

**Montana Firefighters' Unified
Retirement System
of the
State of Montana**

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

Produced by [Cheiron](#)

November 2014

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**MONTANA FIREFIGHTERS' UNIFIED RETIREMENT SYSTEM
GASB 67 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Government Accounting Standards Board Statement 67 for the Montana Firefighters' Unified Retirement System. 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 Firefighters' Unified Retirement System (FURS) 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	\$ 419,173,248	\$ 396,769,177
Plan Fiduciary Net Position	<u>321,556,669</u>	<u>271,825,743</u>
Net Pension Liability	<u>\$ 97,616,579</u>	<u>\$ 124,943,434</u>
Discount Rate	7.75%	7.75%

CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the State of Montana Firefighters' Unified Retirement System (FURS). This report is for the use of FURS, 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 FURS.

In preparing our report, we relied on information (some oral and some written) supplied by FURS. 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 FURS, 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 0.19% 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.

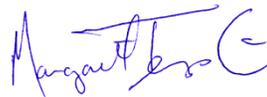
To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards 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 FURS 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. McElhaney, FSA, FCA, EA, MAAA
Principal Consulting Actuary



Margaret Tempkin, FSA, EA, MAAA
Principal Consulting Actuary

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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 as 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 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. 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	6.75%	7.75%	8.75%
Total Pension Liability, 6/30/2013			
Actives	\$ 174,120,476	\$ 145,270,340	\$ 122,349,054
Deferred Vested	3,227,502	2,776,267	2,424,374
Retirees	<u>275,566,531</u>	<u>248,722,570</u>	<u>226,170,540</u>
Total	\$ 452,914,509	\$ 396,769,177	\$ 350,943,968
Service Cost, Beginning of Year			
Service Cost Rate	34.23%	26.59%	20.89%
Expected Payroll During Year	39,898,064	39,898,064	39,898,064
Service Cost	\$ 13,657,107	\$ 10,608,895	\$ 8,334,706
Benefit Payments	\$ 19,052,130	\$ 19,052,130	\$ 19,052,130
Interest	\$ 30,861,074	\$ 30,847,306	\$ 30,620,830
Change in Benefits	0	0	0
Change in Assumptions	0	0	0
Other Significant Events	0	0	0
Total Pension Liability, 6/30/2014	\$ 478,380,560	\$ 419,173,248	\$ 370,847,374

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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	\$ 396,769,177	\$ 271,825,743	\$ 124,943,434
Changes for the year:			
Service cost	10,608,895		10,608,895
Interest	30,847,306		30,847,306
Changes of benefits	0		0
Changes of assumptions	0		0
Differences between expected and actual experience	0		0
Contributions - employer		5,767,277	(5,767,277)
Contributions - non-employer		13,007,210	(13,007,210)
Contributions - member		4,697,333	(4,697,333)
Net investment income		45,464,858	(45,464,858)
Benefit payments	(19,052,130)	(19,052,130)	0
Administrative expense		(153,622)	153,622
Net changes	<u>22,404,071</u>	<u>49,730,926</u>	<u>(27,326,855)</u>
Balances at 6/30/2014	<u>\$ 419,173,248</u>	<u>\$ 321,556,669</u>	<u>\$ 97,616,579</u>

There were no changes in benefits or changes in assumptions during the year. 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, resulting in a decrease in the Net Pension Liability (NPL) of \$27,326,855. The NPL remaining as of June 30, 2014 is \$97,616,579.

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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	\$ 478,380,560	\$ 419,173,248	\$ 370,847,374
Plan Fiduciary Net Position	<u>321,556,669</u>	<u>321,556,669</u>	<u>321,556,669</u>
Net Pension Liability	<u>\$ 156,823,891</u>	<u>\$ 97,616,579</u>	<u>\$ 49,290,705</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	67.2%	76.7%	86.7%

A one percent decrease in the discount rate increases the TPL by approximately 14.1% and increases the NPL by approximately 60.7%. A one percent increase in the discount rate decreases the TPL by approximately 11.5% and decreases the NPL by approximately 49.5%.

