

**Municipal Fire and Police
Retirement System of Iowa**

Actuarial Valuation Report

July 1, 2013

October 18, 2013

PERSONAL AND CONFIDENTIAL

Board of Trustees
Municipal Fire & Police Retirement System of Iowa
7155 Lake Drive, Suite 201
West Des Moines, IA 50266

RE: July 1, 2013 Actuarial Report

Dear Board Members:

We are pleased to submit this actuarial report of the Municipal Fire and Police Retirement System of Iowa. The costs developed and presented in this report are based on asset values as of June 30, 2013, member census data as of July 1, 2013, and current System provisions, all of which were supplied by the Municipal Fire & Police Retirement System of Iowa.

The purposes of the actuarial report are:

1. To determine the normal contribution rate which is payable by the Cities under Chapter 411 of the Code of Iowa;
2. To determine the funded status of the System; and
3. To provide information relating to the disclosure requirements of the Governmental Accounting Standards Board (GASB) Statement No. 25 – Financial Reporting for Defined Benefit Pension Plans and Statement No. 50 – Pension Disclosures.

All costs and liabilities were determined in accordance with generally accepted actuarial principles and procedures and are based on the actuarial assumptions and methods prescribed by the Board of Trustees. To the best of our knowledge, the information supplied in this report is complete and accurate and in my opinion the assumptions are reasonably related to the experience of the System and to reasonable expectations under the System. The amounts presented in the accompanying report have been determined appropriately according to the actuarial assumptions and methods stated herein, and fully and fairly disclose the actuarial position of the System. The undersigned meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained in this report.

Sincerely,



Donn B. Jones, FSA
Principal
Member of American Academy
of Actuaries
Enrolled Actuary No. 11-2717

DBJ/GCG/rb

Enclosure



Glen C. Gahan, FSA
Principal
Member of American Academy
of Actuaries
Enrolled Actuary No. 11-4875

Table of Contents

	<u>Page</u>
Report Highlights	1
Comments on the Valuation	2
Actuarial Valuation Results	5
System Demographic Experience	14
Summary of Actuarial Assumptions	15
Summary of Actuarial Methods	19
Summary of System Provisions	20
Summary of System Members	26

Report Highlights

This section compares results of the current and prior two actuarial valuations. Additional supporting detail is available in other sections of the report. The Table of Contents on the prior page identifies the location of the supporting detail.

	<u>As of July 1,</u>		
	<u>2011</u>	<u>2012</u>	<u>2013</u>
Cities Recommended Contribution	\$ 65,004,707	\$ 77,865,637	\$ 78,587,107
Normal Contribution Rate	26.12%	30.12%	30.41%
Plan Assets			
Market Value	1,829,405,667	1,785,228,513	1,964,266,618
Actuarial Value	1,867,281,454	1,838,606,699	1,860,947,878
Prior Year Investment Return			
Market Value	23.15%	0.22%	13.04%
Actuarial Value	3.20%	1.06%	4.02%
Actuarial Accrued Liability	2,388,493,912	2,493,849,016	2,518,228,578
Funded Ratio*	78.18%	73.73%	73.90%
Annual Participating Payroll	248,869,476	258,518,051	258,425,211
Annual Normal Cost	45,660,053	47,487,380	48,020,046
Percent of Payroll	18.35%	18.37%	18.58%
Annual Pension Benefits			
Service Retirement	62,437,848	67,211,124	71,753,820
Disabled Retirement	37,743,684	38,934,468	40,798,932
Vested Retirement	3,953,976	4,500,852	4,791,024
Beneficiaries	<u>15,148,944</u>	<u>15,602,352</u>	<u>16,020,192</u>
Total	119,284,452	126,248,796	133,363,968
Number of Members			
Active	3,908	3,888	3,866
Disabled	1,108	1,105	1,121
Retirees & Beneficiaries	2,645	2,711	2,741
Vested Terminated	<u>298</u>	<u>296</u>	<u>315</u>
Total	7,959	8,000	8,043

*Based on the ratio of the Actuarial Value of Assets to Actuarial Accrued Liability.

Comments on the Valuation

Cities Recommended Contribution

The recommended contribution to the System was determined using the Entry Age Normal actuarial cost method as adopted by the Board of Trustees for valuation years beginning July 1, 2011. The Aggregate actuarial cost method had been used for years prior to July 1, 2011 to determine the contribution for the System.

We recommend a contribution of \$78,587,107 be made for the 2013 plan year. This is equal to a contribution rate of 30.41% of payroll. This rate assumes that the State of Iowa will contribute approximately \$0 for the 2013 plan year.

The System's normal contribution rate increased from 30.12% for 2012 to 30.41% for 2013. The System's contribution rate before any adjustment to the minimum contribution rate changed as follows:

July 1, 2012 normal contribution rate	30.12%
• Increase in contribution rate due to lower State contribution	0.00%
• Plan experience more favorable than assumed	(0.19%)
• Investment experience less favorable than assumed	2.04%
• Changes in System provisions	0.00%
• Change in actuarial cost method	(0.00%)
• Changes in actuarial assumptions	<u>(1.56%)</u>
Preliminary normal contribution rate	30.41%
• Increase necessary to meet minimum contribution rate	0.00%
July 1, 2013 normal contribution rate	30.41%

Changes in System Provisions

All System provisions remained unchanged from the prior year valuation.

