ACTUARIAL VALUATION REPORT

JULY 1, 2015

Municipal Fire and Police Retirement System of Iowa

SilverStone GROUP

11516 Miracle Hills Drive, Suite 100
Omaha, NE 68154
phone | 402.964.5400

Wisdom at Work.

SILVERSTONEGROUP.COM

October 27, 2015

PERSONAL AND CONFIDENTIAL

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

RE: July 1, 2015 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, 2015, member census data as of July 1, 2015, 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. 67 – Financial Reporting for Defined Benefit Pension Plans (an amendment of GASB Statement No. 25).

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,

Glen C. Gahan, FSA
Principal
Member of American Academy
of Actuaries
Enrolled Actuary No. 14-4875

Michael S. Ehmke, ASA
Principal
Member of American Academy
of Actuaries
Enrolled Actuary No. 14-5811

GCG/MSE/km

Enclosure

Table of Contents

	Page
Report Highlights	1
Comments on the Valuation	2
Actuarial Valuation Results	5
System Demographic Experience	16
System Accounting Results	17
Summary of Actuarial Assumptions	22
Summary of Actuarial Methods	26
Summary of System Provisions	27
Summary of System Members	33

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,		
	2013	2014	2015
Cities Recommended Contribution	$ 78,587,107	$ 73,941,905	$ 70,844,369
Normal Contribution Rate	30.41%	27.77%	25.92%
Plan Assets			
Market Value	1,964,266,618	2,278,456,923	2,300,180,355
Actuarial Value	1,860,947,878	2,054,844,278	2,239,539,373
Prior Year Investment Return			
Market Value	13.04%	18.47%	3.07%
Actuarial Value	4.02%	12.96%	11.43%
Actuarial Accrued Liability	2,518,228,578	2,640,955,176	2,769,994,684
Funded Ratio*	73.90%	77.81%	80.85%
Annual Participating Payroll	258,425,211	266,265,413	273,319,323
Annual Normal Cost	48,020,046	49,893,939	51,366,130
Percent of Payroll	18.58%	18.74%	18.79%
Annual Pension Benefits			
Service Retirement	71,753,820	75,127,236	79,525,488
Disabled Retirement	40,798,932	42,097,668	44,024,136
Vested Retirement	4,791,024	5,136,468	5,747,688
Beneficiaries	16,020,192	16,613,052	17,506,836
Total	133,363,968	138,974,424	146,804,148
Number of Members			
Active	3,866	3,885	3,892
Disabled	1,121	1,121	1,121
Retirees & Beneficiaries	2,741	2,775	2,814
Vested Terminated	315	321	328
Total	8,043	8,102	8,155

*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 $70,844,369 be made for the 2015 plan year. This is equal to a contribution rate of 25.92% of payroll. This rate assumes that the State of Iowa will contribute approximately $0 for the 2015 plan year.

The System's normal contribution rate decreased from 27.77% for 2014 to 25.92% for 2015. The System's contribution rate before any adjustment to the minimum contribution rate changed as follows:

July 1, 2014 normal contribution rate	27.77%
• Increase in contribution rate due to lower State contribution	0.00%
• Plan experience more favorable than assumed	(0.04%)
• Investment experience more favorable than assumed	(2.44%)
• Changes in System provisions	0.00%
• Change in actuarial cost method	0.00%
• Changes in actuarial assumptions	0.63%
Preliminary normal contribution rate	25.92%
• Increase necessary to meet minimum contribution rate	0.00%
July 1, 2014 normal contribution rate	25.92%

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:

- One additional step to phase in the 1994 Group Annuity Mortality Table for postretirement mortality. The one additional step results in a weighing of 1/12 of the 1971 Group Annuity Mortality Table and 11/12 of the 1994 Group Annuity Mortality Table.

Change in Actuarial Methods

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

Comments on the 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. 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. This report includes information relative to reporting requirements of GASB Statement No. 67 while information relative to reporting requirements of GASB Statement No. 68 is prepared in a separate report.

In addition to two required statements regarding System assets, the statement requires four schedules and accompanying notes disclosing information relative to provisions of the System, assumptions used to measure the total pension liability, the funded status of the System and historical contribution patterns.

