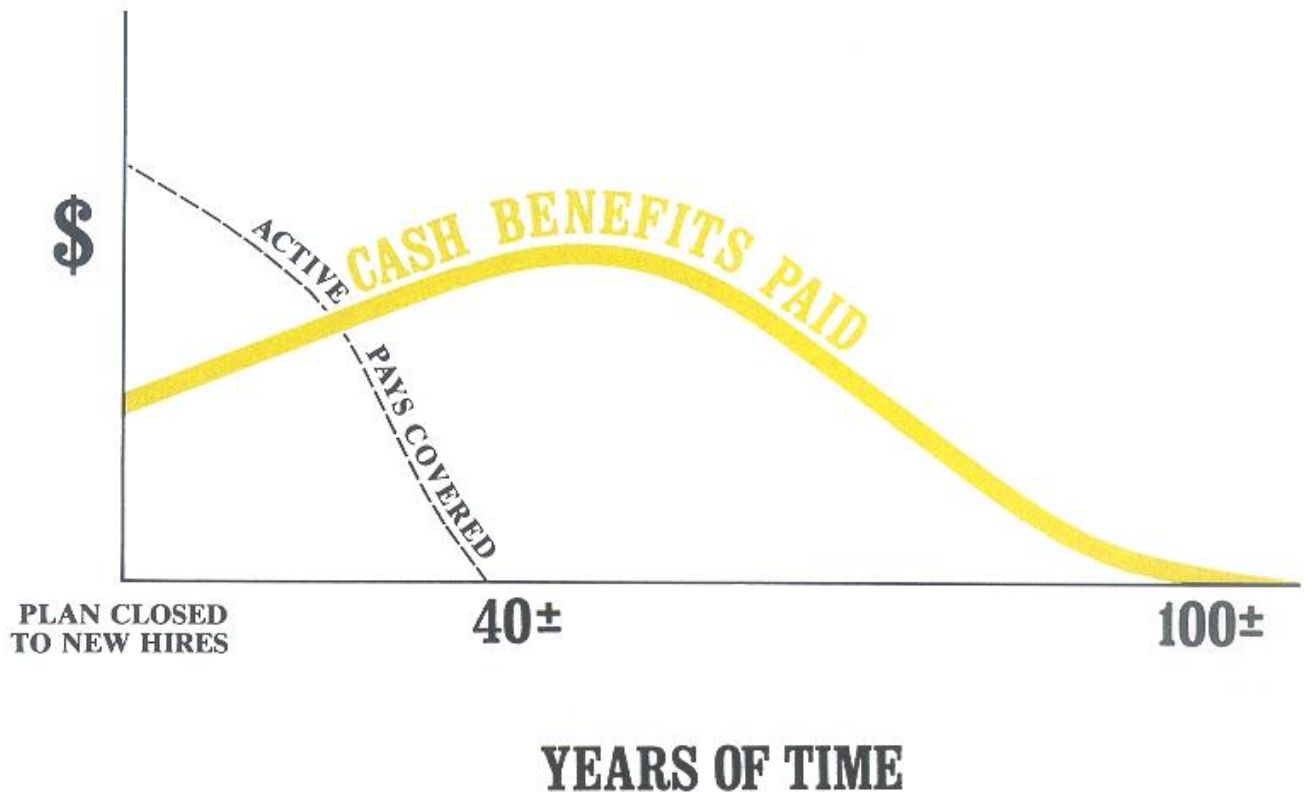
Assets equal to Retirement System liabilities were transferred between the Sheriff's Department divisions in connection with individuals who transferred to the Command and Road Deputy divisions due to promotions. The asset transfers were made to maintain an equitable allocation of liabilities and assets between the Sheriff's Department divisions.

9. Other

The Actuarial Standards of Practice with regard to the mortality assumption have recently been revised. ASOP No. 35 Disclosure Section 4.1.1 now states *“The disclosure of the mortality assumption should contain sufficient detail to permit another qualified actuary to understand the provision made for future mortality improvement. If the actuary assumes zero mortality improvement after the measurement date, the actuary should state that no provision was made for future mortality improvement.”* Currently, it appears that there is no margin for future mortality improvement in the mortality assumption used for the annual valuation of the System.

We recommend an assumption study to review the appropriate margin (if any) to be added to the current mortality assumption and the contribution method used in future valuations of the System.

A CLOSED PENSION PLAN



A plan becomes closed when no new hires are admitted to active membership. The persons covered by the plan at the time of closing continue their normal activities and continue to be covered by the plan, until the last survivor dies.

CASH BENEFITS LINE. After a pension plan becomes closed, the usual pattern is for cash benefits to continue to increase for decades of time. Eventually the cash benefits will peak, and then gradually decrease over more decades of time, ultimately to zero. The last cash benefit is likely to occur a century after the time the plan is closed.

The precise amounts of cash benefits cannot be known now, and must be estimated by assumptions of future experiences in a variety of financial risk areas.

SECTION B
VALUATION RESULTS

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 taxpayers.

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

CONTRIBUTION RATES

The Retirement System is supported by contributions from the County and active members and by the investment income earned on System assets. Sheriff's Deputies contribute 3% of their pay for the first 14 years of service and 5% thereafter, Command Officers contribute 5%. General County members who have elected improved benefits contribute 1% of their pay after 14 years of service. The County provides an actuarially determined contribution, the remainder needed to meet the financial objective.

Member and County contributions together cover the cost of providing the pension and survivor benefits. The aggregate actuarial cost method expresses this cost as a percentage of covered payroll, the normal cost.

The contribution requirements for the fiscal year beginning October 1, 2013 are presented on the following page.

**CONTRIBUTIONS TO PROVIDE BENEFITS
FOR THE FISCAL YEAR BEGINNING
OCTOBER 1, 2013**

Contributions for	% of Member Payroll			
	General County	Command Officers	Road Deputies	Corrections Deputies
A. Normal cost of benefits	(4.76) %	110.24 %	52.20 %	74.64 %
B. Member contributions	<u>0.71</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
C. Employer normal cost (A - B)	(5.47)	105.24	47.20	69.64

Member Contribution rates shown above are based on a weighted average of rates for contributing and non-contributing members as described in detail in Section C of this report.