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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)	\$ 10,608,895
Interest (includes interest on service cost)	30,847,306
Changes of benefit terms	0
Differences between expected and actual experience	(0)
Changes of assumptions	0
Benefit payments, including refunds of member contributions	(19,052,130)
Net change in total pension liability	22,404,071
Total pension liability - beginning	396,769,177
Total pension liability - ending	\$ 419,173,248
<u>Plan fiduciary net position</u>	
Contributions - employer	\$ 5,767,277
Contributions - non-employer	13,007,210
Contributions - member	4,697,333
Net investment income	45,464,858
Benefit payments, including refunds of member contributions	(19,052,130)
Administrative expense	(153,622)
Net change in plan fiduciary net position	\$ 49,730,926
Plan fiduciary net position - beginning	271,825,743
Plan fiduciary net position - ending	\$ 321,556,669
Net pension liability - ending	\$ 97,616,579
Plan fiduciary net position as a percentage of the total pension liability	76.71%
Covered employee payroll	\$ 39,891,869
Net pension liability as a percentage of covered employee payroll	244.70%

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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	\$ 13,699
Contributions in Relation to the Actuarially Determined Contribution	
Employer Contributions	\$ 5,767
Non-Employer Contributions	<u>13,007</u>
Total Contributions	<u>\$ 18,774</u>
Contribution Deficiency/(Excess)	<u>\$ (5,075)</u>
Covered-Employee Payroll	\$ 39,892
Contributions as a Percentage of Covered-Employee Payroll	47.06%

**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 Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll * (c) = (a) + (b)	Contributions for Current Employees (d) = (a) x EE Rate	Employer Contributions for Current Employees (e) = (a) x ER Rate	Contributions Related to Payroll of Future Employees (f) = (b) x AL Rate	Total Contributions (g) = (d) + (e) + (f)
1	\$ 39,898	\$ 0	\$ 39,898	\$ 4,692	\$ 18,780	\$ 0	\$ 23,472
2	40,037	1,457	41,494	4,280	18,805	453	23,538
3	40,231	2,923	43,154	4,301	18,897	908	24,105
4	40,017	4,862	44,880	4,278	18,796	1,511	24,585
5	39,966	6,709	46,675	4,272	18,772	2,084	25,129
6	39,873	8,669	48,542	4,262	18,728	2,694	25,684
7	39,429	11,055	50,484	4,215	18,520	3,435	26,170
8	39,066	13,437	52,503	4,176	18,349	4,175	26,700
9	38,335	16,268	54,603	4,098	18,006	5,055	27,158
10	37,835	18,953	56,787	4,045	17,771	5,889	27,704
11	37,024	22,035	59,059	3,958	17,390	6,846	28,194
12	36,245	25,176	61,421	3,875	17,024	7,822	28,721
13	35,256	28,622	63,878	3,769	16,560	8,893	29,222
14	34,134	32,299	66,433	3,649	16,033	10,035	29,717
15	32,957	36,133	69,091	3,523	15,480	11,227	30,230
16	31,495	40,359	71,854	3,367	14,793	12,540	30,700
17	29,973	44,756	74,728	3,204	14,078	13,906	31,188
18	28,022	49,695	77,717	2,996	13,162	15,440	31,598
19	26,204	54,623	80,826	2,801	12,308	16,971	32,080
20	24,187	59,872	84,059	2,586	11,361	18,602	32,549
21	21,662	65,759	87,422	2,316	10,175	20,431	32,922
22	19,351	71,568	90,918	2,069	9,089	22,236	33,394
23	17,114	77,441	94,555	1,830	8,039	24,061	33,929
24	15,030	83,308	98,337	1,607	7,059	25,884	34,550
25	13,105	89,166	102,271	1,401	6,155	27,704	35,260
26	11,168	95,193	106,362	1,194	5,246	29,577	36,016
27	9,402	101,214	110,616	1,005	4,416	31,447	36,868
28	7,769	107,272	115,041	831	3,649	33,329	37,809
29	6,278	113,364	119,642	671	2,949	35,222	38,842
30	5,007	119,422	124,428	535	2,352	37,104	39,991
31	3,820	125,585	129,405	408	1,794	39,019	41,222
32	2,845	131,736	134,581	304	1,336	40,931	42,571
33	2,055	137,910	139,965	220	965	42,849	44,033
34	1,412	144,152	145,563	151	663	44,788	45,602
35	933	150,453	151,386	100	438	46,746	47,284
36	579	156,863	157,441	62	272	48,737	49,071
37	348	163,391	163,739	37	163	50,766	50,966
38	194	170,095	170,289	21	91	52,848	52,960
39	94	177,006	177,100	10	44	54,996	55,050
40	42	184,142	184,184	4	20	57,213	57,237
41	15	191,536	191,551	2	7	59,510	59,519
42	4	199,209	199,213	0	2	61,894	61,897
43	0	207,182	207,182	0	0	64,371	64,371
44	0	215,469	215,469	0	0	66,946	66,946
45	0	224,088	224,088	0	0	69,624	69,624
46	0	233,052	233,052	0	0	72,409	72,409
47	0	242,374	242,374	0	0	75,305	75,305
48	0	252,069	252,069	0	0	78,318	78,318
49	0	262,151	262,151	0	0	81,450	81,450
50	0	272,637	272,637	0	0	84,708	84,708
51	0	283,543	283,543	0	0	88,097	88,097
52	0	294,885	294,885	0	0	91,621	91,621
53	0	306,680	306,680	0	0	95,285	95,285
54	0	318,947	318,947	0	0	99,097	99,097
55	0	331,705	331,705	0	0	103,061	103,061
56	0	344,973	344,973	0	0	107,183	107,183
57	0	358,772	358,772	0	0	111,471	111,471
58	0	373,123	373,123	0	0	115,929	115,929
59	0	388,048	388,048	0	0	120,567	120,567