- The Schedule of Changes in Net Pension Liability provides changes in the total pension liability, the plan's fiduciary net position and the net pension liability.
- The Schedule of Net Pension Liability provides the net pension liability as a percentage of covered payroll.
- The Schedule of Employer Contributions provides historical information about the Actuarially Determined Contribution (ADC) and the percentage of the ADC that was actually contributed. For the System, the ADC is equal to the normal contribution rate multiplied by the covered payroll for the year. This is the total ADC before any adjustment for minimum contribution rates or state contributions.
- The Schedule of Investment Returns presents the annual money-weighted rate of return on pension plan investments. This information is prepared in a separate report.

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 41.1 for the current year and 41.0 in the prior year.

Service of Active Members – The average service of the active members has slightly increased. The average service of members included in the valuation was 13.8 for the current year and 13.7 in the prior year.

Participating Compensation and Members – Total participating compensation increased from $266,265,413 to $273,319,323, a 2.6% increase. The number of active members increased from 3,885 in 2014 to 3,892 in 2015.

Average Annual Compensation – The average compensation of active members is more than the average compensation for the prior year. The average compensation was $68,537 for 2014 and $70,226 in 2015.

Ages of New Service Retirement Members – The average age of active members who elected service retirement has decreased. The average age of new service retirements was 58.4 for the current year and 59.3 in the prior year.

Risk Disclosures

Recent revisions to certain actuarial standards of practice introduced new disclosure requirements, such as describing the funded status of the System on the basis of the market value of assets. In addition, the Actuarial Standards Board is expected to issue a new actuarial standard of practice on risk disclosure. Common measures of risk include the ratio of market value of assets and actuarial accrued liability to participating payroll.

	As of July 1,	
	2014	2015
Market Value Assets	$2,278,456,923	$2,300,180,355
Covered Payroll	266,265,413	273,319,323
Ratio	8.56	8.42
Actuarial Accrued Liability	2,640,955,176	2,769,994,684
Covered Payroll	266,265,413	273,319,323
Ratio	9.92	10.13
Market Value Assets	2,278,456,923	2,300,180,355
Actuarial Accrued Liability	2,640,955,176	2,769,994,684
Funded Ratio	86.27%	83.04%

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 following pages 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 and a statement of market value of assets is presented. 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. As of July 1, 2013, the determination changed to the Entry Age Normal Method with a 25-year level dollar amortization of unfunded actuarial accrued liability on a closed, layered 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.

Unfunded Accrued Liability Payments – One of the components included to determine the recommended annual contribution is the unfunded accrued liability payment. The unfunded accrued liability payment is an annual amount that will amortize the initial unfunded accrued liability and any subsequent annual changes in the unfunded accrued liability due to System amendments, changes in actuarial assumptions and actuarial gains/losses.

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, 2015

Market Value of Assets at June 30, 2014		$2,278,456,923
Prior Period Adjustment		(636,470)
Adjusted Market Value of Assets at June 30, 2014		2,277,820,453
Receipts		
Member Contributions	$ 24,622,310	
Cities Contributions	79,748,943	
State Contributions	0	
Investment Income	87,466,279	
Investment Management Expenses	(17,632,710)	
Other Income	17,321	
Total Receipts		$ 174,222,143
Disbursements		
Benefit Payments to Members	$ (149,019,028)	
Termination Withdrawals	(1,007,278)	
Administrative Expenses	(1,680,944)	
Disability Expenses	(141,921)	
Other Expenses	(13,070)	
Total Disbursements		$ (151,862,241)
Market Value of Assets at June 30, 2015		$2,300,180,355

Actuarial Valuation Results

Assets – Market Value

Year Ending June 30, 2015

Assets		
Cash	$ 4,329,908	
U.S. Government Obligations	33,776,151	
U.S. Corporate Fixed Income	35,285,709	
U.S. Equity Securities	449,327,518	
Foreign Equity Securities	373,891,720	
Commingled Fixed Income	203,854,797	
Short-Term Investments	27,261,270	
Real Estate	256,962,404	
Private Equity	475,228,624	
Multi-Strategy Commingled Fund	66,986,892	
Fund of Funds Commingled	388,622,191	
Receivables	4,220,326	
Fixed/Other Assets	60,476	
Pension Related Deferred Outflows	114,745	
Total Assets		$2,319,922,731
Liabilities		
Benefits/Refunds Payable	$ (15,774,792)	
Investment Management Expenses Payable	(2,817,909)	
Administrative Expenses Payable	(365,052)	
Net Pension Liability to IPERS	(516,371)	
Payable to Brokers, Net	(71,323)	
Pension Related Deferred Inflows	(196,929)	
Total Liabilities		$ (19,742,376)
Market Value of Assets at June 30, 2015		$2,300,180,355