Changes in Actuarial Assumptions

Based on the results of the recent 10-year experience study and adoption by the Board of Trustees, the following actuarial assumptions were changed:

- Change salary increases for ages 35 to 39 to obtain weighted increase of 5.25% and for ages 40 to 44 to obtain weighted increase of 4.75% per year
- Increase ordinary disability rates for actives by 30%
- Decrease accidental disability rates for actives by 20%
- Decrease ages 56 to 64 retirement rates
- Lower pre-retirement accidental mortality rates for active members by 40%
- Introduce 80% marriage assumption for inactive members with 50% J & S Annuity Form

Comments on the Valuation

Change in Actuarial Methods

All actuarial cost methods remain unchanged from the prior year valuation.

Government Accounting Standards Board Disclosure

Measurements used to evaluate the funded status of the system are based on procedures set forth by GASB (Government Accounting Standards Board). In an effort to enhance the understandability and usefulness of the pension information that is included in the financial reports of pension plans for state and local governments, GASB has issued Statement No. 25—Financial Reporting for Defined Benefit Pension Plans and Statement No. 50 – Pension Disclosures.

GASB Statement No. 25 and No. 50 establish a financial reporting framework for defined benefit plans. In addition to two required statements regarding plan assets, the statement requires two schedules, the Schedule of Funding Progress and Schedule of Employer Contributions, and accompanying notes disclosing information relative to the funded status of the plan and historical contribution patterns.

- The Schedule of Funding Progress is required for systems which use the Entry Age Normal cost method to determine the Annual Required Contribution (ARC). This information is prepared in a separate report.
- The Schedule of Employer Contributions provides historical information about the Annual Required Contribution (ARC) and the percentage of the ARC that was actually contributed. For the System, the ARC is equal to the normal contribution rate multiplied by the covered payroll for the year or \$78,587,107 for 2013. This is the total ARC before any adjustment for minimum contribution rates or state contributions.

GASB has issued two new statements, Statement No. 67 – Financial Reporting for Pension Plans (an amendment of GASB Statement No. 25), and Statement No. 68 – Accounting and Financial Reporting for Pensions (an amendment of GASB Statement No. 27). Statement No. 67 is effective for fiscal years beginning after June 15, 2013, while Statement No. 68 is effective for fiscal years beginning after June 15, 2014. Statement No. 67 applies to financial reporting by pension plans, while Statement No. 68 applies to accounting and financial reporting by state and local governments for pensions. Future financial reporting for the System will incorporate the impact of Statements Nos. 67 and 68, as applicable.

Comments on the Valuation

Covered Members

Ages of Active Members – The average age of the active members has remained unchanged. The average age of members included in the valuation was 40.8 for the current year and 40.8 in the prior year.

Service of Active Members – The average service of the active members has remained unchanged. The average service of members included in the valuation was 13.5 for the current year and 13.5 in the prior year.

Participating Compensation and Members – Total participating compensation decreased from \$258,518,051 to \$258,425,211, a 0.04% decrease. The number of active members decreased from 3,888 in 2012 to 3,866 in 2013.

Average Annual Compensation – The average compensation of active members is more than the average compensation for the prior year. The average compensation was \$66,491 for 2012 and \$66,846 in 2013.

Ages of New Service Retirement Members – The average age of active members who elected service retirement has slightly decreased. The average age of new service retirements was 57.7 for the current year and 58.1 in the prior year.

Actuarial Valuation Results

This section of the report provides information concerning the valuation of System assets and liabilities and determination of recommended contributions. The following is a brief description of the exhibits and of how the information is organized.

Assets – System assets are amounts that have accumulated and will be used to meet future benefit obligations. In the Assets exhibit, trust fund transactions reported by the System are traced from the prior valuation date to the current valuation date. In addition, the actuarial value of assets is developed based on the adopted method.

Actuarial Accrued Liability – The actuarial accrued liability is equal to the sum of the individual accrued liabilities for all System members. Each member's accrued liability equals the actuarial present value of all future benefits less the actuarial present value of all future normal costs.

Unfunded Actuarial Accrued Liability – The unfunded actuarial accrued liability on the valuation date is equal to the excess of the System's actuarial accrued liability over the System's actuarial value of assets.

Annual Normal Cost – The annual normal cost is the portion of total System costs assigned to the current plan year by the actuarial cost method.

Annual Contributions – The recommended annual contribution is defined by the rate of contribution and covered payroll. The System's contribution rate by statute may not be less than 17% of covered payroll. As of July 1, 2011 the determination changed from the Aggregate cost method to the Entry Age Normal cost method with a 25 year level dollar amortization of unfunded actuarial accrued liability on an open basis. The recommended contribution rate consists of the normal cost plus amortization of the unfunded actuarial accrued liability less member contributions less state contributions, divided by the covered payroll.

Actuarial Gain/(Loss) – Actuarial gains and losses indicate the extent to which actual experience is deviating from that expected on the basis of the actuarial assumptions. Actuarial gains result from experience more favorable than assumed and reduce the unfunded actuarial accrued liability. Actuarial losses result from experience less favorable than assumed and increase the unfunded actuarial accrued liability.

Actuarial Present Value of Accrued Benefits – Another objective of preparing the actuarial valuation is to evaluate the funding status of the System. A comparison of the market value of assets with the actuarial present value of accrued benefits is displayed for the current and prior year.