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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 Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll * (c) = (a) + (b)	Contributions for Current Employees (d) = (a) x EE Rate	Employer Contributions for Current Employees (e) = (a) x ER Rate	Contributions Related to Payroll of Future Employees (f) = (b) x AL Rate	Total Contributions (g) = (d) + (e) + (f)
60	0	403,570	403,570	0	0	125,389	125,389
61	0	419,713	419,713	0	0	130,405	130,405
62	0	436,501	436,501	0	0	135,621	135,621
63	0	453,961	453,961	0	0	141,046	141,046
64	0	472,120	472,120	0	0	146,688	146,688
65	0	491,005	491,005	0	0	152,555	152,555
66	0	510,645	510,645	0	0	158,657	158,657
67	0	531,071	531,071	0	0	165,004	165,004
68	0	552,313	552,313	0	0	171,604	171,604
69	0	574,406	574,406	0	0	178,468	178,468
70	0	597,382	597,382	0	0	185,607	185,607
71	0	621,277	621,277	0	0	193,031	193,031
72	0	646,129	646,129	0	0	200,752	200,752
73	0	671,974	671,974	0	0	208,782	208,782
74	0	698,853	698,853	0	0	217,134	217,134
75	0	726,807	726,807	0	0	225,819	225,819
76	0	755,879	755,879	0	0	234,852	234,852
77	0	786,114	786,114	0	0	244,246	244,246
78	0	817,559	817,559	0	0	254,015	254,015
79	0	850,261	850,261	0	0	264,176	264,176
80	0	884,271	884,271	0	0	274,743	274,743
81	0	919,642	919,642	0	0	285,733	285,733
82	0	956,428	956,428	0	0	297,162	297,162
83	0	994,685	994,685	0	0	309,049	309,049
84	0	1,034,473	1,034,473	0	0	321,411	321,411
85	0	1,075,851	1,075,851	0	0	334,267	334,267
86	0	1,118,886	1,118,886	0	0	347,638	347,638
87	0	1,163,641	1,163,641	0	0	361,543	361,543
88	0	1,210,187	1,210,187	0	0	376,005	376,005
89	0	1,258,594	1,258,594	0	0	391,045	391,045
90	0	1,308,938	1,308,938	0	0	406,687	406,687
91	0	1,361,295	1,361,295	0	0	422,954	422,954
92	0	1,415,747	1,415,747	0	0	439,873	439,873
93	0	1,472,377	1,472,377	0	0	457,468	457,468
94	0	1,531,272	1,531,272	0	0	475,766	475,766
95	0	1,592,523	1,592,523	0	0	494,797	494,797
96	0	1,656,224	1,656,224	0	0	514,589	514,589
97	0	1,722,473	1,722,473	0	0	535,172	535,172
98	0	1,791,372	1,791,372	0	0	556,579	556,579
99	0	1,863,027	1,863,027	0	0	578,842	578,842
100	0	1,937,548	1,937,548	0	0	601,996	601,996
101	0	2,015,050	2,015,050	0	0	626,076	626,076
102	0	2,095,652	2,095,652	0	0	651,119	651,119
103	0	2,179,478	2,179,478	0	0	677,164	677,164
104	0	2,266,657	2,266,657	0	0	704,250	704,250
105	0	2,357,323	2,357,323	0	0	732,420	732,420
106	0	2,451,616	2,451,616	0	0	761,717	761,717
107	0	2,549,681	2,549,681	0	0	792,186	792,186
108	0	2,651,668	2,651,668	0	0	823,873	823,873
109	0	2,757,735	2,757,735	0	0	856,828	856,828

