



**Sheriffs' Retirement System
of the
State of Montana**

**GASB 67 Report
as of
June 30, 2014**

Produced by [Cheiron](#)

December 2014

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SHERIFFS' RETIREMENT SYSTEM
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BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Government Accounting Standards Board Statement 67 for the Sheriffs' Retirement System and the State of Montana. This information includes:

- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability, and
- Schedule of Employer Contributions.

Highlights

This report is the first report under GASB 67. The reporting date for the State of Montana Sheriffs' Retirement System (SRS) is June 30, 2014. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2014 and the Total Pension Liability as the valuation date of June 30, 2013, updated to June 30, 2014. There were no significant events between the valuation date and the measurement date so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments.

Beginning of year measurements are also based on the actuarial valuation as of June 30, 2013. Because the beginning and ending values are based on the same actuarial valuation and there were no significant events, no liability gains or losses due to experience are reported this year. In future years, liability gains and losses will be reported reflecting the liability gains and losses between actuarial valuation dates as well as any significant events during the update period.

The table below provides a summary of the key results during this reporting period.

	Table 1	
	Summary of Results	
	Measurement Date	
	6/30/2014	6/30/2013
Total Pension Liability	\$ 326,272,299	\$ 350,664,155
Plan Fiduciary Net Position	<u>284,655,279</u>	<u>243,876,180</u>
Net Pension Liability	<u>\$ 41,617,020</u>	<u>\$ 106,787,975</u>
Discount Rate	7.75%	6.68%

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CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the State of Montana Sheriffs' Retirement System (SRS). This report is for the use of SRS, the State of Montana and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for SRS.

In preparing our report, we relied on information (some oral and some written) supplied by SRS. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2013 Actuarial Valuation Report for SRS, except that it has been assumed that the rate of investment return is net only of investment expenses, rather than net of both investment and administrative expenses. The administrative expense rate is assumed to be 0.17% of active member payroll.

Future actuarial measurements may differ significantly from the current measurements 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; and changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for SRS for the purposes described herein and for the use by the Plan auditor in completing an audit related to the matters herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,
Cheiron



Stephen T. McElhane, FSA, FCA, EA, MAAA
Principal Consulting Actuary



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Principal Consulting Actuary

**SHERIFFS' RETIREMENT SYSTEM
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DETERMINATION OF DISCOUNT RATE

The discount rate at June 30, 2014 is 7.75% which is the assumed long-term expected rate of return on System investments. Projections of the System's fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current Plan members following the procedures described in paragraphs 39 - 45 of GASB Statement 67. The results of these projections are included within this report in Appendix B.

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PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the beginning of the measurement year is measured as of a valuation date of June 30, 2013. The TPL at June 30, 2013 is the same as was reported for actuarial valuation purposes as of June 30, 2013, except for the adjustment in the discount rate from 7.75% to 6.68%. The TPL at the end of the measurement year, June 30, 2014, is measured as of a valuation date of June 30, 2013 and projected to June 30, 2014. In future years, both the beginning and end of year TPL will be measured as of a valuation date one year prior and projected to the appropriate date. There were no significant events during the projection period of which we are aware. The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure. TPL and Service Cost have been determined using the entry age actuarial cost method as described in paragraph 46 of GASB Statement 67.

Table 2			
Projection of Total Pension Liability			
Discount Rate, 6/30/2013	5.68%	6.68%	7.68%
Total Pension Liability, 6/30/2013			
Actives	\$ 192,102,912	\$ 161,115,603	\$ 136,078,668
Deferred Vested	7,290,285	6,217,250	5,382,878
Retirees	<u>204,782,902</u>	<u>183,331,302</u>	<u>165,475,083</u>
Total	\$ 404,176,099	\$ 350,664,155	\$ 306,936,629
Service Cost, Beginning of Year			
Service Cost Rate	29.06%	23.23%	18.79%
Expected Payroll During Year	65,078,381	65,078,381	65,078,381
Service Cost	\$ 18,911,778	\$ 15,117,708	\$ 12,228,228
Benefit Payments	\$ 13,943,335	\$ 13,943,335	\$ 13,943,335
Interest	\$ 23,640,869	\$ 23,976,049	\$ 23,986,340
Change in Benefits	0	0	0
Change in Assumptions	(60,540,852)	(49,542,278)	(40,876,679)
Other Significant Events	0	0	0
Discount Rate, 6/30/2014			
	6.75%	7.75%	8.75%
Total Pension Liability, 6/30/2014	\$ 372,244,559	\$ 326,272,299	\$ 288,331,183

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NOTE DISCLOSURES

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability during the Measurement Year.