The Retirement Commission confirms that the Oakland County Employees' Retirement System provides for payment of the required employer contribution as described in Section 20m of Michigan Act No. 728.

Procedures for determining dollar contribution amounts are described on the following page.

CONVERTING CONTRIBUTION RATES TO DOLLAR AMOUNTS

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

- (1) Contribution dollar amounts for each division which are equal to the County'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 shown on page A-1. The amounts are adjusted to reflect elapsed time between the valuation date and the beginning of the fiscal year for which contributions are being determined.

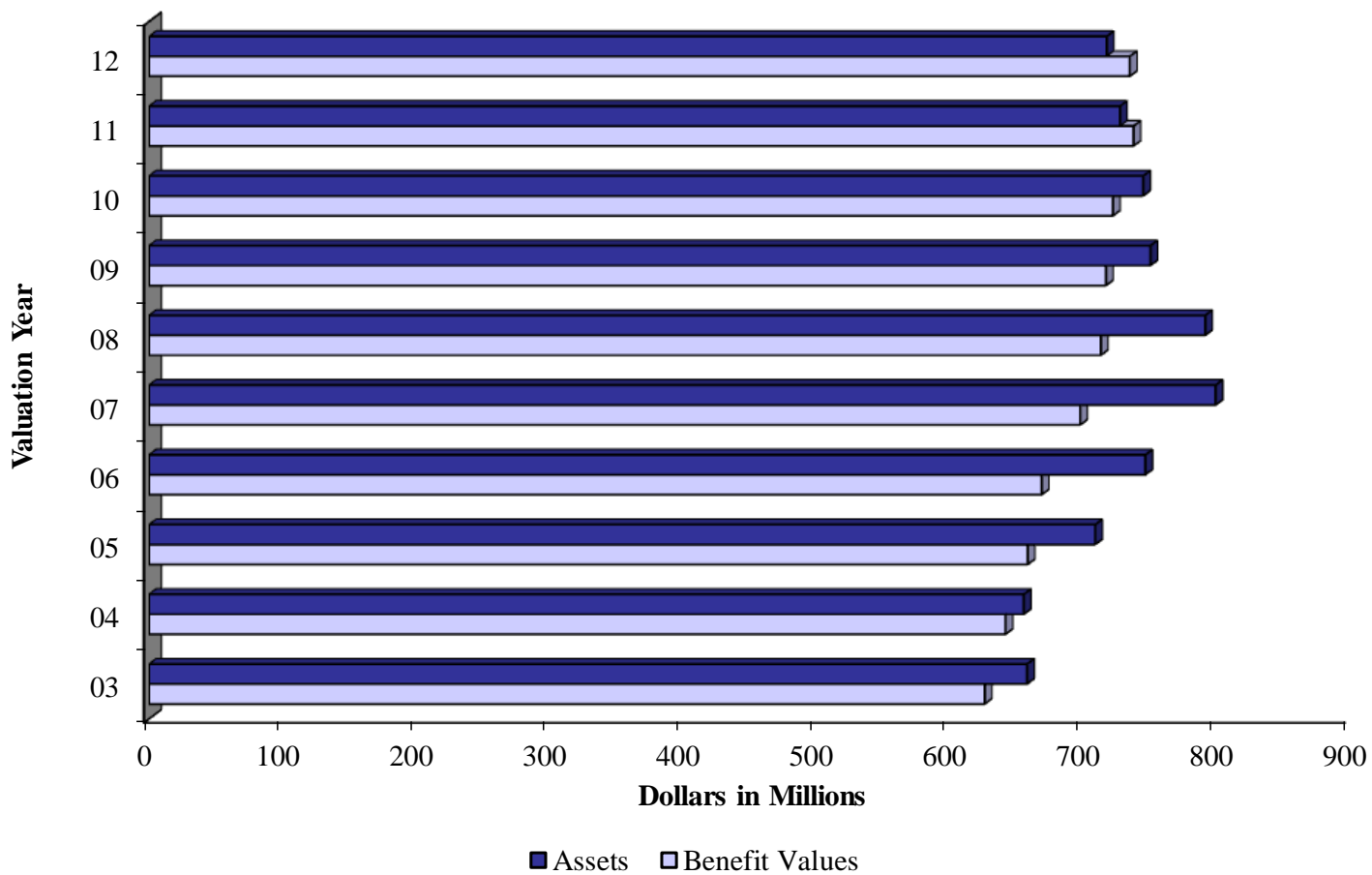
TIMING OF CONTRIBUTION PAYMENTS

The amounts recommended in the 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 EMPLOYER CONTRIBUTION RATES AS OF SEPTEMBER 30, 2012

	<u>General County</u>	<u>Command Officers</u>	<u>Road Deputies</u>	<u>Corrections Deputies</u>	<u>Total</u>
A. Present Value of Future Benefit Payments					
1. For retirees and beneficiaries					
a. Pension and death benefits	\$409,239,027	\$33,024,343	\$33,806,216	\$27,537,796	\$503,607,382
b. Reserves	none	none	none	none	none
c. Total	<u>409,239,027</u>	<u>33,024,343</u>	<u>33,806,216</u>	<u>27,537,796</u>	<u>503,607,382</u>
2. For inactive members	10,351,042	208,236	128,661	213,389	10,901,328
3. For present active members	<u>147,918,871</u>	<u>15,504,741</u>	<u>32,393,653</u>	<u>27,481,913</u>	<u>223,299,178</u>
4. Total	<u>567,508,940</u>	<u>48,737,320</u>	<u>66,328,530</u>	<u>55,233,098</u>	<u>737,807,888</u>
B. Valuation Assets	<u>573,734,277</u>	<u>42,018,278</u>	<u>56,480,085</u>	<u>45,422,262</u>	<u>717,654,902</u>
C. Unfunded Present Value of Future Benefits					
1. Total: (A.4) - (B)	(6,225,337)	6,719,042	9,848,445	9,810,836	20,152,986
2. Present value of future member contributions	<u>926,443</u>	<u>304,751</u>	<u>943,420</u>	<u>657,241</u>	<u>2,831,855</u>
3. Present value of Employer obligation (1)- (2)	(7,151,780)	6,414,291	8,905,025	9,153,595	17,321,131
D. Present Value of Future Pays	130,696,284	6,095,012	18,868,398	13,144,812	168,804,506
E. Employer Contribution:					
1. For System benefits: (C.3) / (D)	(5.47) %	105.24 %	47.20 %	69.64 %	
2. For System expenses	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
3. Total	<u>(5.47)</u>	<u>105.24</u>	<u>47.20</u>	<u>69.64</u>	