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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	\$ 271,826	\$ 23,472	\$ 19,052	\$ 154	\$ 45,465	\$ 321,557
2	321,557	23,538	20,125	79	25,047	349,938
3	349,938	24,105	21,327	82	27,223	379,857
4	379,857	24,585	22,551	85	29,513	411,319
5	411,319	25,129	23,803	89	31,924	444,481
6	444,481	25,684	25,157	92	34,464	479,380
7	479,380	26,170	26,555	96	37,134	516,032
8	516,032	26,700	28,072	100	39,937	554,498
9	554,498	27,158	29,563	104	42,878	594,868
10	594,868	27,704	31,144	108	45,967	637,287
11	637,287	28,194	32,821	112	49,210	681,757
12	681,757	28,721	34,572	117	52,609	728,399
13	728,399	29,222	36,434	121	56,172	777,237
14	777,237	29,717	38,372	126	59,902	828,358
15	828,358	30,230	40,435	131	63,805	881,826
16	881,826	30,700	42,565	137	67,885	937,709
17	937,709	31,188	44,928	142	72,145	995,971
18	995,971	31,598	47,253	148	76,587	1,056,755
19	1,056,755	32,080	49,597	154	81,227	1,120,312
20	1,120,312	32,549	52,228	160	86,070	1,186,542
21	1,186,542	32,922	54,747	166	91,121	1,255,672
22	1,255,672	33,394	57,263	173	96,400	1,328,030
23	1,328,030	33,929	59,659	180	101,937	1,404,057
24	1,404,057	34,550	61,952	187	107,765	1,484,234
25	1,484,234	35,260	64,165	193	113,922	1,569,058
26	1,569,058	36,016	66,267	200	120,444	1,659,051
27	1,659,051	36,868	68,231	205	127,376	1,754,859
28	1,754,859	37,809	70,067	211	134,767	1,857,157
29	1,857,157	38,842	71,708	216	142,672	1,966,747
30	1,966,747	39,991	73,208	220	151,151	2,084,461
31	2,084,461	41,222	74,542	224	160,270	2,211,186
32	2,211,186	42,571	75,670	228	170,100	2,347,959
33	2,347,959	44,033	76,633	231	180,718	2,495,846
34	2,495,846	45,602	77,394	233	192,210	2,656,031
35	2,656,031	47,284	77,975	235	204,666	2,829,771
36	2,829,771	49,071	78,380	236	218,184	3,018,409
37	3,018,409	50,966	78,618	237	232,866	3,223,387
38	3,223,387	52,960	78,715	237	248,824	3,446,218
39	3,446,218	55,050	78,660	237	266,175	3,688,546
40	3,688,546	57,237	78,472	236	285,046	3,952,121
41	3,952,121	59,519	78,144	235	305,572	4,238,833
42	4,238,833	61,897	77,681	234	327,900	4,550,716
43	4,550,716	64,371	77,074	232	352,189	4,889,970
44	4,889,970	66,946	76,318	230	378,608	5,258,976
45	5,258,976	69,624	75,401	227	407,342	5,660,315
46	5,660,315	72,409	74,312	224	438,594	6,096,781
47	6,096,781	75,305	73,041	220	472,578	6,571,405
48	6,571,405	78,318	71,577	216	509,532	7,087,462
49	7,087,462	81,450	69,916	211	549,709	7,648,495
50	7,648,495	84,708	68,055	205	593,384	8,258,327
51	8,258,327	88,097	65,992	199	640,853	8,921,086
52	8,921,086	91,621	63,731	192	692,437	9,641,222
53	9,641,222	95,285	61,279	185	748,481	10,423,525
54	10,423,525	99,097	58,646	177	809,355	11,273,154
55	11,273,154	103,061	55,846	168	875,458	12,195,658
56	12,195,658	107,183	52,897	159	947,222	13,197,007
57	13,197,007	111,471	49,818	150	1,025,107	14,283,617
58	14,283,617	115,929	46,632	140	1,109,610	15,462,384
59	15,462,384	120,567	43,365	131	1,201,266	16,740,721