Actuarial Valuation Results

Assets – Actuarial Value

Year Ending June 30, 2015

1.	Actuarial Value of Assets at July 1, 2014	$2,054,844,278
2.	Contributions for 2014 Plan Year (Members, Cities and State)	104,371,253
3.	Benefit distributions and refunds for 2014 plan year	(150,026,306)
4.	Noninvestment Expenses	
	a. Administrative Expenses	(1,680,944)
	b. Disability Expenses	(141,921)
	c. Other Expenses	(13,070)
	d. Total	(1,835,935)
5.	Expected return on Market Value of Assets for year at 7.5%	169,135,552

6. Asset gains/(losses) for prior five plan years

	(i) Asset gain or (loss)	Years Recognized	Years Remaining	(ii) Recognition Percentage	(i) x (ii) Recognized Amount
a. 2014	$ (99,921,132)	1	4	20.000%	(19,984,226)
b. 2013	213,044,387	2	3	20.000	42,608,877
c. 2012	97,564,609	3	2	20.000	19,512,922
d. 2011	(131,368,417)	4	1	20.000	(26,273,683)
e. 2010	235,933,207	5	0	20.000	47,186,641
f. Total					63,050,531

7.	Asset gains/(losses) to be recognized = (6f)	63,050,531
8.	Actuarial Value of Assets at July 1, 2015 = (1) + (2) + (3) + (4d) + (5) + (7)	2,239,539,373
9.	Market Value of Assets at July 1, 2015	2,300,180,355
10.	Ratio of Actuarial Value to Market Value at July 1, 2015 = (8) / (9)	97.36%

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, 2014	As of July 1, 2015
1. Actuarial Accrued Liability before changes		
a. Active members		
Service retirements/DROP	$883,537,548	$926,424,549
Ordinary disability	19,548,505	20,208,715
Accidental disability	124,061,238	128,987,635
Ordinary death	5,224,878	5,369,614
Accidental death	3,360,545	3,462,910
Withdrawal	21,279,758	21,200,739
Total Active	1,057,012,472	1,105,654,162
b. Inactive members		
Members receiving benefits	1,514,329,690	1,610,490,711
Deferred vested terminations	36,871,674	36,157,699
Refund of member contributions due	124,676	183,701
Total Inactive	1,551,326,040	1,646,832,111
c. Total Actuarial Accrued Liability	2,608,338,512	2,752,486,273
2. Actuarial Value of Plan Assets	2,054,844,278	2,239,539,373
3. Unfunded Actuarial Accrued Liability before changes =[Excess of (1) over (2)]	553,494,234	512,946,900
4. Change in Unfunded Actuarial Accrued Liability		
a. Change in System Provisions	0	0
b. Change in Actuarial Assumptions	32,616,664	17,508,411
5. Unfunded Actuarial Accrued Liability after changes	586,110,898	530,455,311

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, 2014	As of July 1, 2015
1. Annual Normal Cost		
Benefit Normal Cost	$49,893,939	$51,366,130
Other	0	0
Total	49,893,939	51,366,130
2. Annual Participating Payroll	266,265,413	273,319,323
3. Annual Normal Cost as a Percentage of Participating Payroll = (1) / (2)	18.74%	18.79%

Actuarial Valuation Results

Annual Contributions

Preliminary Total Contribution	As of July 1, 2014	As of July 1, 2015
1. Annual Normal Cost	$49,893,939	$51,366,130
2. Estimated Member Contributions	25,028,949	25,692,016
3. Unfunded Actuarial Accrued Liability Amortization Payment	49,082,088	45,164,944
4. Total (Cities plus State) Contribution = (1) – (2) + (3)	73,947,078	70,839,058

Cities' Contribution		
5. Preliminary Total Contribution = (4)	73,947,078	70,839,058
6. Estimated State Contribution	0	0
7. Preliminary Cities' Contribution = (5) – (6)	73,947,078	70,839,058
8. Covered Payroll	266,265,413	273,319,323
9. Cities' Contribution as a percent of payroll = (7) / (8)	27.77%	25.92%
10. Minimum required contribution rate for Cities	17.00%	17.00%
11. Cities' Contribution = [Greater of (9) or (10)] x (8)	73,941,905	70,844,369