FUNDED RATIOS



2003 assets equaled 105% of the net present value of benefits.

2012 assets equaled 98% of the net present value of benefits.

Benefit values are net of future member contributions, and are compared to the funding value of assets.

COUNTY'S COMPUTED CONTRIBUTIONS - COMPARATIVE SCHEDULE

Valuation Date	Valuation Payroll			Computed \$ Contribution				Computed County Contributions As Percents of Valuation Payroll			
				General	Command Officers	Road Deputies	Corrections Deputies	General	Command Officers	Road Deputies	Corrections Deputies
	Total	Average	% Incr.								
12/31/1988	\$ 90,592,054	\$27,729	4.8 %	\$12,434,934	¢	\$2,424,408	¢	16.82 %	¢	14.55 %	¢
12/31/1989 *	96,992,890	28,654	3.3	10,146,244	¢	1,906,505	¢	12.77	¢	10.87	¢
12/31/1990	103,261,438	30,062	4.9	10,444,466	¢	2,298,804	¢	12.54	¢	11.51	¢
12/31/1991	111,486,994	31,817	5.8	10,927,184	¢	2,380,597	¢	12.10	¢	11.24	¢
12/31/1992 #*	119,536,060	33,625	5.7	11,632,276	¢	3,910,450	¢	12.05	¢	17.00	¢
12/31/1993 #	114,443,309	35,246	4.8	11,589,179	¢	3,595,276	¢	12.86	¢	14.78	¢
12/31/1994	118,366,427	36,220	2.8	12,755,514	¢	3,729,283	¢	13.62	¢	15.09	¢
12/31/1995 *	81,694,133	38,033	5.0	5,307,751	¢	2,718,663	¢	8.55	¢	13.86	¢
12/31/1996 #	83,880,701	40,620	6.8	2,166,476	¢	2,248,412	¢	3.42	¢	10.95	¢
09/30/1997 #	73,222,941	42,399	4.4	0	\$ 289,206	926,383	¢	0.00	6.32 %	6.46	¢
09/30/1998 #	72,112,212	43,998	3.8	0	0	365,699	¢	0.00	0.00	2.47	¢
09/30/1999 #	73,990,858	46,418	5.5	0	0	0	¢	0.00	0.00	0.00	¢
09/30/2000 #	69,175,806	50,383	8.5	0	0	0	¢	0.00	0.00	0.00	¢
09/30/2001	67,115,144	51,038	1.3	0	0	0	¢	0.00	0.00	0.00	¢
09/30/2002	67,664,611	53,491	4.8	0	91,071	0	¢	0.00	3.10	0.00	¢
09/30/2003 #	58,244,337	54,947	2.7	0	719,850	81,357	¢	0.00	25.61	0.65	¢
09/30/2004	60,605,120	58,783	7.0	0	894,257	806,217	¢	0.00	34.36	5.92	¢
09/30/2005	58,521,380	59,232	0.8	0	615,579	47,713	¢	0.00	26.04	0.41	¢
09/30/2006	57,453,054	60,160	1.6	0	481,564	0	¢	0.00	18.96	0.00	¢
09/30/2007 *	55,704,389	62,240	3.5	0	312,065	0	¢	0.00	13.66	0.00	¢
09/30/2008 #	46,690,015	61,515	(1.2)	0	645,992	0	¢	0.00	29.60	0.00	¢
09/30/2009	44,884,070	62,080	0.9	0	1,105,547	44,370	¢	0.00	52.10	0.49	¢
09/30/2010 *	42,686,155	62,959	1.4	0	1,428,279	1,850,828	¢	0.00	74.92	20.16	¢
09/30/2011	38,275,780	64,874	3.0	0	1,970,429	1,779,354	\$1,650,312	0.00	112.34	38.40	43.45 %
09/30/2012	33,706,963	64,082	(1.2)	0	1,604,469	1,931,520	2,234,846	0.00	105.24	47.20	69.64

¢ Sheriff's Deputies and Command Officers were combined prior to 9-30-97 valuation.

¢ Road Deputies and Corrections Deputies were combined prior to 9-30-11 valuation.

Plan provision changes.

* Revised actuarial assumptions or methods.

CLOSED GROUP CASH FLOW PROJECTION
(NUMBERS ROUNDED TO THE NEAREST THOUSAND)

Year Ending	Expected Benefits for Current			Total
	Actives	Retirees	Inactives	
9/30/2013	\$ 1,191,000	\$45,432,000	\$ 114,000	\$46,737,000
9/30/2014	3,789,000	45,332,000	242,000	49,363,000
9/30/2015	6,452,000	45,175,000	328,000	51,955,000
9/30/2016	8,870,000	44,951,000	458,000	54,279,000
9/30/2017	11,160,000	44,651,000	602,000	56,413,000
9/30/2018	13,371,000	44,262,000	659,000	58,292,000
9/30/2019	15,449,000	43,820,000	721,000	59,990,000
9/30/2020	17,358,000	43,310,000	790,000	61,458,000
9/30/2021	19,052,000	42,712,000	860,000	62,624,000
9/30/2022	20,570,000	42,041,000	945,000	63,556,000

The projection was based on the assumptions and methods used in this report.