**MONTANA FIREFIGHTERS' UNIFIED RETIREMENT SYSTEM
GASB 67 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**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	16,740,721	125,389	40,041	121	1,300,647	18,126,595
61	18,126,595	130,405	36,692	110	1,408,371	19,628,567
62	19,628,567	135,621	33,350	100	1,525,099	21,255,838
63	21,255,838	141,046	30,047	90	1,651,545	23,018,291
64	23,018,291	146,688	26,821	81	1,788,473	24,926,549
65	24,926,549	152,555	23,710	71	1,936,704	26,992,027
66	26,992,027	158,657	20,746	62	2,097,124	29,227,001
67	29,227,001	165,004	17,961	54	2,270,682	31,644,671
68	31,644,671	171,604	15,381	46	2,458,401	34,259,249
69	34,259,249	178,468	13,026	39	2,661,382	37,086,033
70	37,086,033	185,607	10,910	33	2,880,810	40,141,507
71	40,141,507	193,031	9,036	27	3,117,963	43,443,437
72	43,443,437	200,752	7,399	22	3,374,218	47,010,986
73	47,010,986	208,782	5,993	18	3,651,062	50,864,820
74	50,864,820	217,134	4,803	14	3,950,097	55,027,233
75	55,027,233	225,819	3,809	11	4,273,052	59,522,284
76	59,522,284	234,852	2,990	9	4,621,794	64,375,930
77	64,375,930	244,246	2,323	7	4,998,334	69,616,180
78	69,616,180	254,015	1,786	5	5,404,845	75,273,249
79	75,273,249	264,176	1,359	4	5,843,671	81,379,732
80	81,379,732	274,743	1,023	3	6,317,338	87,970,787
81	87,970,787	285,733	761	2	6,828,573	95,084,329
82	95,084,329	297,162	559	2	7,380,314	102,761,245
83	102,761,245	309,049	406	1	7,975,733	111,045,620
84	111,045,620	321,411	290	1	8,618,247	119,984,987
85	119,984,987	334,267	204	1	9,311,540	129,630,588
86	129,630,588	347,638	142	0	10,059,585	140,037,669
87	140,037,669	361,543	97	0	10,866,664	151,265,779
88	151,265,779	376,005	65	0	11,737,394	163,379,112
89	163,379,112	391,045	43	0	12,676,750	176,446,864
90	176,446,864	406,687	28	0	13,690,096	190,543,619
91	190,543,619	422,954	18	0	14,783,213	205,749,768
92	205,749,768	439,873	11	0	15,962,334	222,151,963
93	222,151,963	457,468	7	0	17,234,173	239,843,597
94	239,843,597	475,766	4	0	18,605,971	258,925,329
95	258,925,329	494,797	3	0	20,085,529	279,505,652
96	279,505,652	514,589	2	0	21,681,256	301,701,495
97	301,701,495	535,172	1	0	23,402,217	325,638,884
98	325,638,884	556,579	0	0	25,258,178	351,453,641
99	351,453,641	578,842	0	0	27,259,669	379,292,152
100	379,292,152	601,996	0	0	29,418,034	409,312,182
101	409,312,182	626,076	0	0	31,745,502	441,683,759
102	441,683,759	651,119	0	0	34,255,251	476,590,130
103	476,590,130	677,164	0	0	36,961,486	514,228,779
104	514,228,779	704,250	0	0	39,879,511	554,812,540
105	554,812,540	732,420	0	0	43,025,824	598,570,784
106	598,570,784	761,717	0	0	46,418,202	645,750,703
107	645,750,703	792,186	0	0	50,075,804	696,618,692
108	696,618,692	823,873	0	0	54,019,278	751,461,844
109	751,461,844	856,828	0	0	58,270,875	810,589,547