Table 3			
Change in Net Pension Liability			
	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a) - (b)
Balances at 6/30/2013	\$ 350,664,155	\$ 243,876,180	\$ 106,787,975
Changes for the year:			
Service cost	15,117,708		15,117,708
Interest	23,976,049		23,976,049
Changes of benefits	0		0
Changes of assumptions	(49,542,278)		(49,542,278)
Differences between expected and actual experience	0		0
Contributions - employer		6,689,311	(6,689,311)
Contributions - non-employer		0	0
Contributions - member		6,447,179	(6,447,179)
Net investment income		41,789,437	(41,789,437)
Benefit payments	(13,943,335)	(13,943,335)	0
Administrative expense		(203,493)	203,493
Net changes	<u>(24,391,856)</u>	<u>40,779,099</u>	<u>(65,170,955)</u>
Balances at 6/30/2014	<u>\$ 326,272,299</u>	<u>\$ 284,655,279</u>	<u>\$ 41,617,020</u>

There were no changes in benefits or changes in demographic assumptions during the year. There was an increase in the discount rate resulting in a decrease in the liability. Because the beginning and end of year TPL are both based on the same actuarial valuation, there are no differences between expected and actual experience reported this year.

Total contributions and investment income exceeded the service cost, interest cost and administrative expenses, as well as an increase in discount rate, resulting in a decrease in the Net Pension Liability (NPL) of \$ 65,170,955. The NPL remaining as of June 30, 2014, is \$41,617,020.

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NOTE DISCLOSURES

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table below shows the sensitivity of the NPL to the discount rate.

Table 4			
Sensitivity of Net Pension Liability to Changes in Discount Rate			
	1% Decrease 6.75%	Discount Rate 7.75%	1% Increase 8.75%
Total Pension Liability	\$ 372,244,559	\$ 326,272,299	\$ 288,331,183
Plan Fiduciary Net Position	<u>284,655,279</u>	<u>284,655,279</u>	<u>284,655,279</u>
Net Pension Liability	<u>\$ 87,589,280</u>	<u>\$ 41,617,020</u>	<u>\$ 3,675,904</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	76.5%	87.2%	98.7%

A one percent decrease in the discount rate increases the TPL by approximately 14.1% and increases the NPL by approximately 110.5%. A one percent increase in the discount rate decreases the TPL by approximately 11.6% and decreases the NPL by approximately 91.2%.

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REQUIRED SUPPLEMENTARY INFORMATION

The schedules of Required Supplementary Information generally start with one year of information as of the implementation of GASB 67, but eventually will need to build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB.

Table 5	
Schedule of Changes in Net Pension Liability and Related Ratios	
	FYE 2014
<u>Total Pension Liability</u>	
Service cost (BOY)	\$ 15,117,708
Interest (includes interest on service cost)	23,976,049
Changes of benefit terms	0
Differences between expected and actual experience	0
Changes of assumptions	(49,542,278)
Benefit payments, including refunds of member contributions	(13,943,335)
Net change in total pension liability	(24,391,856)
Total pension liability - beginning	<u>350,664,155</u>
Total pension liability - ending	<u>\$ 326,272,299</u>
<u>Plan fiduciary net position</u>	
Contributions - employer	\$ 6,689,311
Contributions - non-employer	0
Contributions - member	6,447,179
Net investment income	41,789,437
Benefit payments, including refunds of member contributions	(13,943,335)
Administrative expense	(203,493)
Net change in plan fiduciary net position	\$ 40,779,099
Plan fiduciary net position - beginning	<u>243,876,180</u>
Plan fiduciary net position - ending	<u>\$ 284,655,279</u>
Net pension liability - ending	<u>\$ 41,617,020</u>
Plan fiduciary net position as a percentage of the total pension liability	87.24%
Covered employee payroll	\$ 64,672,635
Net pension liability as a percentage of covered employee payroll	64.35%

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REQUIRED SUPPLEMENTARY INFORMATION

If an Actuarially Determined Contribution is calculated, the following schedule is required. An Actuarially Determined Contribution is a contribution amount determined in accordance with Actuarial Standards of Practice.

Table 6	
Schedule of Employer Contributions	
Last Fiscal Year	
Dollar Amounts in Thousands	
2014	
Actuarially Determined Contribution	\$ 9,779
Contributions in Relation to the Actuarially Determined Contribution	
Employer Contributions	\$ 6,689
Non-Employer Contributions	<u>0</u>
Total Contributions	<u>\$ 6,689</u>
Contribution Deficiency/(Excess)	<u>\$ 3,090</u>
Covered-Employee Payroll	\$ 64,673
Contributions as a Percentage of Covered-Employee Payroll	10.34%

**APPENDIX A
GLOSSARY OF TERMS**

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

4. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the Plan.