SECTION C
SUMMARY OF BENEFIT PROVISIONS
VALUATION DATA

BRIEF SUMMARY OF BENEFIT PROVISIONS
SEPTEMBER 30, 2012

Eligibility

Amount

REGULAR RETIREMENT

Sheriff's Deputies: 25 years of service regardless of age, or age 60 with 8 years of service.

2.2% of final average compensation (FAC) times the first 14 years of service plus 2.5% of FAC for each additional year.

Command Officers: 25 years of service regardless of age, or age 60 with 8 years of service.

Total service times 2.5% of FAC.

All Others: Age 55 with 25 years of service, or age 60 with 8 years.

Total service times 2.0% of FAC for Plan A members (2.2% for years in excess of 14 for contributing members). Total service times 1.8% of FAC for Plan B members (1.98% for years in excess of 14 for contributing members).

Maximum County Portion is 75% of FAC.

Type of final average compensation - Highest 5 consecutive years out of the last 10. Some lump sums are included. Sheriff's Deputies hired after 12/31/92, Command Officers hired after 6/1/94 and BU48 nurses hired after 1/1/93 overtime pay is excluded from FAC.

DEFERRED RETIREMENT

8 years of service - benefit begins at age 60.
25 years of service - benefit at age 55.

Computed as a regular retirement but based upon service and final average compensation at termination date.

NON-DUTY DEATH-IN-SERVICE

10 years of service.

Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election (50% joint and survivor benefit if less than 15 years of service and under age 60).

DUTY DEATH-IN-SERVICE

No age or service requirements.

Upon termination of Worker's Compensation, a benefit equal to the Worker's Compensation benefit is payable to the spouse, children under age 18 and dependent parents.

BRIEF SUMMARY OF BENEFIT PROVISIONS
SEPTEMBER 30, 2012

Eligibility

Amount

NON-DUTY DISABILITY

10 years of service.

Computed as a regular retirement.

DUTY DISABILITY

No age or service requirements.

Computed as a regular retirement with additional service credited until attainment of age 60. Retirement benefits are offset by Worker's Compensation payments.

COST-OF-LIVING ADJUSTMENTS

Annual increase based upon change in CPI, not in excess of 1-1/2% of base benefit. Additional one-time increases granted January 1, 1976, 1979, 1981, 1982, July 1, 1984, January 1, 1986, 1987, 1988 and October 1, 1997. A special one-time payment was made to retirees during 1990.

MEMBER CONTRIBUTIONS

Sheriff's Deputies.

3% of annual earnings for the first 14 years of service and 5% thereafter.

Command Officers.

5% of annual earnings.

All Others.

1% of annual earnings for years after 14 years of service for members electing the 2.2% or 1.98% benefit.

COUNTY CONTRIBUTIONS

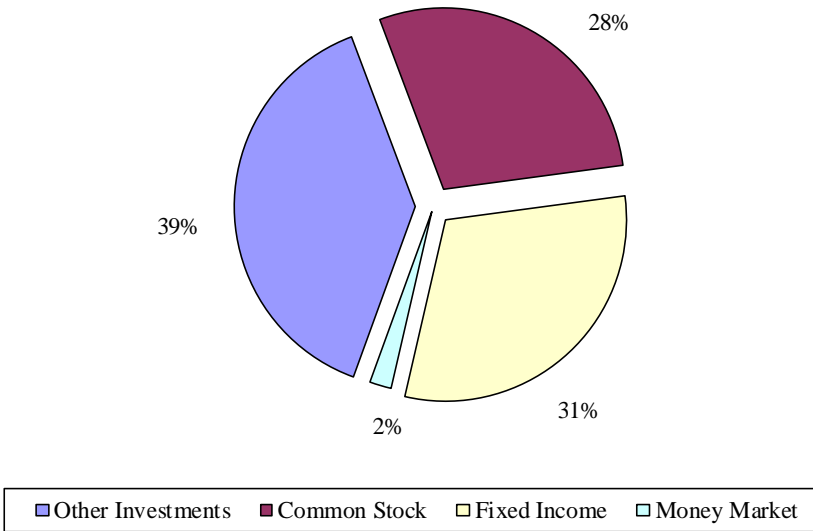
Actuarially determined amounts which, together with member contributions, are sufficient to cover value of future benefits during the expected future working lifetimes of present members.

COVERAGE

The System was closed to new hires effective at various dates during 1994 and 1995.

REPORTED TRUST ASSETS AS OF SEPTEMBER 30, 2012

Market Value of System Assets (\$720,791,939)



**REPORTED FINANCIAL INFORMATION AT MARKET VALUE
YEAR ENDED SEPTEMBER 30, 2012**

Income and Disbursements

Market Value of Assets Beginning of Year: \$657,403,549

Revenues:

a.	Member contributions	\$ 716,927	
b.	Employer contributions	-	
c.	Net investment income	<u>110,337,853</u>	
d.	Total		111,054,780

Disbursements:

a.	Retirement incentive payments	-	
b.	Pension benefits paid	45,102,561	
c.	Administrative expenses	<u>2,563,829</u>	
d.	Total		<u>47,666,390</u>

Market Value of Assets End of Year: \$720,791,939

Assets and Reserves as of September 30, 2012

Assets:

a.	Other investments*	\$ 279,025,288	
b.	Common Stock	206,256,546	
c.	Fixed income	221,523,728	
d.	Money Market	<u>13,986,377</u>	
	Total	<u><u>\$ 720,791,939</u></u>	

Reserve Accounts:

a.	Member contributions	\$ 7,266,355	
b.	Reserve for benefits now being paid	437,330,549	
c.	Reserve for future benefits	<u>276,195,035</u>	
	Total	<u><u>\$720,791,939</u></u>	

* Includes receivables and payables.