Actuarial Valuation Results
Assets – Market Value
Year Ending June 30, 2013

Market Value of Assets at June 30, 2012		\$1,785,228,513
 Receipts		
Member Contributions	\$ 23,358,844	
Cities Contributions	65,327,766	
State Contributions	0	
Investment Income	243,743,473	
Investment Management Expenses	(14,151,398)	
Other Income	<u>3,057</u>	
 Total Receipts		 \$ 318,281,742
 Disbursements		
Benefit Payments to Members	\$ (136,593,585)	
Termination Withdrawals	(1,024,295)	
Administrative Expenses	(1,523,477)	
Disability Expenses	(102,280)	
Other Expenses	<u>(0)</u>	
 Total Disbursements		 \$ (139,243,637)
 Market Value of Assets at June 30, 2013		 \$1,964,266,618

Actuarial Valuation Results

Assets – Actuarial Value

Year Ending June 30, 2013

1.	Actuarial Value of Assets at July 1, 2012	\$1,838,606,699																																																
2.	Contributions for 2012 Plan Year (Members, Cities and State)	88,686,610																																																
3.	Benefit distributions and refunds for 2012 plan year	(137,617,880)																																																
4.	Noninvestment Expenses																																																	
	a. Administrative Expenses	(1,523,477)																																																
	b. Disability Expenses	(102,280)																																																
	c. Other Expenses	<u>(0)</u>																																																
	d. Total	(1,625,757)																																																
5.	Expected return on Market Value of Assets for year at 7.5%	132,030,523																																																
6.	Asset gains/(losses) for prior five plan years*																																																	
	<table style="width: 100%; border-collapse: collapse; margin-left: 40px;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%; text-align: center;">(i) Asset gain or (loss)</th> <th style="width: 15%; text-align: center;">Years Recognized</th> <th style="width: 15%; text-align: center;">Years Remaining</th> <th style="width: 15%; text-align: center;">(ii) Recognition Percentage</th> <th style="width: 25%; text-align: center;">(i) x (ii) Recognized Amount</th> </tr> </thead> <tbody> <tr> <td>a.</td> <td>2012</td> <td style="text-align: center;">\$ 97,564,609</td> <td style="text-align: center;">1</td> <td style="text-align: center;">4</td> <td style="text-align: center;">20.000%</td> <td style="text-align: right;">\$ 19,512,922</td> </tr> <tr> <td>b.</td> <td>2011</td> <td style="text-align: right;">(131,368,417)</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">20.000</td> <td style="text-align: right;">(26,273,683)</td> </tr> <tr> <td>c.</td> <td>2010</td> <td style="text-align: right;">235,933,207</td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> <td style="text-align: center;">20.000</td> <td style="text-align: right;">47,186,641</td> </tr> <tr> <td>d.</td> <td>2009</td> <td style="text-align: right;">48,578,626</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">20.000</td> <td style="text-align: right;">9,715,725</td> </tr> <tr> <td>e.</td> <td>2008</td> <td style="text-align: right;">(546,369,608)</td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">20.000</td> <td style="text-align: right;"><u>(109,273,922)</u></td> </tr> <tr> <td>f.</td> <td>Total</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">(59,132,317)</td> </tr> </tbody> </table>		(i) Asset gain or (loss)	Years Recognized	Years Remaining	(ii) Recognition Percentage	(i) x (ii) Recognized Amount	a.	2012	\$ 97,564,609	1	4	20.000%	\$ 19,512,922	b.	2011	(131,368,417)	2	3	20.000	(26,273,683)	c.	2010	235,933,207	3	2	20.000	47,186,641	d.	2009	48,578,626	4	1	20.000	9,715,725	e.	2008	(546,369,608)	5	0	20.000	<u>(109,273,922)</u>	f.	Total					(59,132,317)	
	(i) Asset gain or (loss)	Years Recognized	Years Remaining	(ii) Recognition Percentage	(i) x (ii) Recognized Amount																																													
a.	2012	\$ 97,564,609	1	4	20.000%	\$ 19,512,922																																												
b.	2011	(131,368,417)	2	3	20.000	(26,273,683)																																												
c.	2010	235,933,207	3	2	20.000	47,186,641																																												
d.	2009	48,578,626	4	1	20.000	9,715,725																																												
e.	2008	(546,369,608)	5	0	20.000	<u>(109,273,922)</u>																																												
f.	Total					(59,132,317)																																												
7.	Asset gains/(losses) to be recognized = (6f)	(59,132,317)																																																
8.	Actuarial Value of Assets at July 1, 2013 = (1) + (2) + (3) + (4d) + (5) + (7)	\$1,860,947,878																																																

*Effective July 1, 2008, the period over which asset gains or losses to be recognized increased from four to five years.

Actuarial Valuation Results

Unfunded Actuarial Accrued Liability

The unfunded actuarial accrued liability is the amount the actuarial accrued liability exceeds the actuarial value of plan assets determined as of the actuarial valuation date. The unfunded actuarial accrued liability is reduced during a year when System funding exceeds the annual normal cost and interest accrued on the prior year unfunded accrued liability. The unfunded actuarial accrued liability is also reduced (increased) when the investment return on System assets exceeds (is less than) the assumed investment return. The actuarial accrued liability is increased if there are amendments that revise benefits payable from the System. The actuarial accrued liability may be increased or decreased as the result of System experience or if there are changes in the actuarial assumptions used to determine annual contributions.