5. Net Pension Liability

The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

6. Plan Fiduciary Net Position

The fair or market value of assets.

7. Reporting Date

The last day of the Plan or employer's fiscal year.

**APPENDIX A
GLOSSARY OF TERMS**

8. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

9. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the entry age actuarial cost method.

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**APPENDIX B
DEVELOPMENT OF DISCOUNT RATE**

Table 1 - Projection of Contributions

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1 (except Payroll)

* Total covered-employee payroll increases 4.00% per year

Year	Projected Covered Employee Payroll			Projected Rates			Projected Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll * (c) = (a) + (b)	EE Rate (d)	ER Rate (e)	AL Rate (f)	Contributions for Current Employees (g) = (a) x (d)	Employer Contributions for Current Employees (h) = (a) x (e)	Contributions Related to Payroll of Future Employees (i) = (b) x (f)	Total Contributions (j) = (g) + (h) + (i)
1	\$ 65,078	\$ 0	\$ 65,078				\$ 6,430	\$ 6,706	\$ 0	\$ 13,136
2	62,546	5,135	67,682	9.3%	10.1%	3.0%	5,782	6,327	156	12,265
3	60,779	9,610	70,389	9.3%	10.1%	3.0%	5,619	6,148	292	12,059
4	59,327	13,878	73,204	9.3%	10.1%	3.0%	5,485	6,001	422	11,908
5	58,249	17,884	76,133	9.3%	10.1%	3.0%	5,385	5,892	544	11,821
6	56,596	22,582	79,178	9.3%	10.1%	3.0%	5,232	5,725	686	11,644
7	55,182	27,163	82,345	9.3%	10.1%	3.0%	5,102	5,582	826	11,509
8	54,039	31,599	85,639	9.3%	10.1%	3.0%	4,996	5,466	961	11,423
9	52,588	36,476	89,064	9.3%	10.1%	3.0%	4,862	5,319	1,109	11,290
10	51,035	41,592	92,627	9.3%	10.1%	3.0%	4,718	5,162	1,264	11,145
11	49,434	46,898	96,332	9.3%	10.1%	3.0%	4,570	5,000	1,426	10,996
12	47,713	52,472	100,185	9.3%	10.1%	3.0%	4,411	4,826	1,595	10,832
13	45,956	58,237	104,193	9.3%	10.1%	3.0%	4,249	4,648	1,770	10,667
14	44,317	64,043	108,360	9.3%	10.1%	3.0%	4,097	4,483	1,947	10,527
15	42,103	70,592	112,695	9.3%	10.1%	3.0%	3,892	4,259	2,146	10,297
16	39,984	77,218	117,202	9.3%	10.1%	3.0%	3,697	4,044	2,347	10,088
17	37,621	84,270	121,891	9.3%	10.1%	3.0%	3,478	3,805	2,562	9,845
18	34,958	91,808	126,766	9.3%	10.1%	3.0%	3,232	3,536	2,791	9,559
19	32,374	99,463	131,837	9.3%	10.1%	3.0%	2,993	3,275	3,024	9,291
20	29,336	107,774	137,110	9.3%	10.1%	3.0%	2,712	2,967	3,276	8,956
21	26,297	116,298	142,595	9.3%	10.1%	3.0%	2,431	2,660	3,535	8,627
22	23,229	125,069	148,299	9.3%	10.1%	3.0%	2,148	2,350	3,802	8,299
23	20,367	133,863	154,230	9.3%	10.1%	3.0%	1,883	2,060	4,069	8,013
24	17,821	142,578	160,400	9.3%	10.1%	3.0%	1,648	1,803	4,334	7,785
25	15,580	151,236	166,816	9.3%	10.1%	3.0%	1,440	1,576	4,598	7,614
26	13,524	159,964	173,488	9.3%	10.1%	3.0%	1,250	1,368	4,863	7,481
27	11,644	168,784	180,428	9.3%	10.1%	3.0%	1,077	1,178	5,131	7,385
28	9,959	177,686	187,645	9.3%	10.1%	3.0%	921	1,007	5,402	7,330
29	8,447	186,704	195,151	9.3%	10.1%	3.0%	781	854	5,676	7,311
30	6,979	195,978	202,957	9.3%	10.1%	3.0%	645	706	5,958	7,309
31	5,812	205,263	211,075	9.3%	10.1%	3.0%	537	588	6,240	7,365
32	4,807	214,711	219,518	9.3%	10.1%	3.0%	444	486	6,527	7,458
33	3,982	224,317	228,299	9.3%	10.1%	3.0%	368	403	6,819	7,590
34	3,251	234,179	237,431	9.3%	10.1%	3.0%	301	329	7,119	7,749
35	2,583	244,345	246,928	9.3%	10.1%	3.0%	239	261	7,428	7,928
36	1,993	254,812	256,805	9.3%	10.1%	3.0%	184	202	7,746	8,132
37	1,560	265,517	267,077	9.3%	10.1%	3.0%	144	158	8,072	8,374
38	1,160	276,600	277,760	9.3%	10.1%	3.0%	107	117	8,409	8,633
39	845	288,026	288,871	9.3%	10.1%	3.0%	78	85	8,756	8,920
40	577	299,849	300,426	9.3%	10.1%	3.0%	53	58	9,115	9,227
41	399	312,044	312,443	9.3%	10.1%	3.0%	37	40	9,486	9,563
42	253	324,687	324,940	9.3%	10.1%	3.0%	23	26	9,870	9,919
43	156	337,782	337,938	9.3%	10.1%	3.0%	14	16	10,269	10,299
44	96	351,359	351,455	9.3%	10.1%	3.0%	9	10	10,681	10,700
45	38	365,476	365,514	9.3%	10.1%	3.0%	3	4	11,110	11,118
46	15	380,119	380,134	9.3%	10.1%	3.0%	1	2	11,556	11,559
47	4	395,336	395,340	9.3%	10.1%	3.0%	0	0	12,018	12,019
48	0	411,153	411,153			3.0%	0	0	12,499	12,499
49	0	427,599	427,599			3.0%	0	0	12,999	12,999
50	0	444,703	444,703			3.0%	0	0	13,519	13,519
51	0	462,491	462,491			3.0%	0	0	14,060	14,060
52	0	480,991	480,991			3.0%	0	0	14,622	14,622
53	0	500,231	500,231			3.0%	0	0	15,207	15,207
54	0	520,240	520,240			3.0%	0	0	15,815	15,815
55	0	541,050	541,050			3.0%	0	0	16,448	16,448
56	0	562,692	562,692			3.0%	0	0	17,106	17,106
57	0	585,199	585,199			3.0%	0	0	17,790	17,790
58	0	608,607	608,607			3.0%	0	0	18,502	18,502
59	0	632,951	632,951			3.0%	0	0	19,242	19,242