**DETERMINATION OF VALUATION ASSETS
SEPTEMBER 30, 2012**

	2011	2012
A. Funding Value Beginning of Year	\$745,094,735	\$727,690,746
B. Market Value End of Year	657,403,549	720,791,939
C. Market Value Beginning of Year	686,897,735	657,403,549
D. Non-Investment Net Cash Flow Member and employer contributions less benefit payments	(41,784,765)	(44,385,634)
E. Investment Income		
E1. Market Total: B - C - D	12,290,579	107,774,024
E2. Assumed Rate (I)	7.25%	7.25%
E3. Amount for Immediate Recognition: 7.25% x (A + D / 2)	52,504,671	51,148,600
E4. Amount for Phased-In Recognition: E1-E3	(40,214,092)	56,625,424
F. Phased-In Recognition of Investment Income		
F1. Current Year: E4 / 5	(8,042,818)	11,325,085
F2. First Prior Year	2,046,233	(8,042,818)
F3. Second Prior Year	(22,127,310)	2,046,233
F4. Third Prior Year		(22,127,310)
F5. Fourth Prior Year		
F6. Total Recognized Investment Gain / (Loss)	(28,123,895)	(16,798,810)
G. Funding Value End of Year: A + D + E3 + F6	\$727,690,746	\$717,654,902
H. Difference Between Market & Funding Value	(70,287,197)	3,137,037
I. Recognized Rate of Return	3.37%	4.87%
J. Market Value Rate of Return	1.85%	16.97%
K. Ratio of Funding Value to Market Value	110.69%	99.56%

**RETIREES AND BENEFICIARIES, SEPTEMBER 30, 2012
TABULATED BY TYPE OF BENEFIT AND OPTION ELECTED**

Benefit Option Elected	Type of Benefit			Total
	Age & Service*	Disability		
		Non-Duty	Duty	
Regular	697	7	3	707
A-100% J & S	354	10	2	366
B-50% J & S	110		1	111
C-10 Year Certain	97	4		101
D(1)-100% J & S with pop-up	216	3	1	220
D(2)-50% J & S with pop-up	169	1		170
E-Social Security Equated				0
Survivor	249			249
Total	1,892	25	7	1,924

* Includes alternate payees under EDRO and beneficiaries of deceased members and individuals with \$0 pension benefits receiving retiree health benefits only.

RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS COMPARATIVE SCHEDULE

Valuation Date	Added to Rolls	Removed from Rolls	Rolls End of Year@		Increase in Annual Allowances	Average Allowances	Discounted Value of Allowances	
			No.	Annual Allowances			Total	Average
12/31/1988	62	25	940	\$ 6,020,194	12.7 %	\$ 6,404	\$ 62,595,054	\$ 66,590
12/31/1989	75	18	997	6,891,589	14.5	6,912	71,400,966	71,616
12/31/1990	69	35	1,031	7,485,760	8.6	7,261	77,908,096	75,566
12/31/1991	54	29	1,056	8,209,107	9.7	7,774	85,488,344	80,955
12/31/1992	66	24	1,098	9,063,493	10.4	8,255	98,863,645	90,040
12/31/1993	321	26	1,393	15,062,487	66.2	10,813	178,035,931	127,808
12/31/1994	30	40	1,383	15,519,827	3.0	11,222	181,321,639	131,107
12/31/1995	28	29	1,382	15,857,294	2.2	11,474	182,775,073	132,254
12/31/1996	44	35	1,391	16,314,624	2.9	11,729	185,640,760	133,458
9/30/1997	26	29	1,388	16,768,398	2.8	12,081	189,896,859	136,813
9/30/1998	45	25	1,408	17,807,123	6.2	12,647	197,793,449	140,478
9/30/1999	49	37	1,420	18,627,756	5.0	13,118	204,516,061	144,025
9/30/2000	59	33	1,446	19,745,293	6.0	13,655	213,771,946	147,837
9/30/2001	58	50	1,454	20,738,987	5.0	14,263	219,981,438	151,294
9/30/2002	81	46	1,489	21,811,398	5.2	14,648	228,638,122	153,551
9/30/2003 #	227	57	1,659	27,394,755	25.6	16,513	302,624,039	182,414
9/30/2004	47	47	1,659	27,957,560	2.1	16,852	303,544,402	182,968
9/30/2005 !	65	87	1,637	29,115,640	4.1	17,786	314,322,363	192,011
9/30/2006 !	63	49	1,651	30,261,711	3.9	18,329	321,352,067	194,641
9/30/2007 *	100	51	1,700	31,679,234	4.7	18,635	347,025,990	204,133
9/30/2008 #	165	55	1,810	37,186,787	17.4	20,545	416,471,437	230,095
9/30/2009	77	61	1,826	38,439,641	3.4	21,051	425,922,004	233,254
9/30/2010	75	55	1,846	40,049,361	4.2	21,695	439,616,749	238,146
9/30/2011	125	68	1,903	43,671,603	9.0	22,949	481,296,471	252,915
9/30/2012	96	75	1,924	45,769,198	4.8	23,789	503,607,382	261,750

Retirement Incentive Program.

@ Includes alternate payees under EDRO, if any.

! Excludes beneficiaries with \$0 pensions.

* Number added to rolls includes a one-time adjustment to re-include the beneficiaries with \$0 pensions.