	As of July 1,	
	2012	2013
1. Actuarial Accrued Liability before changes		
a. Active members		
Service retirements/DROP	\$843,320,292	\$840,429,105
Ordinary disability	14,290,646	14,451,905
Accidental disability	145,430,872	147,787,360
Ordinary death	4,987,576	5,036,729
Accidental death	5,279,228	5,353,321
Withdrawal	<u>22,358,380</u>	<u>21,862,842</u>
Total Active	1,035,666,994	1,034,921,262
b. Inactive members		
Members receiving benefits	1,424,771,620	1,495,686,601
Deferred vested terminations	33,335,109	36,563,110
Refund of member contributions due	<u>75,293</u>	<u>60,316</u>
Total Inactive	1,458,182,022	1,532,310,027
c. Total Actuarial Accrued Liability	2,493,849,016	2,567,231,289
2. Actuarial Value of Plan Assets	1,838,606,699	1,860,947,878
3. Unfunded Actuarial Accrued Liability before changes =[Excess of (1) over (2)]	655,242,317	706,283,411
4. Change in Unfunded Actuarial Accrued Liability		
a. Change in System Provisions	0	0
b. Change in Actuarial Assumptions	0	(49,002,711)
5. Unfunded Actuarial Accrued Liability after changes	655,242,317	657,280,700
6. 25-Year Level Dollar, Open Basis Amortization of Unfunded Actuarial Accrued Liability	54,681,143	54,851,249

Actuarial Valuation Results

Annual Normal Cost

The annual normal cost is the portion of the total System costs assigned to the current year by the Actuarial Cost Method.

	As of July 1,	
	<u>2012</u>	<u>2013</u>
1. Annual Normal Cost		
Benefit Normal Cost	\$47,487,380	\$48,020,046
Other	0	0
Total	47,487,380	48,020,046
2. Annual Participating Payroll	258,518,051	258,425,211
3. Annual Normal Cost as a Percentage of Participating Payroll = (1) / (2)	18.37%	18.58%

Actuarial Valuation Results

Annual Contributions

Preliminary Total Contribution	As of July 1,	
	<u>2012</u>	<u>2013</u>
1. Annual Normal Cost	\$47,487,380	\$48,020,046
2. Estimated Member Contributions	24,300,697	24,291,970
3. 25-Year Amortization of Unfunded Actuarial Accrued Liability	54,681,143	54,851,249
4. Total (Cities plus State) Contribution = (1) – (2) + (3)	77,867,826	78,579,325
Cities' Contribution		
5. Preliminary Total Contribution = (4)	77,867,826	78,579,325
6. Estimated State Contribution	0	0
7. Preliminary Cities' Contribution = (5) – (6)	77,867,826	78,579,325
8. Covered Payroll	258,518,051	258,425,211
9. Cities' Contribution as a percent of payroll = (7) / (8)	30.12%	30.41%
10. Minimum required contribution rate for Cities	17.00%	17.00%
11. Cities' Contribution = [Greater of (9) or (10)] x (8)	77,865,637	78,587,107

Actuarial Valuation Results

Actuarial Gain/(Loss)

Expected Unfunded Actuarial Accrued Liability

1. Expected Actuarial Accrued Liability

Actuarial Accrued Liability on July 1, 2012	\$2,493,849,016
Normal Cost	47,487,380
Benefit Distributions	(137,617,880)
Interest on above at 7.50% to June 30, 2013	185,532,855
Total	2,589,251,371

2. Expected Assets

Actuarial Value of Assets on July 1, 2012	\$1,838,606,699
Contributions	88,686,610
Benefit Distributions and Noninvestment Expenses	(139,243,637)
Interest on above at 7.50% to June 30, 2013	136,033,887
Total	1,924,083,559

3. Expected Unfunded Actuarial Accrued Liability on June 30, 2013 665,167,812

Actual Unfunded Actuarial Accrued Liability

1. Actuarial Accrued Liability Before Changes	2,567,231,289
2. Actuarial Value of Assets	1,860,947,878
3. Actual Unfunded Actuarial Accrued Liability on July 1, 2013 (1) – (2)	706,283,411

Actuarial Gain or (Loss)

1. Expected Unfunded Actuarial Accrued Liability	665,167,812
2. Actual Unfunded Actuarial Accrued Liability	706,283,411
3. Actuarial Gain or (Loss) for 2012 Plan Year (1) – (2)	(41,115,599)

Actuarial Valuation Results

Actuarial Present Value of Accrued Benefits

	As of July 1,	
	2012	2013
1. Present value of vested accrued benefits		
a. Present value of vested accrued benefits for active members	\$ 765,542,635	\$ 758,838,855
b. Present value of benefits for terminated members	33,410,402	35,983,572
c. Present value of benefits being paid to retirees and beneficiaries	1,424,771,620	1,469,487,548
Total	\$2,223,724,657	\$2,264,309,975
2. Present value of accrued nonvested benefits	28,107,087	27,860,956
3. Present value of all accrued benefits = (1) + (2)	\$2,251,831,744	\$2,292,170,931
4. Market value of assets	\$1,785,228,513	\$1,964,266,618
5. Ratio of market value of assets to the present value of all accrued benefits = (4) ÷ (3)	79.28%	85.69%
6. Ratio of market value of assets to the present value of vested accrued benefits = (4) ÷ (1)	80.28%	86.75%

Actuarial Valuation Results

Change in Actuarial Present Value of Accrued Benefits

The change in actuarial present value of accrued benefits due to various factors including benefits accumulated, the passage of time, benefits paid, changes in assumptions and changes in System provisions is displayed below.