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**APPENDIX B
DEVELOPMENT OF DISCOUNT RATE**

Table 1 - Projection of Contributions Continued

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1 (except Payroll)

* Total covered-employee payroll increases 4.00% per year

Year	Projected Covered Employee Payroll			Projected Rates			Projected Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll * (c) = (a) + (b)	EE Rate (d)	ER Rate (e)	AL Rate (f)	Contributions for Current Employees (g) = (a) x (d)	Employer Contributions for Current Employees (h) = (a) x (e)	Contributions Related to Payroll of Future Employees (i) = (b) x (f)	Total Contributions (j) = (g) + (h) + (i)
60	0	658,270	658,270			3.0%	0	0	20,011	20,011
61	0	684,600	684,600			3.0%	0	0	20,812	20,812
62	0	711,984	711,984			3.0%	0	0	21,644	21,644
63	0	740,464	740,464			3.0%	0	0	22,510	22,510
64	0	770,082	770,082			3.0%	0	0	23,411	23,411
65	0	800,886	800,886			3.0%	0	0	24,347	24,347
66	0	832,921	832,921			3.0%	0	0	25,321	25,321
67	0	866,238	866,238			3.0%	0	0	26,334	26,334
68	0	900,887	900,887			3.0%	0	0	27,387	27,387
69	0	936,923	936,923			3.0%	0	0	28,482	28,482
70	0	974,400	974,400			3.0%	0	0	29,622	29,622
71	0	1,013,376	1,013,376			3.0%	0	0	30,807	30,807
72	0	1,053,911	1,053,911			3.0%	0	0	32,039	32,039
73	0	1,096,067	1,096,067			3.0%	0	0	33,320	33,320
74	0	1,139,910	1,139,910			3.0%	0	0	34,653	34,653
75	0	1,185,506	1,185,506			3.0%	0	0	36,039	36,039
76	0	1,232,927	1,232,927			3.0%	0	0	37,481	37,481
77	0	1,282,244	1,282,244			3.0%	0	0	38,980	38,980
78	0	1,333,533	1,333,533			3.0%	0	0	40,539	40,539
79	0	1,386,875	1,386,875			3.0%	0	0	42,161	42,161
80	0	1,442,350	1,442,350			3.0%	0	0	43,847	43,847
81	0	1,500,044	1,500,044			3.0%	0	0	45,601	45,601
82	0	1,560,045	1,560,045			3.0%	0	0	47,425	47,425
83	0	1,622,447	1,622,447			3.0%	0	0	49,322	49,322
84	0	1,687,345	1,687,345			3.0%	0	0	51,295	51,295
85	0	1,754,839	1,754,839			3.0%	0	0	53,347	53,347
86	0	1,825,032	1,825,032			3.0%	0	0	55,481	55,481
87	0	1,898,034	1,898,034			3.0%	0	0	57,700	57,700
88	0	1,973,955	1,973,955			3.0%	0	0	60,008	60,008
89	0	2,052,913	2,052,913			3.0%	0	0	62,409	62,409
90	0	2,135,030	2,135,030			3.0%	0	0	64,905	64,905
91	0	2,220,431	2,220,431			3.0%	0	0	67,501	67,501
92	0	2,309,248	2,309,248			3.0%	0	0	70,201	70,201
93	0	2,401,618	2,401,618			3.0%	0	0	73,009	73,009
94	0	2,497,683	2,497,683			3.0%	0	0	75,930	75,930
95	0	2,597,590	2,597,590			3.0%	0	0	78,967	78,967
96	0	2,701,494	2,701,494			3.0%	0	0	82,125	82,125
97	0	2,809,554	2,809,554			3.0%	0	0	85,410	85,410
98	0	2,921,936	2,921,936			3.0%	0	0	88,827	88,827
99	0	3,038,813	3,038,813			3.0%	0	0	92,380	92,380
100	0	3,160,366	3,160,366			3.0%	0	0	96,075	96,075
101	0	3,286,780	3,286,780			3.0%	0	0	99,918	99,918
102	0	3,418,251	3,418,251			3.0%	0	0	103,915	103,915
103	0	3,554,982	3,554,982			3.0%	0	0	108,071	108,071
104	0	3,697,181	3,697,181			3.0%	0	0	112,394	112,394
105	0	3,845,068	3,845,068			3.0%	0	0	116,890	116,890
106	0	3,998,871	3,998,871			3.0%	0	0	121,566	121,566
107	0	4,158,826	4,158,826			3.0%	0	0	126,428	126,428
108	0	4,325,179	4,325,179			3.0%	0	0	131,485	131,485
109	0	4,498,186	4,498,186			3.0%	0	0	136,745	136,745

**SHERIFFS' RETIREMENT SYSTEM
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**APPENDIX B
DEVELOPMENT OF DISCOUNT RATE**