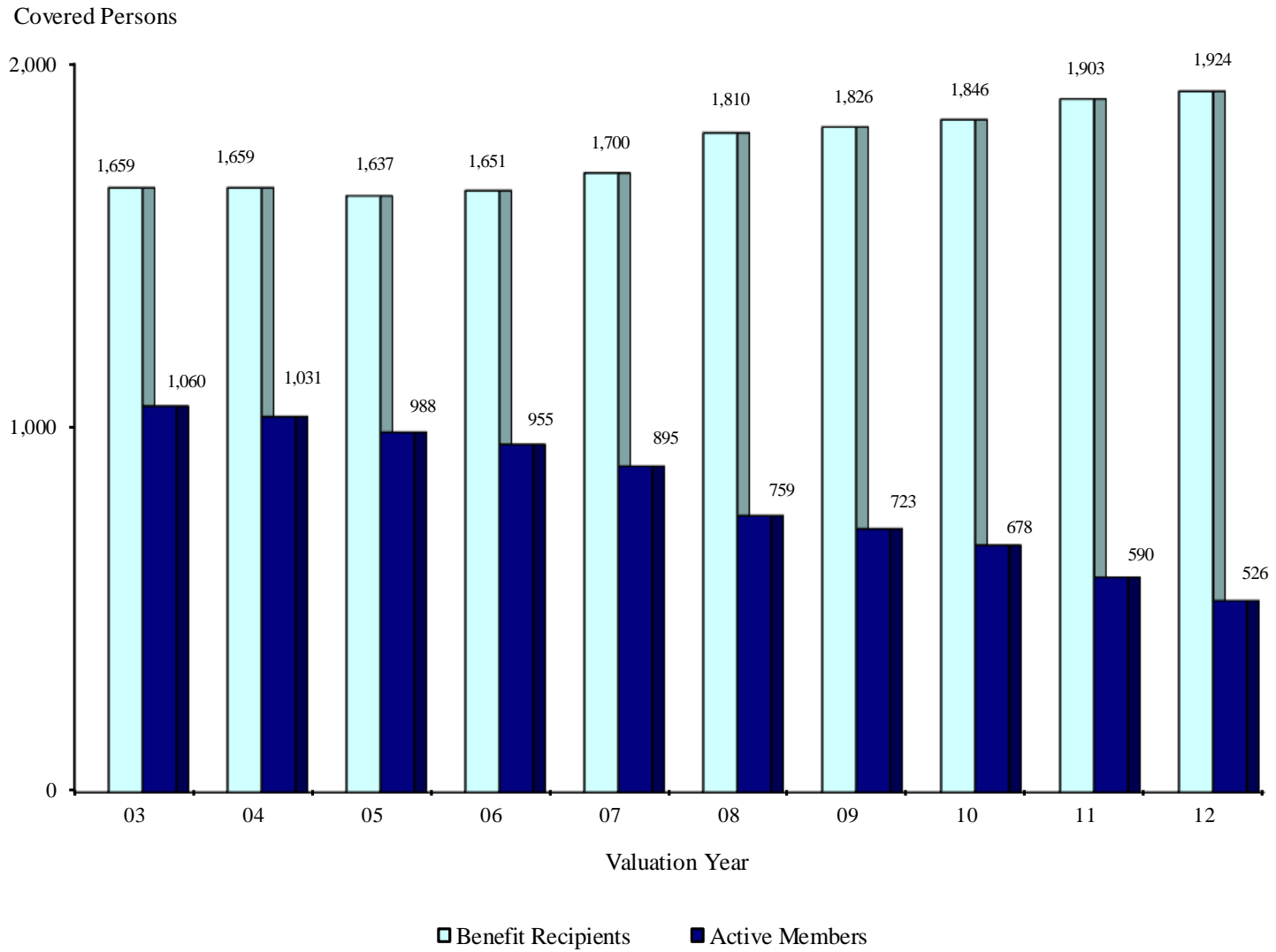
Additions to retirement rolls include new survivor beneficiaries.

INACTIVE MEMBERS AS OF SEPTEMBER 30, 2012
TABULATED BY ATTAINED AGE

Inactive members as of September 30, 2012 totaled 140, involving estimated deferred annual retirement allowances of \$1,347,207. An inactive member is a person who has left County employment with entitlement to a retirement allowance upon attaining age 55 or 60, depending upon years of credited service. The schedule below shows the inactive members by age.

Attained Age	No.	Estimated Deferred Allowance
35 - 39	2	\$ 16,471
40 - 44	9	107,420
45 - 49	26	278,602
50 - 54	39	459,723
55 - 59	63	482,700
60+	1	2,291
Totals	140	\$1,347,207

ACTIVE MEMBERS & BENEFIT RECIPIENTS



ACTIVE MEMBERS REPORTED FOR VALUATION COMPARATIVE SCHEDULE

Census Date	Active Members					Valuation Payroll	Average		
	Gen.	Road	Corrections	Command	Total		Age	Service	Pay
12/31/1988	2,752	515	@	@	3,267	\$ 90,592,054	40.6	9.6	\$27,729
12/31/1989	2,842	543	@	@	3,385	96,992,890	40.6	9.6	28,654
12/31/1990	2,860	575	@	@	3,435	103,261,438	40.6	9.9	30,062
12/31/1991	2,922	582	@	@	3,504	111,486,994	41.0	10.1	31,817
12/31/1992	2,965	590	@	@	3,555	119,536,060	41.5	10.8	33,625
12/31/1993	2,670	577	@	@	3,247	114,443,309	41.1	10.4	35,246
12/31/1994	2,701	567	@	@	3,268	118,366,427	41.7	10.9	36,220
12/31/1995 #	1,723	425	@	@	2,148	81,694,133	43.3	12.7	38,033
12/31/1996	1,647	418	@	@	2,065	83,880,701	44.1	13.7	40,620
9/30/1997 #	1,353	291	@	83	1,727	73,222,941	45.8	15.5	42,399
9/30/1998 #	1,317	285	@	37	1,639	72,112,212	46.3	16.2	43,998
9/30/1999 #	1,270	282	@	42	1,594	73,990,858	46.4	16.6	46,418
9/30/2000 #	1,117	218	@	38	1,373	69,175,806	47.6	18.1	50,383
9/30/2001	1,063	214	@	38	1,315	67,115,144	48.1	18.9	51,038
9/30/2002	1,017	208	@	40	1,265	67,665,611	48.8	19.8	51,038
9/30/2003	822	200	@	38	1,060	58,244,337	48.4	19.9	54,947
9/30/2004	803	189	@	39	1,031	60,605,120	49.4	20.9	58,783
9/30/2005	769	183	@	36	988	58,521,380	50.1	21.7	59,232
9/30/2006	741	176	@	38	955	57,453,054	50.7	22.6	60,160
9/30/2007	689	170	@	36	895	55,704,389	51.4	23.4	62,240
9/30/2008	564	163	@	32	759	46,690,015	51.2	23.5	61,515
9/30/2009	535	155	@	33	723	44,884,070	52.0	24.4	62,080
9/30/2010	500	149	@	29	678	42,686,155	52.6	25.2	62,959
9/30/2011	438	68	59	25	590	38,275,780	53.1	25.7	64,874
9/30/2012	387	62	51	26	526	33,706,963	53.6	26.4	64,082