Actuarial present value of accrued benefits on July 1, 2012	\$2,251,831,744
-------------------------------------------------------------	-----------------

Change in present value of accrued benefits from July 1, 2012 to July 1, 2013 due to:

- | | |
|-----------------------------------|---------------|
| • Additional benefits accumulated | \$ 55,570,203 |
| • Interest due to passage of time | 163,820,006 |
| • Benefits paid | (137,617,880) |
| • Change in assumptions | (41,433,142) |
| • Changes in System provisions | <u>0</u> |

Actuarial present value of accrued benefits on July 1, 2013	\$2,292,170,931
-------------------------------------------------------------	-----------------

System Demographic Experience

During the plan year July 1, 2012 to June 30, 2013, actual demographic experience differed from that expected by the actuarial assumptions, as summarized below.

Decrement Type	Expected	Actual
Actives		
Service Retirement	53	43
Accidental Disability	41	32
Ordinary Disability	5	6
Accidental Death	2	0
Ordinary Death	3	0
Withdrawal	73	91
DROP Participation	73	44
DROP Premature Withdrawal	7	7
DROP Retirement	22	33
Inactives		
Beneficiary Death	44	58
Disabled Death	34	22
Retirement Death	63	55
Vested Termination Death	1	0

Summary of Actuarial Assumptions

Interest Rate 7.5%.

Salary Increase Rates Rates varying based on age. Annual rates at sample ages are displayed below:

<u>Age</u>	<u>Rate</u>
20	15.11%
25	10.41%
30	7.14%
35	5.35%
40	4.95%
45 or Over	4.50%

Mortality Rates

Pre-retirement Mortality

- Ordinary

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.02%
25	0.02
30	0.03
35	0.04
40	0.05
45	0.07
50	0.10
55	0.13
60	0.19
65	0.25

- Accidental

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.02%
25	0.01
30	0.01
35	0.01
40	0.01
45	0.02
50	0.05
55	0.09
60	0.15
65	0.28

Summary of Actuarial Assumptions (continued)

Post-retirement Mortality

- Ordinary

A weighting equal to 4/12 of the 1971 Group Annuity Mortality Table, Male and Female and 8/12 of the 1994 Group Annuity Mortality Static Table, Male and Female with no projection of future mortality improvement.

- Disabled

A weighting equal to 4/12 of the 1971 Group Annuity Mortality Table – Male, set forward three years and 8/12 of the 1994 Group Annuity Mortality Static Table – Male, set forward three years with no projection of future mortality improvement.

Disability Rates

- Ordinary

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.08%
25	0.08
30	0.08
35	0.10
40	0.14
45	0.18
50	0.24
55	0.34
60	0.71
65	1.45

- Accidental

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.10%
25	0.10
30	0.10
35	0.10
40	0.27
45	0.62
50	1.18
55	2.69
60	5.51
65	6.41

Summary of Actuarial Assumptions (continued)

Turnover Rates

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	7.11%
25	5.81
30	4.51
35	2.71
40	1.08
45	0.20
50	0.20
55	0.00
60	0.00
65	0.00

Retirement Age

Rates varying by age for those not eligible for DROP – Sample rates:

<u>Age</u>	<u>Rate</u>
55	50%
56	25
57-60	20
61	25
62	30
63	35
64	40
65	100%

DROP

- Participation
 All members initially eligible for DROP at age 62 or younger elect to participate. No member initially eligible for DROP after age 62 would elect to participate.

- Period of Participation
 3 years.

- Investment Return on Accounts
 1.0%.

- Benefit Distribution
 Lump Sum.

- Retirement Age
 All members initially eligible for DROP at age 62 or younger enter DROP when first eligible. No change in retirement age for members who initially become eligible for DROP after age 62.

- Voluntary Premature Withdrawal
 5% per year while participating in DROP.

Summary of Actuarial Assumptions (continued)

Administrative Expenses	None explicitly assumed.
Active Members Percentage Married	85%.
Spouses' Age	Wives are three years younger than husbands.
Number of Children	2.5 per couple.
Participating Payroll	Actual annualized earnable compensation reported for prior plan year increased to the current plan year based on the System's assumed salary increase rate.
Inactive Members Percentage Married (50% J & S Annuity Form Only)	80%.

Summary of Actuarial Methods

Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method was used to determine recommended contributions. Using this method, the annual contribution consists of a normal cost and an unfunded accrued liability payment.

The normal cost is determined as the sum of the individual normal costs for each active System member. A normal cost accrual rate is determined for each member. The accrual rate is equal to the actuarial present value of future benefits determined as of the member's entry age, divided by the actuarial present value of the assumed salaries paid to the member from entry age to retirement age. The normal cost accrual rate is multiplied by current salary to provide the member's individual normal cost.

The actuarial accrued liability is the sum of the individual actuarial accrued liabilities for all System members. Each member's actuarial accrued liability equals the actuarial present value of future benefits, less the actuarial present value of the member's normal costs payable in the future. These present values are calculated at the member's attained age. The unfunded actuarial accrued liability equals the total actuarial accrued liability less the actuarial value of plan assets. The unfunded actuarial accrued liability payment is the amount payable toward the amortization of the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is amortized over 25 years on a level dollar, open basis.

