

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

Actuarial Valuation Report

July 1, 2012

October 16, 2012

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, 2012 Actuarial Report

Dear Board Members:

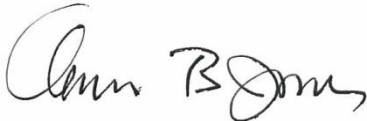
We are pleased to submit this actuarial report of the Municipal Fire and Police Retirement System of Iowa. The costs developed and presented in this report are based on asset values as of June 30, 2012, member census data as of July 1, 2012, and current System provisions, all of which were supplied by 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



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

MSE/rb

Enclosure

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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.

	As of July 1,		
	<u>2010</u>	<u>2011</u>	<u>2012</u>
Cities Recommended Contribution	\$ 60,038,343	\$ 65,004,707	\$ 77,865,637
Normal Contribution Rate	24.76%	26.12%	30.12%
Plan Assets			
Market Value	1,534,412,575	1,829,405,667	1,785,228,513
Actuarial Value	1,862,629,908	1,867,281,454	1,838,606,699
Prior Year Investment Return			
Market Value	10.95%	23.15%	0.22%
Actuarial Value	1.02%	3.20%	1.06%
Actuarial Accrued Liability	N/A	2,388,493,912	2,493,849,016
Security Ratio	N/A	77%	72%
Actuarial Present Value of Accrued Benefits			
Total Accrued Benefits	2,077,334,749	2,164,122,359	2,251,831,744
– Security Ratio	74%	85%	79%
Vested Accrued Benefits	2,049,878,269	2,136,294,721	2,223,724,657
– Security Ratio	75%	86%	80%
Annual Participating Payroll	242,481,190	248,869,476	258,518,051
Annual Normal Cost	N/A	45,660,053	47,487,380
Percent of Payroll	N/A	18.35%	18.37%
Annual Pension Benefits			
Service Retirement	58,960,680	62,437,848	67,211,124
Disabled Retirement	35,823,420	37,743,684	38,934,468
Vested Retirement	3,682,572	3,953,976	4,500,852
Beneficiaries	<u>14,804,952</u>	<u>15,148,944</u>	<u>15,602,352</u>
Total	113,271,624	119,284,452	126,248,796
Number of Members			
Active	3,895	3,908	3,888
Disabled	1,090	1,108	1,105
Retirees & Beneficiaries	2,631	2,645	2,711
Vested Terminated	<u>302</u>	<u>298</u>	<u>296</u>
Total	7,918	7,959	8,000

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 has been used for years prior to July 1, 2011 to determine the contribution for the System.

We recommend a contribution of \$77,865,637 be made for the 2012 plan year. This is equal to a contribution rate of 30.12% of payroll. This rate assumes that the State of Iowa will contribute approximately \$0 for the 2012 plan year.

The System's normal contribution rate increased from 26.12% for 2011 to 30.12% for 2012. The System's contribution rate before any adjustment to the minimum contribution rate changed as follows:

July 1, 2011 normal contribution rate	26.12%
• Increase in contribution rate due to decreased State contribution	0.30%
• Plan experience more favorable than assumed	(0.13%)
• Investment experience less favorable than assumed	3.83%
• Changes in System provisions	0.00%
• Change in actuarial cost method	(0.00%)
• Changes in actuarial assumptions	<u>0.00%</u>
Preliminary normal contribution rate	30.12%
• Increase necessary to meet minimum contribution rate	0.00%
July 1, 2012 normal contribution rate	30.12%

Actuarial Present Value of Accrued Benefits

The value of plan assets, the present value of vested accrued benefits, and the present value of accrued benefits are displayed and compared in this section of the report. Plan assets are valued at market value. The present value of vested accrued and accrued benefits is based on actuarial assumptions that anticipate the System will continue. Summarizing from this section of the report:

	<u>Values as of July 1, 2012</u>	<u>Funded Ratio</u>		
		<u>2010</u>	<u>2011</u>	<u>2012</u>
Market Value of Plan Assets	\$1,785,228,513	--	--	--
Actuarial Present Value:				
Accrued Benefits	2,251,831,744	74%	85%	79%
Vested Accrued Benefits	2,223,724,657	75%	86%	80%
Interest Rate		7.5%	7.5%	7.5%

Comments on the Valuation

Changes in System Provisions

All System provisions remained unchanged from the prior year valuation.