@ Included in Road Division.

Reflects transfer to Defined Contributions plan.

**GENERAL MEMBERS AS OF SEPTEMBER 30, 2012
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
35-39				2				2	\$ 78,196
40-44				3	14			17	832,146
45-49				5	23	9	2	39	2,190,321
50-54				7	44	38	41	130	7,773,672
55-59			1	7	30	21	60	119	7,210,262
60					4	4	6	14	824,061
61					4	3	8	15	833,308
62					4	4	2	10	557,050
63				2	3	5	1	11	679,379
64				1	1	1	2	5	383,063
65				2	1		2	5	375,807
66					1	2	2	5	343,699
67					4	1	3	8	496,917
68							3	3	253,190
69					1		1	2	88,716
70+						2		2	109,774
Totals			1	29	134	90	133	387	\$23,029,561

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

Group Averages:

Age: 54.9 years
Service: 27.5 years
Annual Pay: \$59,508

**ROAD DEPUTIES AS OF SEPTEMBER 30, 2012
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
40-44				6	11			17	\$ 1,198,446
45-49				5	15	1		21	1,626,723
50-54					6	2		8	608,625
55-59				1	2	5	3	11	909,592
60					1	1		2	164,437
61						1		1	77,361
62				2				2	148,967
Totals				14	35	10	3	62	\$ 4,734,151

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

Group Averages:

Age: 49.2 years
Service: 22.8 years
Annual Pay: \$76,357

**CORRECTIONS DEPUTIES AS OF SEPTEMBER 30, 2012
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
40-44				3	6			9	\$ 613,711
45-49				1	10	3		14	1,190,132
50-54				1	11	5		17	1,282,942
55-59					6	1	2	9	651,580
60					2			2	178,724
Totals				5	35	9	2	51	\$ 3,917,089

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

Group Averages:

Age: 50.5 years
Service: 23.7 years
Annual Pay: \$76,806

**COMMAND OFFICERS AS OF SEPTEMBER 30, 2012
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
45-49				1	12	3		16	\$ 1,217,669
50-54					4		1	5	381,173
55-59					2		1	3	262,650
62					1			1	74,511
66							1	1	90,159
Totals				1	19	3	3	26	\$2,026,162

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

Group Averages:

Age: 50.6 years
Service: 24.7 years
Annual Pay: \$77,929

SECTION D

ACTUARIAL COST METHODS, ACTUARIAL ASSUMPTIONS AND GLOSSARY

VALUATION METHODS

The present value of future benefits was computed and financed for each category of plan participant as follows:

Retirees and Beneficiaries - The discounted value of benefits expected to be paid to retirees and beneficiaries was computed using the investment return, price inflation and mortality assumptions.

Active and Inactive Members - The discounted value of benefits expected to be paid to active and inactive members was computed using the assumptions outlined on the following pages.

The computed amount was reduced by valuation assets and the present value of future member contributions. The remainder was financed as a level percent of future payroll. This is referred to as the aggregate actuarial cost method.

Valuation Assets - The funding value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be lower than market value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than market value. The funding value of assets is unbiased with respect to market value. At any time it may be either greater or less than market value.

The asset smoothing period was changed from 3 to 5 years effective September 30, 2010. Prior unrecognized asset gains and losses were combined at that time and reflected in the valuation assets.

System assets are reported to the actuary in total. Reported investment income is allocated among the various employment divisions such that the rate of return for each division is the same as the rate of return for the entire System.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Investment Return (net of expenses): 2.75% per year in excess of pay inflation. If pay inflation matches the assumption of 4.50%, this implies a 7.25% rate of return. The price inflation assumption is 3.5% per year.

This assumption is used to equate the value of payments due at different points in time and was first used for the September 30, 2007 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 September 30				
	2012	2011	2010	2009	2008
Rate of Investment Return	4.9%	3.4%	4.5%	(0.6)%	3.9%
Increase in Average Pay	(1.2)	3.0	1.4	0.9	(1.2)
Real Rate of Return	6.1	0.4	(3.1)	(1.5)	5.1

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.

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 September 30, 2007 valuation.

Sample Ages	Annual Rate of Pay Increase for Sample Ages						
	General Members			Years of Service	Sheriff's Department		
	Base (Economic)	Merit & Longevity	Total		Base (Economic)	Merit & Longevity	Total
20	4.50%	4.00%	8.50%	1 to 7	4.50%	6.00%	10.50%
25	4.50	3.00	7.50	8 to 15	4.50	3.00	7.50
30	4.50	2.00	6.50	thereafter	4.50	0.00	4.50
35	4.50	2.00	6.50				
40	4.50	1.00	5.50				
45	4.50	1.00	5.50				
50	4.50	0.50	5.00				
55	4.50	0.50	5.00				
60	4.50	0.25	4.75				

Lump Sum Payments: Lump sum payments for unused sick leave and vacation were assumed to increase final average compensation for the present members by 1%.