At the end of each year, a determination of actuarial gains and losses is made. Actuarial gains and losses indicate the extent to which actual experience is deviating from that expected on the basis of the actuarial assumptions. Actuarial gains result from experience more favorable than assumed and reduce the unfunded actuarial accrued liability. Actuarial losses result from experience less favorable than assumed and increase the unfunded actuarial accrued liability.

Actuarial Asset Valuation Method

The preliminary actuarial value is equal to the prior year's actuarial value (starting with the market value as of July 1, 1992) adjusted for contributions, disbursements and expected return on investments. The preliminary value is then adjusted by 20% of any investment gains or losses during the five prior plan years.

However, any investment gains or losses prior to 2008 were previously being recognized over four years. Effective July 1, 2008, these remaining unrecognized investment gains or losses are recognized over a total of five years. This results in the preliminary value of assets adjusted by the following percentages of any investment gains or losses prior to the 2008 plan year.

2007	20.000%
2006	18.750
2005	16.667
2004	12.500

Summary of System Provisions

The System was established, effective January 1, 1992, by Chapter 411 of the Code of Iowa by combining each city's fire retirement system and police retirement system into a single statewide retirement system for fire fighters and police officers. Plan amendments through July 1, 2013 are reflected in this summary.

Participation	Each person who becomes a permanent full-time police officer or fire fighter in a participating city.														
Membership Service	From date of employment to date of separation from employment.														
Earnable Compensation	The annual compensation which a member receives for services rendered as a police officer or fire fighter in the course of employment with a participating City, except for amounts received for overtime, meal or travel expenses, uniform allowances, fringe benefits, severance pay, mandatory deferred compensation, and accumulated sick leave or vacation pay.														
Contributions															
Members	The following percentages of Earnable Compensation:														
	<table border="0"> <thead> <tr> <th style="text-align: left;"><u>Effective Date</u></th> <th style="text-align: left;"><u>Percentage</u></th> </tr> </thead> <tbody> <tr> <td>October 16, 1992</td> <td>6.10%</td> </tr> <tr> <td>July 1, 1993</td> <td>7.10</td> </tr> <tr> <td>July 1, 1994</td> <td>8.10</td> </tr> <tr> <td>January 1, 1995</td> <td>8.35</td> </tr> <tr> <td>July 1, 1995</td> <td>9.35</td> </tr> <tr> <td>July 1, 2009</td> <td>9.40</td> </tr> </tbody> </table>	<u>Effective Date</u>	<u>Percentage</u>	October 16, 1992	6.10%	July 1, 1993	7.10	July 1, 1994	8.10	January 1, 1995	8.35	July 1, 1995	9.35	July 1, 2009	9.40
<u>Effective Date</u>	<u>Percentage</u>														
October 16, 1992	6.10%														
July 1, 1993	7.10														
July 1, 1994	8.10														
January 1, 1995	8.35														
July 1, 1995	9.35														
July 1, 2009	9.40														
Cities	The amount actuarially determined necessary to fund the benefits in accordance with accepted actuarial principles but not less than 17% of the Earnable Compensation of the active members.														
State	The annual appropriation expected from the State of Iowa to fund benefits is \$0.														

Summary of System Provisions (continued)

Average Final Compensation	The average Earnable Compensation of the member during the three years of service the member earned their highest salary as a police officer or fire fighter.
Service Retirement Benefit	
Eligibility	After age 55 and completion of 22 years of service.
Benefit	Monthly annuity equal to 66.0% of Average Final Compensation plus 2.0% of Average Final Compensation for each year of service in excess of 22 years (up to 8 additional years). The maximum benefit is 82.0% of Average Final Compensation.
DROP Benefit	
Eligibility	After age 55 and completion of 22 years of service.
Participation Date	First day of the month following the month in which a member applies for participation.
Participation Period	A three, four or five year participation period except during the 24 months immediately following April 1, 2007, members between ages 62 and 64 with at least 22 years of service may enroll for a one or two year participation period.
Chapter 411 Benefit	Monthly benefit determined based on the period of service and Average Final Compensation through the quarter of membership service immediately preceding the DROP participation date elected.
DROP Account	An account established for each member enrolled which will have a portion of the Chapter 411 Benefit credited to it for the duration of the selected participation period. The portion shall be equal to the sum of: (a) A “minimum percentage” of 52% multiplied by the Chapter 411 Benefit, plus (b) An “adjustment percentage” of 2% for each month up to 24 months between the date the member elects to participate in DROP and the date the member was initially eligible to participate, multiplied by the Chapter 411 Benefit.

Summary of System Provisions (continued)

DROP Benefit (continued)

Member Contributions	Member's contributions will be contributed to the general System assets during the member's participation period.
City Contributions	Cities' contributions equal to the normal contribution rate determined annually but never less than 17% of Earnable Compensation will be contributed to the general System assets during the member's participation period.
Investment Return	Earnings and capital gains or losses on the investments shall be credited to the general System assets and not to the individual member DROP Accounts.
Benefit Escalation	The applicable escalator provisions apply from the member's actual date of retirement at the end of the DROP participation period. No escalation will occur during the DROP participation period.
Benefit Distributions	At the actual date of retirement, the member's DROP Account will be payable, upon application by the member, in the form of a lump sum distribution or rollover to an eligible plan. The regular Chapter 411 Benefit will commence on the member's actual date of retirement.
Premature Withdrawal and Accrual of Benefit	An amount equal to 75% of the member's DROP benefit shall accrue to the benefit of the member for each month of DROP participation. An amount equal to 25% of the member's accumulated DROP benefit shall accrue to the benefit of the member upon either: (1) completion of the selected participation period, or (2) termination of participation due to becoming eligible for a disability benefit, or (3) death prior to completion of the selected participation period.