Changes in Actuarial Assumptions

All actuarial assumptions remain unchanged from the prior year 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 \$77,865,637 for 2012. This is the total ARC before any adjustment for minimum contribution rates or state contributions.

Comments on the Valuation

Covered Members

Ages of Active Members—The average age of the active members has slightly increased. The average age of members included in the valuation was 40.8 for the current year and 40.7 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 increased from \$248,869,476 to \$258,518,051, a 3.9% increase. The number of active members decreased from 3,908 in 2011 to 3,888 in 2012.

Average Annual Compensation—The average compensation of active members is more than the average compensation for the prior year. The average compensation was \$63,682 for 2011 and \$66,491 in 2012.

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, 2012

Assets at June 30, 2011		\$1,829,405,667
Receipts		
Member Contributions	\$ 23,419,864	
Cities Contributions	61,911,684	
State Contributions	750,000	
Investment Income	19,703,603	
Securities Lending Expenses	(0)	
Investment Management Expenses	(15,645,663)	
Other Income	<u>2,848</u>	
Total Receipts		\$ 90,142,336
Disbursements		
Benefit Payments to Members	\$ (131,640,614)	
Termination Withdrawals	(971,383)	
Administrative Expenses	(1,606,072)	
Disability Expenses	(101,421)	
Other Expenses	<u>(0)</u>	
Total Disbursements		\$ (134,319,490)
Assets at June 30, 2012		\$1,785,228,513

Actuarial Valuation Results

Assets – Actuarial Value

Year Ending June 30, 2012

1.	Actuarial Value of Assets at July 1, 2011	\$1,867,281,454																																																
2.	Contributions for 2011 Plan Year (Members, Cities and State)	86,081,548																																																
3.	Benefit distributions and refunds for 2011 plan year	(132,611,997)																																																
4.	Noninvestment Expenses																																																	
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	b. Disability Expenses	(101,421)																																																
	c. Other Expenses	<u>(0)</u>																																																
	d. Total	(1,707,493)																																																
5.	Expected return on Market Value of Assets for year at 7.5%	135,429,205																																																
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: 10%; text-align: center;">Years Recognized</th> <th style="width: 10%; text-align: center;">Years Remaining</th> <th style="width: 10%; text-align: center;">(ii) Recognition Percentage</th> <th style="width: 10%; text-align: center;">(i) x (ii) Recognized Amount</th> </tr> </thead> <tbody> <tr> <td>a.</td> <td>2011</td> <td style="text-align: center;">\$ (131,368,417)</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;">\$(26,273,683)</td> </tr> <tr> <td>b.</td> <td>2010</td> <td style="text-align: center;">235,933,207</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;">47,186,641</td> </tr> <tr> <td>c.</td> <td>2009</td> <td style="text-align: center;">48,578,626</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;">9,715,725</td> </tr> <tr> <td>d.</td> <td>2008</td> <td style="text-align: center;">(546,369,608)</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;">(109,273,922)</td> </tr> <tr> <td>e.</td> <td>2007</td> <td style="text-align: center;">(186,103,897)</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>(37,220,779)</u></td> </tr> <tr> <td>f.</td> <td>Total</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">(115,866,018)</td> </tr> </tbody> </table>		(i) Asset gain or (loss)	Years Recognized	Years Remaining	(ii) Recognition Percentage	(i) x (ii) Recognized Amount	a.	2011	\$ (131,368,417)	1	4	20.000%	\$(26,273,683)	b.	2010	235,933,207	2	3	20.000	47,186,641	c.	2009	48,578,626	3	2	20.000	9,715,725	d.	2008	(546,369,608)	4	1	20.000	(109,273,922)	e.	2007	(186,103,897)	5	0	20.000	<u>(37,220,779)</u>	f.	Total					(115,866,018)	
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7.	Asset gains/(losses) to be recognized = (6f)	(115,866,018)																																																
8.	Actuarial Value of Assets at July 1, 2012 = (1) + (2) + (3) + (4d) + (5) + (7)	\$1,838,606,699																																																