Table 2 - Projection of the Pension Plan's Fiduciary Net Position
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1
* From Table 1 - Projection of Contributions, column (g)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
1	\$ 243,876	\$ 13,136	\$ 13,943	\$ 203	\$ 41,789	\$ 284,655
2	284,655	12,265	14,745	115	21,962	304,022
3	304,022	12,059	15,624	120	23,422	323,759
4	323,759	11,908	16,517	124	24,911	343,936
5	343,936	11,821	17,684	129	26,427	364,370
6	364,370	11,644	18,903	135	27,957	384,933
7	384,933	11,509	20,214	140	29,496	405,584
8	405,584	11,423	21,669	146	31,038	426,229
9	426,229	11,290	23,053	151	32,580	446,895
10	446,895	11,145	24,748	157	34,111	467,246
11	467,246	10,996	26,558	164	35,614	487,133
12	487,133	10,832	28,428	170	37,077	506,445
13	506,445	10,667	30,316	177	38,496	525,114
14	525,114	10,527	32,493	184	39,854	542,818
15	542,818	10,297	34,670	192	41,134	559,388
16	559,388	10,088	36,965	199	42,323	574,635
17	574,635	9,845	39,542	207	43,397	588,128
18	588,128	9,559	42,015	216	44,338	599,794
19	599,794	9,291	44,670	224	45,130	609,322
20	609,322	8,956	47,324	233	45,755	616,475
21	616,475	8,627	49,998	242	46,194	621,055
22	621,055	8,299	52,737	252	46,432	622,798
23	622,798	8,013	54,936	262	46,473	622,085
24	622,085	7,785	57,040	272	46,328	618,885
25	618,885	7,614	58,895	281	46,003	613,326
26	613,326	7,481	60,728	290	45,497	605,286
27	605,286	7,385	61,887	295	44,826	595,315
28	595,315	7,330	63,010	301	44,008	583,343
29	583,343	7,311	63,973	305	43,043	569,418
30	569,418	7,309	64,743	309	41,934	553,610
31	553,610	7,365	64,936	310	40,704	536,432
32	536,432	7,458	65,140	311	39,368	517,808
33	517,808	7,590	64,979	310	37,936	498,045
34	498,045	7,749	64,680	309	36,422	477,227
35	477,227	7,928	64,015	306	34,841	455,675
36	455,675	8,132	63,213	302	33,209	433,502
37	433,502	8,374	62,249	297	31,536	410,866
38	410,866	8,633	61,067	291	29,837	387,978
39	387,978	8,920	59,723	285	28,126	365,015
40	365,015	9,227	58,162	278	26,417	342,219
41	342,219	9,563	56,448	269	24,729	319,795
42	319,795	9,919	54,572	260	23,076	297,958
43	297,958	10,299	52,550	251	21,476	276,932
44	276,932	10,700	50,434	241	19,942	256,899
45	256,899	11,118	48,191	230	18,491	238,087
46	238,087	11,559	45,860	219	17,139	220,705
47	220,705	12,019	43,457	207	15,901	204,961
48	204,961	12,499	40,996	196	14,793	191,062
49	191,062	12,999	38,498	184	13,831	179,210
50	179,210	13,519	35,978	172	13,028	169,608
51	169,608	14,060	33,450	160	12,401	162,459
52	162,459	14,622	30,932	148	11,965	157,967
53	157,967	15,207	28,440	136	11,734	156,332
54	156,332	15,815	25,992	124	11,724	157,756
55	157,756	16,448	23,606	113	11,950	162,435
56	162,435	17,106	21,299	102	12,425	170,565