Actuarial Valuation Results

Unfunded Accrued Liability Payments

One of the components included to determine the recommended contribution is the Unfunded Accrued Liability Payment. The Unfunded Accrued Liability Payment is an annual amount that will amortize over 25 years on a closed, layered level dollar basis:

- The unfunded accrued liability established as of July 1, 2013.
- An increase in unfunded accrued liability if System benefits are improved through amendments.
- An increase or decrease in the unfunded accrued liability associated with a change in actuarial assumptions.
- An increase or decrease in the unfunded accrued liability resulting from actuarial gains or losses due to System experience more or less favorable than expected.

This section of the report documents the amortization bases established for the System and displays other values associated with determining the unfunded accrued liability payment.

Amortization Base	Date Established	Source of Base
$ 657,280,700	July 1, 2013	Initial Unfunded
(101,748,328)	July 1, 2014	Actuarial Gain
32,616,664	July 1, 2014	Assumption Change
(64,447,420)	July 1, 2015	Actuarial Gain
17,508,411	July 1, 2015	Assumption Change

Charge Bases

Initial Amortization Base	Initial Term-Years	Remaining Term on Valuation Date	Amortization Payment
$ 657,280,700	25	23	$54,851,249
32,616,664	25	24	2,721,919
17,508,411	25	25	1,461,108
		Total	59,034,276

Credit Bases

Initial Amortization Base	Initial Term-Years	Remaining Term on Valuation Date	Amortization Payment
$ 101,748,328	25	24	$ 8,491,080
64,447,420	25	25	5,378,252
		Total	13,869,332

Net Amortization Payment	$45,164,944

Actuarial Valuation Results

Actuarial Gain/(Loss)

Expected Unfunded Actuarial Accrued Liability

1. Expected Actuarial Accrued Liability

Actuarial Accrued Liability on July 1, 2014	$2,640,955,176
Normal Cost	49,893,939
Benefit Distributions	(150,026,306)
Interest on above at 7.50% to June 30, 2015	196,289,405
Total	2,737,112,214

2. Expected Assets

Actuarial Value of Assets on July 1, 2014	2,054,844,278
Contributions	104,371,253
Benefit Distributions and Noninvestment Expenses	(151,862,241)
Interest on above at 7.50% to June 30, 2015	152,364,604
Total	2,159,717,894

3. Expected Unfunded Actuarial Accrued Liability on June 30, 2015	577,394,320

Actual Unfunded Actuarial Accrued Liability

1. Actuarial Accrued Liability Before Changes	2,752,486,273
2. Actuarial Value of Assets	2,239,539,373
3. Actual Unfunded Actuarial Accrued Liability on July 1, 2015 (1) – (2)	512,946,900

Actuarial Gain or (Loss)

1. Expected Unfunded Actuarial Accrued Liability	577,394,320
2. Actual Unfunded Actuarial Accrued Liability	512,946,900
3. Actuarial Gain or (Loss) for 2015 Fiscal Year (1) – (2)	64,447,420

Actuarial Valuation Results

Actuarial Present Value of Accrued Benefits

	As of July 1, 2014	As of July 1, 2015
1. Present value of vested accrued benefits		
a. Present value of vested accrued benefits for active members	$ 801,692,387	$ 829,725,368
b. Present value of benefits for terminated members	37,334,678	36,509,148
c. Present value of benefits being paid to retirees and beneficiaries	1,535,499,420	1,621,932,989
Total	$2,374,526,485	$2,488,167,505
2. Present value of accrued nonvested benefits	29,434,334	30,463,572
3. Present value of all accrued benefits = (1) + (2)	$2,403,960,819	$2,518,631,077
4. Market value of assets	$2,278,456,923	$2,300,180,355
5. Ratio of market value of assets to the present value of all accrued benefits = (4) ÷ (3)	94.78%	91.33%
6. Ratio of market value of assets to the present value of vested accrued benefits = (4) ÷ (1)	95.95%	92.44%

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, 2014	$2,403,960,819
Change in present value of accrued benefits from July 1, 2014 to July 1, 2015 due to:	
• Additional benefits accumulated	$ 73,735,430
• Interest due to passage of time	174,772,783
• Benefits paid	(150,026,306)
• Change in assumptions	16,188,351
• Changes in System provisions	0
Actuarial present value of accrued benefits on July 1, 2015	$2,518,631,077

System Demographic Experience

During the plan year July 1, 2014 to June 30, 2015, actual demographic experience differed from that expected by the actuarial assumptions, as summarized below.