*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,	
	2011	2012
1. Actuarial Accrued Liability		
a. Active members		
Service retirements/DROP	\$815,506,172	\$843,320,292
Ordinary disability	13,600,075	14,290,646
Accidental disability	138,436,309	145,430,872
Ordinary death	4,753,623	4,987,576
Accidental death	5,044,251	5,279,228
Withdrawal	22,238,388	22,358,380
Total Active	999,578,818	1,035,666,994
b. Inactive members		
Members receiving benefits	1,355,182,225	1,424,771,620
Deferred vested terminations	33,636,779	33,335,109
Refund of member contributions due	96,090	75,293
Total Inactive	1,388,915,094	1,458,182,022
c. Total Actuarial Accrued Liability	2,388,493,912	2,493,849,016
2. Actuarial Value of Plan Assets	1,867,281,454	1,838,606,699
3. Unfunded Actuarial Accrued Liability before changes =[Excess of (1) over (2)]	521,212,458	655,242,317
4. Change in Unfunded Actuarial Accrued Liability		
a. Change in System Provisions	0	0
b. Change in Actuarial Assumptions	0	0
5. Unfunded Actuarial Accrued Liability after changes	521,212,458	655,242,317
6. 25-Year Level Dollar, Open Basis Amortization of Unfunded Actuarial Accrued Liability	43,496,111	54,681,143

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>2011</u>	<u>2012</u>
1. Annual Normal Cost		
Benefit Normal Cost	\$45,660,053	\$47,487,380
Other	0	0
Total	45,660,053	47,487,380
2. Annual Participating Payroll	248,869,476	258,518,051
3. Annual Normal Cost as a Percentage of Participating Payroll = (1) / (2)	18.35%	18.37%

Actuarial Valuation Results

Annual Contributions

Preliminary Total Contribution	As of July 1,	
	<u>2011</u>	<u>2012</u>
1. Annual Normal Cost	\$45,660,053	\$47,487,380
2. Estimated Member Contributions	23,393,731	24,300,697
3. 25-Year Amortization of Unfunded Actuarial Accrued Liability	43,496,111	54,681,143
4. Total (Cities plus State) Contribution = (1) – (2) + (3)	65,762,433	77,867,826
Cities' Contribution		
5. Preliminary Total Contribution = (4)	65,762,433	77,867,826
6. Estimated State Contribution	750,000	0
7. Preliminary Cities' Contribution = (5) – (6)	65,012,433	77,867,826
8. Covered Payroll	248,869,476	258,518,051
9. Cities' Contribution as a percent of payroll = (7) / (8)	26.12%	30.12%
10. Minimum required contribution rate for Cities	17.00%	17.00%
11. Cities' Contribution = [Greater of (9) or (10)] x (8)	65,004,707	77,865,637

Actuarial Valuation Results

Actuarial Gain/(Loss)

Expected Unfunded Actuarial Accrued Liability

1. Expected Actuarial Accrued Liability

Actuarial Accrued Liability on July 1, 2011	\$2,388,493,912
Normal Cost	45,660,053
Benefit Distributions	(132,611,997)
Interest on above at 7.50% to June 30, 2012	177,678,499
Total	2,479,220,467

2. Expected Assets

Actuarial Value of Assets on July 1, 2011	\$1,867,281,454
Contributions	86,081,548
Benefit Distributions and Noninvestment Expenses	(134,319,490)
Interest on above at 7.50% to June 30, 2012	138,269,889
Total	1,957,313,401

3. Expected Unfunded Actuarial Accrued Liability on June 30, 2012 521,907,066

Actual Unfunded Actuarial Accrued Liability

1. Actuarial Accrued Liability Before Changes	2,493,849,016
2. Actuarial Value of Assets	1,838,606,699
3. Actual Unfunded Actuarial Accrued Liability on July 1, 2012 (1) – (2)	655,242,317

Actuarial Gain or (Loss)

1. Expected Unfunded Actuarial Accrued Liability	521,907,066
2. Actual Unfunded Actuarial Accrued Liability	655,242,317
3. Actuarial Gain or (Loss) for 2011 Plan Year (1) – (2)	(133,335,251)

Actuarial Valuation Results

Actuarial Present Value of Accrued Benefits

	As of July 1,	
	2011	2012
1. Present value of vested accrued benefits		
a. Present value of vested accrued benefits for active members	\$ 747,379,627	\$ 765,542,635
b. Present value of benefits for terminated members	33,732,869	33,410,402
c. Present value of benefits being paid to retirees and beneficiaries	1,355,182,225	1,424,771,620
Total	\$2,136,294,721	\$2,223,724,657
2. Present value of accrued nonvested benefits	27,827,638	28,107,087
3. Present value of all accrued benefits = (1) + (2)	\$2,164,122,359	\$2,251,831,744
4. Market value of assets	\$1,829,405,667	\$1,785,228,513
5. Ratio of market value of assets to the present value of all accrued benefits = (4) ÷ (3)	85%	79%
6. Ratio of market value of assets to the present value of vested accrued benefits = (4) ÷ (1)	86%	80%