57	170,565	17,790	19,087	91	13,166	182,344
58	182,344	18,502	16,982	81	14,186	197,969
59	197,969	19,242	14,995	72	15,501	217,645

**SHERIFFS' RETIREMENT SYSTEM
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**APPENDIX B
DEVELOPMENT OF DISCOUNT RATE**

Table 2 - Projection of the Pension Plan's Fiduciary Net Position Continued
Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1
* From Table 1 - Projection of Contributions, column (g)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
60	217,645	20,011	13,136	63	17,127	241,584
61	241,584	20,812	11,412	54	19,078	270,008
62	270,008	21,644	9,827	47	21,373	303,151
63	303,151	22,510	8,384	40	24,030	341,267
64	341,267	23,411	7,083	34	27,068	384,628
65	384,628	24,347	5,923	28	30,508	433,531
66	433,531	25,321	4,900	23	34,374	488,303
67	488,303	26,334	4,008	19	38,692	549,301
68	549,301	27,387	3,241	15	43,488	616,920
69	616,920	28,482	2,589	12	48,795	691,597
70	691,597	29,622	2,043	10	54,647	773,813
71	773,813	30,807	1,592	8	61,081	864,101
72	864,101	32,039	1,225	6	68,139	963,049
73	963,049	33,320	930	4	75,868	1,071,303
74	1,071,303	34,653	698	3	84,317	1,189,572
75	1,189,572	36,039	517	2	93,543	1,318,634
76	1,318,634	37,481	379	2	103,605	1,459,339
77	1,459,339	38,980	274	1	114,571	1,612,614
78	1,612,614	40,539	197	1	126,512	1,779,468
79	1,779,468	42,161	139	1	139,507	1,960,995
80	1,960,995	43,847	98	0	153,641	2,158,385
81	2,158,385	45,601	68	0	169,006	2,372,925
82	2,372,925	47,425	47	0	185,703	2,606,006
83	2,606,006	49,322	32	0	203,840	2,859,137
84	2,859,137	51,295	22	0	223,533	3,133,943
85	3,133,943	53,347	14	0	244,909	3,432,184
86	3,432,184	55,481	10	0	268,104	3,755,759
87	3,755,759	57,700	6	0	293,265	4,106,719
88	4,106,719	60,008	4	0	320,552	4,487,275
89	4,487,275	62,409	3	0	350,137	4,899,818
90	4,899,818	64,905	2	0	382,204	5,346,925
91	5,346,925	67,501	1	0	416,954	5,831,379
92	5,831,379	70,201	1	0	454,601	6,356,181
93	6,356,181	73,009	0	0	495,380	6,924,570
94	6,924,570	75,930	0	0	539,542	7,540,041
95	7,540,041	78,967	0	0	587,356	8,206,364
96	8,206,364	82,125	0	0	639,116	8,927,605
97	8,927,605	85,410	0	0	695,137	9,708,153
98	9,708,153	88,827	0	0	755,760	10,552,739
99	10,552,739	92,380	0	0	821,350	11,466,469
100	11,466,469	96,075	0	0	892,305	12,454,849
101	12,454,849	99,918	0	0	969,050	13,523,818
102	13,523,818	103,915	0	0	1,052,047	14,679,780
103	14,679,780	108,071	0	0	1,141,793	15,929,644
104	15,929,644	112,394	0	0	1,238,821	17,280,860
105	17,280,860	116,890	0	0	1,343,712	18,741,461
106	18,741,461	121,566	0	0	1,457,086	20,320,113
107	20,320,113	126,428	0	0	1,579,616	22,026,158
108	22,026,158	131,485	0	0	1,712,027	23,869,671
109	23,869,671	136,745	0	0	1,855,099	25,861,515