**MONTANA FIREFIGHTERS' UNIFIED 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+
1	\$ 271,826	\$ 19,052	\$ 19,052	\$ 0	\$ 17,682	\$ 0	\$ 17,682
2	321,557	20,125	20,125	0	17,334	0	17,334
3	349,938	21,327	21,327	0	17,048	0	17,048
4	379,857	22,551	22,551	0	16,730	0	16,730
5	411,319	23,803	23,803	0	16,389	0	16,389
6	444,481	25,157	25,157	0	16,075	0	16,075
7	479,380	26,555	26,555	0	15,748	0	15,748
8	516,032	28,072	28,072	0	15,450	0	15,450
9	554,498	29,563	29,563	0	15,100	0	15,100
10	594,868	31,144	31,144	0	14,764	0	14,764
11	637,287	32,821	32,821	0	14,440	0	14,440
12	681,757	34,572	34,572	0	14,116	0	14,116
13	728,399	36,434	36,434	0	13,806	0	13,806
14	777,237	38,372	38,372	0	13,495	0	13,495
15	828,358	40,435	40,435	0	13,198	0	13,198
16	881,826	42,565	42,565	0	12,894	0	12,894
17	937,709	44,928	44,928	0	12,631	0	12,631
18	995,971	47,253	47,253	0	12,329	0	12,329
19	1,056,755	49,597	49,597	0	12,010	0	12,010
20	1,120,312	52,228	52,228	0	11,737	0	11,737
21	1,186,542	54,747	54,747	0	11,418	0	11,418
22	1,255,672	57,263	57,263	0	11,084	0	11,084
23	1,328,030	59,659	59,659	0	10,717	0	10,717
24	1,404,057	61,952	61,952	0	10,329	0	10,329
25	1,484,234	64,165	64,165	0	9,928	0	9,928
26	1,569,058	66,267	66,267	0	9,516	0	9,516
27	1,659,051	68,231	68,231	0	9,093	0	9,093
28	1,754,859	70,067	70,067	0	8,666	0	8,666
29	1,857,157	71,708	71,708	0	8,231	0	8,231
30	1,966,747	73,208	73,208	0	7,799	0	7,799
31	2,084,461	74,542	74,542	0	7,370	0	7,370
32	2,211,186	75,670	75,670	0	6,943	0	6,943
33	2,347,959	76,633	76,633	0	6,526	0	6,526
34	2,495,846	77,394	77,394	0	6,117	0	6,117
35	2,656,031	77,975	77,975	0	5,719	0	5,719
36	2,829,771	78,380	78,380	0	5,336	0	5,336
37	3,018,409	78,618	78,618	0	4,967	0	4,967
38	3,223,387	78,715	78,715	0	4,615	0	4,615
39	3,446,218	78,660	78,660	0	4,280	0	4,280
40	3,688,546	78,472	78,472	0	3,963	0	3,963
41	3,952,121	78,144	78,144	0	3,663	0	3,663
42	4,238,833	77,681	77,681	0	3,379	0	3,379
43	4,550,716	77,074	77,074	0	3,111	0	3,111
44	4,889,970	76,318	76,318	0	2,859	0	2,859
45	5,258,976	75,401	75,401	0	2,622	0	2,622
46	5,660,315	74,312	74,312	0	2,398	0	2,398
47	6,096,781	73,041	73,041	0	2,188	0	2,188
48	6,571,405	71,577	71,577	0	1,989	0	1,989
49	7,087,462	69,916	69,916	0	1,804	0	1,804
50	7,648,495	68,055	68,055	0	1,629	0	1,629
51	8,258,327	65,992	65,992	0	1,466	0	1,466
52	8,921,086	63,731	63,731	0	1,314	0	1,314
53	9,641,222	61,279	61,279	0	1,173	0	1,173
54	10,423,525	58,646	58,646	0	1,042	0	1,042
55	11,273,154	55,846	55,846	0	921	0	921
56	12,195,658	52,897	52,897	0	809	0	809
57	13,197,007	49,818	49,818	0	707	0	707
58	14,283,617	46,632	46,632	0	614	0	614
59	15,462,384	43,365	43,365	0	530	0	530