Decrement Type	Expected	Actual
Actives		
Service Retirement	50	34
Accidental Disability	34	27
Ordinary Disability	7	7
Accidental Death	1	1
Ordinary Death	3	2
Withdrawal	72	80
DROP Participation	67	35
DROP Premature Withdrawal	6	3
DROP Retirement	32	30
Inactives		
Beneficiary Death	43	57
Disabled Death	36	34
Retirement Death	63	64
Vested Termination Death	1	0

System Accounting Results

Overview of GASB Statement No. 67

This section of the report provides information concerning the reporting of System assets and liabilities under GASB Statement No. 67, “Financial Reporting for Pension Plans (an Amendment of GASB Statement No. 25),” which is effective for fiscal years beginning after June 15, 2013. GASB Statement No. 67 supersedes several previously issued statements.

GASB Statement No. 67 establishes financial reporting standards for state and local government defined benefit pension plans. The statement requires financial statements and accompanying notes to disclose information relative to the funded status of the System and historical contribution patterns.

- The schedule of net pension liability presents System assets, liabilities and funded percentages as of the end of the reporting period. Also included are the actuarial assumptions used in determining the total pension liability and sensitivity of the net pension liability to changes in the discount rate.

- The schedule of changes in net pension liability provides changes in the total pension liability, the System’s fiduciary net position and the net pension liability.

- The schedule of contributions provides historical information about the actuarially determined contribution, the contributions actually contributed and the contributions as a percentage of covered payroll.

- Notes to the financial statements should also include description of benefits provided, System investment information and significant assumptions used to calculate total pension liability.

System Accounting Results

Net Pension Liability

The components of the net pension liability of the System at June 30, 2015 were as follows:

Total Pension Liability	$2,769,994,684
Plan Fiduciary Net Position	(2,300,180,355)
Net Pension Liability	469,814,329
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	83.04%

Sensitivity of the Net Pension Liability to Changes in the Discount Rate
The following presents the net pension liability, calculated using the current discount rate of 7.50%, as well as the net pension liability calculated using a discount rate that is 1-percentage point lower (6.50%) or 1-percentage point higher (8.50%) than the current rate:

	1% Decrease *6.50%*	Current Discount Rate *7.50%*	1% Increase *8.50%*
Total Pension Liability	$3,118,141,081	$2,769,994,684	$2,480,725,755
Plan Fiduciary Net Position	(2,300,180,355)	(2,300,180,355)	(2,300,180,355)
Net Pension Liability	817,960,726	469,814,329	180,545,400

System Accounting Results

Schedule of Changes in Net Pension Liability

	Fiscal Year Ending June 30		
	2015	2014	2013
Total Pension Liability			
Service Cost	49,893,939	48,020,046	47,487,380
Interest	196,289,405	187,172,397	185,532,855
Changes of Benefit Terms	0	0	0
Difference between Expected and Actual Experience	15,374,059	(1,248,941)	(22,020,082)
Changes of Assumptions	17,508,411	32,616,664	(49,002,711)
Benefit Payments, including refunds	(150,026,306)	(143,833,568)	(137,617,880)
Net Change in Total Pension Liability	129,039,508	122,726,598	24,379,562
Total Pension Liability – Beginning of Year	2,640,955,176	2,518,228,578	2,493,849,016
Total Pension Liability – End of Year	2,769,994,684	2,640,955,176	2,518,228,578
Plan Fiduciary Net Position			
Contributions – Employer and State	79,748,943	76,917,460	65,327,766
Contributions – Member	24,622,310	24,054,541	23,358,844
Net Investment Income	69,833,569	358,680,682	229,592,075
Benefit Payments, including refunds	(150,026,306)	(143,833,568)	(137,617,880)
Administrative Expenses	(1,680,944)	(1,553,740)	(1,523,477)
Other	(774,140)	(75,070)	(99,223)
Net Change in Plan Fiduciary Net Position	21,723,432	314,190,305	179,038,105
Plan Fiduciary Net Position – Beginning of Year	2,278,456,923	1,964,266,618	1,785,228,513
Plan Fiduciary Net Position – End of Year	2,300,180,355	2,278,456,923	1,964,266,618
Net Pension Liability – End of Year	469,814,329	362,498,253	553,961,960
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	83.04%	86.27%	78.00%
Covered-Employee Payroll*	262,260,060	255,370,044	250,107,112
Net Pension Liability as a Percentage of the Covered-Employee Payroll	179.14%	141.95%	221.49%

*Actual for noted period as provided by the System.