Termination Benefit

Eligibility	At least 4 years of service upon termination of membership before age 55, but less than 22 years of service upon termination of membership after age 55.
--------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------

Summary of System Provisions (continued)

Termination Benefit (continued)

Benefit	<p>Monthly annuity payable at age 55 or current age, if later, equal to 66.0% of Average Final Compensation plus 2.0% of Average Final Compensation for each year of service in excess of 22 years (up to 8 additional years), if any, times a ratio equal to service at termination divided by 22 (ratio not to exceed 1.0).</p> <p>Effective July 1, 1990, members who terminate service, other than by death or disability, can elect to withdraw their accumulated contributions with interest in lieu of any benefits to which the member may be entitled to from the System.</p>
----------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Ordinary Disability Benefit

Eligibility	<p>A member in good standing at any age and any length of service.</p>
Benefit	<p>Monthly annuity payable upon disability equal to either (a) or (b) below, but no less than (c):</p> <ul style="list-style-type: none">(a) If service at disability is greater than or equal to 5, 50% of Average Final Compensation; or(b) If service at disability is less than 5 years, 25% of Average Final Compensation;(c) The benefit determined using the Service Retirement formula based on service and Average Final Compensation at the date of disability.

Accidental Disability Benefit

Eligibility	<p>A member in good standing at any age and any length of service.</p>
Benefit	<p>A monthly annuity equal to 60% of Average Final Compensation but no less than the benefit determined using the Service Retirement formula based on service and Average Final Compensation at the date of disability.</p>

Summary of System Provisions (continued)

Ordinary Death Benefit

Eligibility

For members in service: any age and any length of service.

For member not in service: 4 years of service.

Benefit

Upon death of the member, either (a) or (b) below:

- (a) A lump sum equal to 50% of Earnable Compensation during the last year of employment; or
- (b) A monthly annuity equal to 40% of average final compensation but not less than 20% of the average Earnable Compensation of an active member of the System, as reported by the actuary. For a member not in service, the monthly annuity is payable on the date the member would have reached age 55, except if there is a dependent child, it is paid immediately upon death of the member.

For each dependent child, an additional benefit equal to 6% of the average Earnable Compensation of an active member of the System, as reported by the actuary. This benefit is payable until the child reaches age 18 or 22 (if a full-time student) or payable for life if the child is disabled.

Accidental Death Benefit

Eligibility

Death from causes sustained in the line of duty.

Benefit

A monthly annuity equal to 50% of Average Final Compensation payable to surviving spouse, dependent child or dependent parents. In addition, a lump sum of \$100,000 is payable to the surviving spouse, adult child, dependent child or dependent parents if death is due to a traumatic personal injury incurred in the line of duty.

For each dependent child, an additional benefit equal to 6% of the average Earnable Compensation of an active member of the System, as reported by the actuary.

Summary of System Provisions (continued)

Death After Retirement

Eligibility	Death of member while receiving a service (basic benefit only), ordinary, accidental or vested (basis benefit only) retirement.
Benefit	To surviving spouse, 50% of the gross monthly benefit of the retired member but not less than 20% of the average Earnable Compensation of an active member of the System, as reported by the actuary. For each dependent child, an additional benefit equal to 6% of the average Earnable Compensation of an active member of the System, as reported by the actuary.

Annual Escalator Benefit

Eligibility	All retired members, except for vested retirements, and for beneficiaries, except for beneficiaries of vested retirements.
Benefit	The monthly pension benefit is increased each July 1 by the sum of (a) plus (b) below: <ul style="list-style-type: none"> (a) The previous monthly benefit multiplied by 1.5%, and (b) An additional dollar amount from the table below based on the number of years the member has been retired.

<u>Amount</u>	<u>Years of Retirement</u>
\$15	Less than 5
20	5-9
25	10-14
30	15-19
35	20 or More

Normal Form of Benefit

Married	Joint and 50% Survivor Annuity.
Single	Life Only Annuity.

Summary of System Members

	<u>2011</u>	<u>July 1, 2012</u>	<u>2013</u>
Active Members			
Number	3,908	3,888	3,866
Average Attained Age	40.7	40.8	40.8
Average Past Service	13.5	13.5	13.5
Total Annual Compensation	\$248,869,476	\$258,518,051	\$258,425,211
Average Annual Compensation	63,682	66,491	66,846
Non-Active Members in Pay Status			
Number	3,753	3,816	3,862
Average Age (excluding children)	68.7	68.8	68.9
Total Annual Benefits	\$119,284,452	\$126,248,796	\$133,363,968
Average Annual Benefit	31,784	33,084	34,532
Non-Active Members with Deferred Benefits			
Number*	298	296	315
Average Age	45.2	45.0	44.6
Total Annual Benefits	\$ 4,740,000	\$ 4,793,904	\$ 5,353,716
Average Annual Benefit	15,906	16,196	16,996

* Excludes 19, 18 and 14 terminated nonvested members who had not yet received a refund of contributions as of 2011, 2012 or 2013 respectively.