**MONTANA FIREFIGHTERS' UNIFIED RETIREMENT SYSTEM
GASB 67 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**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	Projected Beginning Fiduciary Net Position *	Projected Benefit Payments for current plan participants **	"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+
(a)	(b)	(c)	(d) = (c) if (b) >= (c)	(e) = (c) - (d)	(f) = (d) / (1+ 7.75%)^(a)	(g) = (e) / (1+4.29%)^(a)	(h) = (c) / (1+
60	16,740,721	40,041	40,041	0	454	0	454
61	18,126,595	36,692	36,692	0	386	0	386
62	19,628,567	33,350	33,350	0	326	0	326
63	21,255,838	30,047	30,047	0	273	0	273
64	23,018,291	26,821	26,821	0	226	0	226
65	24,926,549	23,710	23,710	0	185	0	185
66	26,992,027	20,746	20,746	0	150	0	150
67	29,227,001	17,961	17,961	0	121	0	121
68	31,644,671	15,381	15,381	0	96	0	96
69	34,259,249	13,026	13,026	0	76	0	76
70	37,086,033	10,910	10,910	0	59	0	59
71	40,141,507	9,036	9,036	0	45	0	45
72	43,443,437	7,399	7,399	0	34	0	34
73	47,010,986	5,993	5,993	0	26	0	26
74	50,864,820	4,803	4,803	0	19	0	19
75	55,027,233	3,809	3,809	0	14	0	14
76	59,522,284	2,990	2,990	0	10	0	10
77	64,375,930	2,323	2,323	0	7	0	7
78	69,616,180	1,786	1,786	0	5	0	5
79	75,273,249	1,359	1,359	0	4	0	4
80	81,379,732	1,023	1,023	0	3	0	3
81	87,970,787	761	761	0	2	0	2
82	95,084,329	559	559	0	1	0	1
83	102,761,245	406	406	0	1	0	1
84	111,045,620	290	290	0	1	0	1
85	119,984,987	204	204	0	0	0	0
86	129,630,588	142	142	0	0	0	0
87	140,037,669	97	97	0	0	0	0
88	151,265,779	65	65	0	0	0	0
89	163,379,112	43	43	0	0	0	0
90	176,446,864	28	28	0	0	0	0
91	190,543,619	18	18	0	0	0	0
92	205,749,768	11	11	0	0	0	0
93	222,151,963	7	7	0	0	0	0
94	239,843,597	4	4	0	0	0	0
95	258,925,329	3	3	0	0	0	0
96	279,505,652	2	2	0	0	0	0
97	301,701,495	1	1	0	0	0	0
98	325,638,884	0	0	0	0	0	0
99	351,453,641	0	0	0	0	0	0
100	379,292,152	0	0	0	0	0	0
101	409,312,182	0	0	0	0	0	0
102	441,683,759	0	0	0	0	0	0
103	476,590,130	0	0	0	0	0	0
104	514,228,779	0	0	0	0	0	0
105	554,812,540	0	0	0	0	0	0
106	598,570,784	0	0	0	0	0	0
107	645,750,703	0	0	0	0	0	0
108	696,618,692	0	0	0	0	0	0
109	751,461,844	0	0	0	0	0	0
					\$ 482,337	+ \$ 0	= \$ 482,337