**SHERIFFS' RETIREMENT SYSTEM
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**APPENDIX B
DEVELOPMENT OF DISCOUNT RATE**

Table 3 - Actuarial Present Values of Projected Benefit Payments

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1

* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (a)

** From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (c)

Year (a)	Projected Beginning Fiduciary Net Position * (b)	Projected Benefit Payments for current plan participants ** (c)	"Funded" Portion of Benefit Payments (d) = (c) if (b) >= (c)	"Unfunded" Portion of Benefit Payments (e) = (c) - (d)	Present Value of "Funded" Benefit Payments (f) = (d) / (1+ 7.75%)^(a)	Present Value of "Unfunded" Benefit Payments (g) = (e)/(1+4.29%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c)/(1+ 7.75%)^(a)
1	\$ 243,876	\$ 13,943	\$ 13,943	\$ 0	\$ 12,940	\$ 0	\$ 12,940
2	284,655	14,745	14,745	0	12,700	0	12,700
3	304,022	15,624	15,624	0	12,489	0	12,489
4	323,759	16,517	16,517	0	12,254	0	12,254
5	343,936	17,684	17,684	0	12,176	0	12,176
6	364,370	18,903	18,903	0	12,079	0	12,079
7	384,933	20,214	20,214	0	11,988	0	11,988
8	405,584	21,669	21,669	0	11,926	0	11,926
9	426,229	23,053	23,053	0	11,775	0	11,775
10	446,895	24,748	24,748	0	11,732	0	11,732
11	467,246	26,558	26,558	0	11,684	0	11,684
12	487,133	28,428	28,428	0	11,608	0	11,608
13	506,445	30,316	30,316	0	11,488	0	11,488
14	525,114	32,493	32,493	0	11,427	0	11,427
15	542,818	34,670	34,670	0	11,316	0	11,316
16	559,388	36,965	36,965	0	11,197	0	11,197
17	574,635	39,542	39,542	0	11,116	0	11,116
18	588,128	42,015	42,015	0	10,962	0	10,962
19	599,794	44,670	44,670	0	10,816	0	10,816
20	609,322	47,324	47,324	0	10,635	0	10,635
21	616,475	49,998	49,998	0	10,428	0	10,428
22	621,055	52,737	52,737	0	10,208	0	10,208
23	622,798	54,936	54,936	0	9,869	0	9,869
24	622,085	57,040	57,040	0	9,510	0	9,510
25	618,885	58,895	58,895	0	9,113	0	9,113
26	613,326	60,728	60,728	0	8,720	0	8,720
27	605,286	61,887	61,887	0	8,248	0	8,248
28	595,315	63,010	63,010	0	7,793	0	7,793
29	583,343	63,973	63,973	0	7,343	0	7,343
30	569,418	64,743	64,743	0	6,897	0	6,897
31	553,610	64,936	64,936	0	6,420	0	6,420
32	536,432	65,140	65,140	0	5,977	0	5,977
33	517,808	64,979	64,979	0	5,534	0	5,534
34	498,045	64,680	64,680	0	5,112	0	5,112
35	477,227	64,015	64,015	0	4,695	0	4,695
36	455,675	63,213	63,213	0	4,303	0	4,303
37	433,502	62,249	62,249	0	3,933	0	3,933
38	410,866	61,067	61,067	0	3,581	0	3,581
39	387,978	59,723	59,723	0	3,250	0	3,250
40	365,015	58,162	58,162	0	2,937	0	2,937
41	342,219	56,448	56,448	0	2,646	0	2,646
42	319,795	54,572	54,572	0	2,374	0	2,374
43	297,958	52,550	52,550	0	2,121	0	2,121
44	276,932	50,434	50,434	0	1,890	0	1,890
45	256,899	48,191	48,191	0	1,676	0	1,676
46	238,087	45,860	45,860	0	1,480	0	1,480
47	220,705	43,457	43,457	0	1,302	0	1,302
48	204,961	40,996	40,996	0	1,139	0	1,139
49	191,062	38,498	38,498	0	993	0	993
50	179,210	35,978	35,978	0	861	0	861
51	169,608	33,450	33,450	0	743	0	743
52	162,459	30,932	30,932	0	638	0	638
53	157,967	28,440	28,440	0	544	0	544
54	156,332	25,992	25,992	0	462	0	462
55	157,756	23,606	23,606	0	389	0	389
56	162,435	21,299	21,299	0	326	0	326
57	170,565	19,087	19,087	0	271	0	271
58	182,344	16,982	16,982	0	224	0	224
59	197,969	14,995	14,995	0	183	0	183