Summary of System Members

Reconciliation of Participant Counts

	Active	Terminated Vested	In Pay Status			Total
			Beneficiaries	Disabled	Retirees	
Number as of July 1, 2012	3,888	296	896	1,105	1,815	8,000
Change due to:						
New hires and rehires	200	(1)	0	0	0	199
Terminations	(60)*	51	0	0	0	(9)
Retirement	(83)	(18)	0	0	101	0
Disability	(38)	0	0	38	0	0
Death without Beneficiary	0	0	(58)	(8)	(25)	(91)
Death with Beneficiary	0	0	45	(14)	(30)	1
Refund Paid Out	(41)**	(13)	0	0	0	(54)
Benefit Aged Out	0	0	(3)	0	0	(3)
Other	0	0	0	0	0	0
Number as of July 1, 2013	3,866***	315	880	1,121	1,861	8,043

* Three of the Terminations are from new hires during the period July 1, 2012 to June 30, 2013.

** Seven of the Refunds Paid Out are from new hires during the period July 1, 2012 to June 30, 2013.

*** One hundred-forty-two (142) of the Actives have elected to participate in DROP as of July 1, 2013.

Summary of System Members

Active Members—As of July 1, 2013

Age	Years of Service								Total	Average Annual Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+		
Under 25	111	0	0	0	0	0	0	0	111	\$48,757
25-29	348	128	0	0	0	0	0	0	476	\$56,323
30-34	195	326	101	0	0	0	0	0	622	\$60,467
35-39	85	180	296	61	0	0	0	0	622	\$65,403
40-44	27	98	248	282	72	1	0	0	728	\$68,838
45-49	11	45	86	152	221	65	1	0	581	\$72,039
50-54	3	9	41	75	115	135	61	2	441	\$75,508
55-59	4	2	7	16	34	57	69	33	222	\$79,085
60+	0	1	2	6	10	5	13	26	63	\$80,763
Total	784	789	781	592	452	263	144	61	3,866	
Average Annual Salary	\$53,336	\$63,537	\$66,837	\$71,826	\$74,744	\$78,855	\$83,154	\$86,241		\$66,846

Summary of System Members

Inactive Members—As of July 1, 2013

Service Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	189	\$11,165,388	\$59,076
60-64	343	18,300,588	53,354
65-69	345	17,166,276	49,757
70-74	271	11,526,312	42,533
75-79	174	6,109,356	35,111
80-84	139	4,433,136	31,893
Over 84	<u>108</u>	<u>3,052,764</u>	<u>28,266</u>
Total	1,569	\$71,753,820	\$45,732

Vested Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	84	\$1,707,348	\$20,326
60-64	85	1,534,944	18,058
65-69	58	830,676	14,322
70-74	27	390,432	14,460
75-79	25	248,148	9,926
80-84	7	44,580	6,369
Over 84	<u>6</u>	<u>34,896</u>	<u>5,816</u>
Total	292	\$4,791,024	\$16,408

Summary of System Members

Inactive Members—As of July 1, 2013

Accidental Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	13	\$ 435,936	\$33,534
40-44	25	868,992	34,760
45-49	42	1,463,676	34,849
50-54	71	2,647,368	37,287
55-59	133	5,524,140	41,535
60-64	183	7,356,828	40,201
65-69	186	7,242,648	38,939
70-74	130	4,481,616	34,474
75-79	87	2,962,824	34,055
80-84	52	1,664,172	32,003
Over 84	<u>25</u>	<u>745,272</u>	<u>29,811</u>
Total	947	\$35,393,472	\$37,374

Ordinary Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	7	\$ 144,240	\$20,606
40-44	9	256,548	28,505
45-49	11	285,072	25,916
50-54	16	446,976	27,936
55-59	25	855,468	34,219
60-64	40	1,404,756	35,119
65-69	28	916,368	32,727
70-74	20	623,976	31,199
75-79	14	384,252	27,447
80-84	3	65,592	21,864
Over 84	<u>1</u>	<u>22,212</u>	<u>22,212</u>
Total	174	\$ 5,405,460	\$31,066

Summary of System Members

Inactive Members—As of July 1, 2013

Beneficiaries (Spouse)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	4	\$ 113,424	\$28,356
40-44	5	93,144	18,629
45-49	12	246,084	20,507
50-54	13	281,172	21,629
55-59	42	965,100	22,979
60-64	75	1,771,644	23,622
65-69	84	1,662,804	19,795
70-74	119	2,333,748	19,611
75-79	123	2,217,900	18,032
80-84	152	2,585,124	17,007
Over 84	<u>211</u>	<u>3,523,992</u>	<u>16,701</u>
Total	840	\$15,794,136	\$18,803

Beneficiaries (Children)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 3	0	\$ 0	\$ 0
3-5	0	0	0
6-8	2	8,928	4,464
9-11	4	20,544	5,136
12-14	6	34,896	5,816
15-17	8	43,692	5,462
18-20	9	45,084	5,009
Over 20	<u>11</u>	<u>72,912</u>	<u>6,628</u>
Total	40	\$226,056	\$5,651

Summary of System Members

Inactive Members—As of July 1, 2013

Terminated Vested

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	86	\$ 984,336	\$ 11,446
40-44	53	727,404	13,725
45-49	75	1,457,484	19,433
50-54	99	2,128,248	21,497
Over 54	<u>2</u>	<u>56,244</u>	<u>28,122</u>
Total	315	\$5,353,716	\$16,996