Mortality: The 1994 Group Annuity Mortality Table, with ages unadjusted for males and set back 1 year for females. The rates used include no margin for future mortality improvement. This table was first used for the September 30, 2007 valuation. Sample values follow:

Sample Ages	Actuarial Present Value of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	\$144.28	\$152.22	30.69	35.84
55	135.55	145.53	26.15	31.11
60	124.83	136.84	21.83	26.49
65	112.49	126.32	17.84	22.11
70	99.13	114.28	14.29	18.08
75	84.57	100.02	11.12	14.31
80	69.37	84.15	8.37	10.93

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement.

Rates of Separation from Active Membership: The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

Sample Ages	Percent of Active Members Separating within Next Year	
	General	Sheriffs
20	5.00	4.00
25	5.00	4.00
30	4.00	3.40
35	4.00	2.50
40	3.00	1.80
45	3.00	1.30
50	2.00	0.80
55	1.00	0.40
60	0.50	0.10
65	0.50	0.00

The rates were first used for the September 30, 2007 valuation.

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

Sample Ages	Percent Becoming Disabled within Next Year	
	General	Sheriffs
20	0.02%	0.14%
25	0.02	0.15
30	0.04	0.18
35	0.06	0.23
40	0.16	0.30
45	0.19	0.51
50	0.31	1.00
55	0.71	1.55

These rates were first used for the December 31, 1992 valuation.

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

Percent of Active Members Retiring within One Year					
General		Sheriff's Department			
Ages	%	Ages	%	Service	%
55	20%	60	20%	25	40%
56	15	61	40	26	35
57	15	62	70	27	35
58	15	63	50	28	35
59	15	64	50	29	35
60	20	65	100	30	40
61	15			31	40
62	25			32	50
63	15			33	70
64	15			34	70
65	35			35	100
66	40				
67	50				
68	70				
69	80				
70	100				

A member was assumed to be eligible for retirement after attaining age 55 with 25 or more years of service (after 25 years of service regardless of age for Deputies and Command Officers), or age 60 with 8 or more years of service.

The rates were first used for the September 30, 2007 valuation.

GLOSSARY

Actuarial Accrued Liability - The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability”. Under the actuarial cost method used the “AAL” differs somewhat from the value of future payments based on benefits earned as of the valuation date.

Accrued Service - The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions - Estimates of future plan experience with respect to rates of mortality, disability, retirement, investment income and salary increases. Decrement assumptions (rates of mortality, separation and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate appropriate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method - A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the normal costs to be paid in the future and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method”.

Actuarial Equivalent - Benefits whose actuarial present values are equal.

Actuarial Present Value - The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization - Paying off an interest-bearing liability by means of periodic contributions of interest and principal, as opposed to a lump sum payment.

GLOSSARY

Experience Gain (Loss) - A measure of the difference between actual experience and experience anticipated by a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost - The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” An amortization payment toward the unfunded actuarial accrued liability is in addition to the normal cost.

Plan Termination Liability - The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for the future service and salary. The termination liability will generally be less than the liabilities computed on a “going-concern” basis and is not normally determined in a routine actuarial valuation.

Reserve Account - An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability”.

Valuation Assets - The value of current plan assets recognized for valuation purposes.

SECTION E

**DISCLOSURE MATERIAL IN CONFORMANCE
WITH STATEMENTS NO. 25 AND NO. 27 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD**

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (b)	Unfunded AAL (UAAL) (b) – (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)
09/30/2003@	\$658,078,396	\$626,340,056	\$(31,738,340)	105.1	\$58,244,337	-- %
09/30/2004	655,564,045	641,879,328	(13,684,717)	102.1	60,605,120	--
09/30/2005	709,058,495	658,515,200	(50,543,295)	107.7	58,521,380	--
09/30/2006	746,695,624	668,999,513	(77,696,111)	111.6	57,453,054	--
09/30/2007#	799,307,403	652,118,082	(147,189,321)	122.6	55,704,389	--
09/30/2008@	791,541,576	675,166,642	(116,374,934)	117.2	46,690,015	--
09/30/2009	750,432,703	683,077,469	(67,355,234)	109.9	44,884,070	--
09/30/2010#	745,094,735	692,409,285	(52,685,450)	107.6	42,686,155	--
09/30/2011	727,690,746	712,159,061	(15,531,685)	102.2	38,275,780	--
09/30/2012	717,654,902	713,972,065	(3,682,837)	100.5	33,706,963	--

Assumption/method change.

@ Plan Provision changes.

NOTE: The aggregate actuarial cost method does not produce an actuarial accrued liability. The liability values shown above prior to 9/30/2007 are present values of future benefit payments (both accrued and future, net of future employee contributions). Effective with the 9/30/2007 valuation, the entry age actuarial cost method is used to develop the actuarial liability and the associated values shown above in compliance with GASB Statement No. 50.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Actuarial Valuation Date	Fiscal Year Beginning	Annual Required Contribution**	Percentage Contributed
9/30/2003	10/1/2004	\$ 0	100.00 %
9/30/2004	10/1/2005	0	100.00
9/30/2005	10/1/2006	0	100.00
9/30/2006	10/1/2007	0	100.00
9/30/2007	10/1/2008	0	100.00
9/30/2008	10/1/2009	0	100.00
9/30/2009	10/1/2010	0	100.00
9/30/2010	10/1/2011	3,279,107	100.00
9/30/2011	10/1/2012	5,400,095	
9/30/2012	10/1/2013	5,770,835	

** Determined for the Retirement System as a whole.

The annual required contributions and amounts contributed were determined for the System as a whole. This information is presented in draft form for review by the County's auditor. Please let us know if there are any items that the auditor changes so that we can maintain consistency with the County's financial statements.

Actuarial Cost Method

Aggregate

Asset Valuation Method

5-Year Smoothed Market Value

Principal Actuarial Assumptions:

Net Investment Return*

7.25%

Projected Salary Increases*

4.50% to 10.50%

Cost-of-Living Adjustments

1.5% Non-compounding Annually

* Includes pay inflation at 4.50%.