**SHERIFFS' RETIREMENT SYSTEM
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**APPENDIX B
DEVELOPMENT OF DISCOUNT RATE**

Table 3 - Actuarial Present Values of Projected Benefit Payments Continued

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1

* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (a)

** From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (c)

Year (a)	Projected Beginning Fiduciary Net Position * (b)	Projected Benefit Payments for current plan participants ** (c)	"Funded" Portion of Benefit Payments (d) = (c) if (b) >= (c)	"Unfunded" Portion of Benefit Payments (e) = (c) - (d)	Present Value of "Funded" Benefit Payments (f) = (d) / (1+ 7.75%)^(a)	Present Value of "Unfunded" Benefit Payments (g) = (e)/(1+4.29%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c)/(1+7.75%)^(a)		
60	217,645	13,136	13,136	0	149	0	149		
61	241,584	11,412	11,412	0	120	0	120		
62	270,008	9,827	9,827	0	96	0	96		
63	303,151	8,384	8,384	0	76	0	76		
64	341,267	7,083	7,083	0	60	0	60		
65	384,628	5,923	5,923	0	46	0	46		
66	433,531	4,900	4,900	0	36	0	36		
67	488,303	4,008	4,008	0	27	0	27		
68	549,301	3,241	3,241	0	20	0	20		
69	616,920	2,589	2,589	0	15	0	15		
70	691,597	2,043	2,043	0	11	0	11		
71	773,813	1,592	1,592	0	8	0	8		
72	864,101	1,225	1,225	0	6	0	6		
73	963,049	930	930	0	4	0	4		
74	1,071,303	698	698	0	3	0	3		
75	1,189,572	517	517	0	2	0	2		
76	1,318,634	379	379	0	1	0	1		
77	1,459,339	274	274	0	1	0	1		
78	1,612,614	197	197	0	1	0	1		
79	1,779,468	139	139	0	0	0	0		
80	1,960,995	98	98	0	0	0	0		
81	2,158,385	68	68	0	0	0	0		
82	2,372,925	47	47	0	0	0	0		
83	2,606,006	32	32	0	0	0	0		
84	2,859,137	22	22	0	0	0	0		
85	3,133,943	14	14	0	0	0	0		
86	3,432,184	10	10	0	0	0	0		
87	3,755,759	6	6	0	0	0	0		
88	4,106,719	4	4	0	0	0	0		
89	4,487,275	3	3	0	0	0	0		
90	4,899,818	2	2	0	0	0	0		
91	5,346,925	1	1	0	0	0	0		
92	5,831,379	1	1	0	0	0	0		
93	6,356,181	0	0	0	0	0	0		
94	6,924,570	0	0	0	0	0	0		
95	7,540,041	0	0	0	0	0	0		
96	8,206,364	0	0	0	0	0	0		
97	8,927,605	0	0	0	0	0	0		
98	9,708,153	0	0	0	0	0	0		
99	10,552,739	0	0	0	0	0	0		
100	11,466,469	0	0	0	0	0	0		
101	12,454,849	0	0	0	0	0	0		
102	13,523,818	0	0	0	0	0	0		
103	14,679,780	0	0	0	0	0	0		
104	15,929,644	0	0	0	0	0	0		
105	17,280,860	0	0	0	0	0	0		
106	18,741,461	0	0	0	0	0	0		
107	20,320,113	0	0	0	0	0	0		
108	22,026,158	0	0	0	0	0	0		
109	23,869,671	0	0	0	0	0	0		
					\$ 389,125	+	\$ 0	=	\$ 389,125