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, 2011	\$2,164,122,359
Change in present value of accrued benefits from July 1, 2011 to July 1, 2012 due to:	
• Additional benefits accumulated	\$ 62,895,253
• Interest due to passage of time	157,426,129
• Benefits paid	(132,611,997)
• Change in assumptions	0
• Changes in System provisions	<u>0</u>
Actuarial present value of accrued benefits on July 1, 2012	\$2,251,831,744

System Demographic Experience

During the plan year July 1, 2011 to June 30, 2012, actual demographic experience differed from that expected by the actuarial assumptions, as summarized below.

Decrement Type	Expected	Actual
Actives		
Service Retirement	59	51
Accidental Disability	42	27
Ordinary Disability	5	7
Accidental Death	2	1
Ordinary Death	3	1
Withdrawal	75	61
DROP Participation	81	49
DROP Premature Withdrawal	6	5
DROP Retirement	30	33
Inactives		
Beneficiary Death	43	46
Disabled Death	33	36
Retirement Death	61	49
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 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	0.04%
25	0.02
30	0.02
35	0.02
40	0.02
45	0.03
50	0.08
55	0.16
60	0.25
65	0.46

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	0.06%
25	0.06
30	0.06
35	0.08
40	0.11
45	0.13
50	0.19
55	0.27
60	0.55
65	1.11

- Accidental

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.12%
25	0.12
30	0.12
35	0.12
40	0.34
45	0.77
50	1.48
55	3.36
60	6.89
65	8.01

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	35
57-60	25
61	30
62	35
63	40
64	45
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.
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.

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, 2012 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, or at least 4, but less than 22 years of service upon termination of membership after age 55.

Summary of System Provisions (continued)

Termination Benefit (continued)

Benefit	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). 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.
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Ordinary Disability Benefit

Eligibility	A member in good standing at any age and any length of service.
Benefit	Monthly annuity payable upon disability equal to either (a) or (b) below, but no less than (c): (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	A member in good standing at any age and any length of service.
Benefit	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.

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>2010</u>	<u>July 1,</u> <u>2011</u>	<u>2012</u>
Active Members			
Number	3,895	3,908	3,888
Average Attained Age	40.6	40.7	40.8
Average Past Service	13.4	13.5	13.5
Total Annual Compensation	\$242,481,190	\$248,869,476	\$258,518,051
Average Annual Compensation	62,254	63,682	66,491
Non-Active Members in Pay Status			
Number	3,721	3,753	3,816
Average Age (excluding children)	68.5	68.7	68.8
Total Annual Benefits	\$113,271,624	\$119,284,452	\$126,248,796
Average Annual Benefit	30,441	31,784	33,084
Non-Active Members with Deferred Benefits			
Number*	302	298	296
Average Age	44.9	45.2	45.0
Total Annual Benefits	\$ 4,686,972	\$ 4,740,000	\$ 4,793,904
Average Annual Benefit	15,520	15,906	16,196

* Excludes 37, 19 and 18 terminated nonvested members who had not yet received a refund of contributions as of 2010, 2011 or 2012 respectively.

Summary of System Members

Reconciliation of Participant Counts

	Active	Terminated Vested	In Pay Status			Total
			Beneficiaries	Disabled	Retirees	
Number as of July 1, 2011	3,908	298	895	1,108	1,750	7,959
Change due to:						
New hires and rehires	175	(3)	0	(1)	0	171
Terminations	(42)*	35	0	0	0	(7)
Retirement	(89)	(25)	0	0	114	0
Disability	(34)	0	0	34	0	0
Death without Beneficiary	0	0	(46)	(8)	(27)	(82)
Death with Beneficiary	(2)	0	56	(28)	(22)	5
Refund Paid Out	(28)**	(9)	0	0	0	(37)
Benefit Aged Out	0	0	(9)	0	0	(9)
Other	0	0	0	0	0	0
Number as of July 1, 2012	3,888***	296	896	1,105	1,815	8,000

* Four of the Terminations are from new hires during the period July 1, 2011 to June 30, 2012.

** Five of the Refunds Paid Out are from new hires during the period July 1, 2011 to June 30, 2012.

*** One hundred-thirty-eight (138) of the Actives have elected to participate in DROP as of July 1, 2012.

Summary of System Members

Active Members—As of July 1, 2012

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	97	1	0	0	0	0	0	0	98	\$50,456
25-29	371	112	0	0	0	0	0	0	483	\$55,869
30-34	207	325	104	0	0	0	0	0	636	\$60,211
35-39	86	194	281	62	1	0	0	0	624	\$64,442
40-44	30	114	235	287	74	1	0	0	741	\$68,437
45-49	15	38	76	139	222	59	1	0	550	\$71,693
50-54	5	9	40	69	119	129	83	4	458	\$75,925
55-59	3	2	8	14	36	53	82	35	233	\$77,828
60+	0	1	1	8	12	7	7	29	65	\$77,414
Total	814	796	745	579	464	249	173	68	3,888	
Average Annual Salary	\$53,522	\$63,308	\$66,306	\$71,334	\$73,666	\$79,074	\$82,174	\$84,860		\$66,491

Summary of System Members

Inactive Members—As of July 1, 2012

Service Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	194	\$10,894,572	\$56,158
60-64	333	17,323,704	52,023
65-69	325	15,442,992	47,517
70-74	263	10,558,008	40,145
75-79	179	5,932,800	33,144
80-84	125	3,815,736	30,526
Over 84	<u>116</u>	<u>3,243,312</u>	<u>27,960</u>
Total	1,535	\$67,211,124	\$43,786

Vested Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	80	\$1,595,508	\$19,944
60-64	87	1,477,200	16,979
65-69	50	803,376	16,068
70-74	23	289,800	12,600
75-79	28	267,972	9,570
80-84	5	31,416	6,283
Over 84	<u>7</u>	<u>35,580</u>	<u>5,083</u>
Total	280	\$4,500,852	\$16,074

Summary of System Members

Inactive Members—As of July 1, 2012

Accidental Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	11	\$ 350,232	\$31,839
40-44	26	886,452	34,094
45-49	39	1,321,188	33,877
50-54	75	2,771,724	36,956
55-59	147	5,775,480	39,289
60-64	178	6,978,108	39,203
65-69	182	6,715,836	36,900
70-74	124	4,207,956	33,935
75-79	84	2,704,476	32,196
80-84	40	1,249,560	31,239
Over 84	<u>24</u>	<u>680,952</u>	<u>28,373</u>
Total	930	\$33,641,964	\$36,174

Ordinary Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	8	\$ 172,140	\$21,518
40-44	5	137,292	27,458
45-49	14	353,412	25,244
50-54	13	360,948	27,765
55-59	34	1,216,176	35,770
60-64	36	1,150,932	31,970
65-69	26	852,120	32,774
70-74	21	610,884	29,090
75-79	11	283,236	25,749
80-84	4	85,296	21,324
Over 84	<u>3</u>	<u>70,068</u>	<u>23,356</u>
Total	175	\$ 5,292,504	\$30,243

Summary of System Members

Inactive Members—As of July 1, 2012

Beneficiaries (Spouse)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	4	\$ 110,808	\$27,702
40-44	9	169,260	18,807
45-49	12	243,984	20,332
50-54	16	337,044	21,065
55-59	45	1,036,788	23,040
60-64	75	1,546,464	20,620
65-69	78	1,543,020	19,782
70-74	121	2,280,912	18,851
75-79	119	2,069,844	17,394
80-84	157	2,568,384	16,359
Over 84	<u>217</u>	<u>3,468,852</u>	<u>15,985</u>
Total	853	\$15,375,360	\$18,025

Beneficiaries (Children)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 3	0	\$ 0	\$ 0
3-5	0	0	0
6-8	3	14,076	4,692
9-11	4	17,436	4,359
12-14	7	39,000	5,571
15-17	9	44,952	4,995
18-20	6	27,924	4,654
Over 20	<u>14</u>	<u>83,604</u>	<u>5,972</u>
Total	43	\$226,992	\$5,279

Summary of System Members

Inactive Members—As of July 1, 2012

Terminated Vested

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	72	\$ 735,072	\$ 10,209
40-44	50	678,240	13,565
45-49	76	1,336,644	17,587
50-54	96	2,038,416	21,234
Over 54	<u>2</u>	<u>5,532</u>	<u>2,766</u>
Total	296	\$4,793,904	\$16,196