System Accounting Results

Schedule of Contributions

	Fiscal Year Ending June 30		
	2015	2014	2013
Actuarially Determined Contribution	$79,748,943	$76,917,460	$65,327,766
Contributions in Relation to the Actuarially Determined Contribution	79,748,943	76,917,460	65,327,766
Contribution Deficiency/ (Excess)	0	0	0
Covered-Employee Payroll*	262,260,060	255,370,044	250,107,112
Contributions as a Percentage of Covered-Employee Payroll	30.41%	30.12%	26.12%

*Actual for noted period as provided by the System.

Methods and Assumptions for Actuarially Determined Contribution
Actuarially determined contribution rates are calculated as of July 1, two years prior to the end of the fiscal year in which contributions are reported.

Valuation Date	July 1, 2015
Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	5-Year Smoothed Market
Amortization Method	Level Dollar, Closed, Layered
Amortization Period	25 Years
Salary Increases	4.50% to 15.11%
Investment Rate of Return	7.50%
Mortality Table	Weighting equal to 1/12 of the 1971 GAM table and 11/12 of the 1994 GAM table with no projection of future mortality improvement.

System Accounting Results

Actuarial Assumptions

The total pension liability was determined by the following actuarial assumptions:

Investment Rate of Return	7.50%
Discount Rate	7.50%
Inflation Rate	3.00%
Salary Increases	4.50% to 15.11%
Mortality Table	Weighing equal to 1/12 of the 1971 GAM table and 11/12 of the 1994 GAM table with no projection of future mortality improvement.
Actuarial Cost Method	Entry Age Normal

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2015 was 7.50%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made at 9.40% of covered payroll and the City contributions will be made at rates equal to the difference between actuarially determined rates and the member rate. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on System investments was applied to all periods of projected benefit payments to determine the total pension liability.

Summary of Actuarial Assumptions

Interest Rate

7.5%, net of investment and administrative expenses.

Salary Increase Rates

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

Age	Rate
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:

Age	Rate
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:

Age	Rate
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 1/12 of the 1971 Group Annuity Mortality Table, Male and Female and 11/12 of the 1994 Group Annuity Mortality Static Table, Male and Female with no projection of future mortality improvement.

- Disabled — A weighting equal to 1/12 of the 1971 Group Annuity Mortality Table – Male, set forward three years and 11/12 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:

Age	Rate
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:

Age	Rate
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:

Age	Rate
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:

Age	Rate
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, including inactive members whose beneficiary age is unavailable.
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%.
Timing of Decrements	Middle of fiscal year.

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, closed layered 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, 2015 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:

Effective Date	Percentage
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

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.

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 (basic 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:

(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.

Amount	Years of Retirement
$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

	July 1,		
	2013	2014	2015
Active Members			
Number	3,866	3,885	3,892
Average Attained Age	40.8	41.0	41.1
Average Past Service	13.5	13.7	13.8
Total Annual Compensation	$258,425,211	$266,265,413	$273,319,323
Average Annual Compensation	66,846	68,537	70,226
Non-Active Members in Pay Status			
Number	3,862	3,896	3,935
Average Age (excluding children)	68.9	69.2	69.3
Total Annual Benefits	$133,363,968	$138,974,424	$146,804,148
Average Annual Benefit	34,532	35,671	37,307
Non-Active Members with Deferred Benefits			
Number*	315	321	328
Average Age	44.6	44.6	44.1
Total Annual Benefits	$ 5,353,716	$ 5,458,080	$ 5,459,448
Average Annual Benefit	16,996	17,003	16,645

* Excludes 14, 24 and 31 terminated nonvested members who had not yet received a refund of contributions as of 2013, 2014 or 2015 respectively.

Summary of System Members

Reconciliation of Participant Counts

	Active	Terminated Vested	In Pay Status			Total
			Beneficiaries	Disabled	Retirees	
Number as of July 1, 2014	3,885	321	883	1,121	1,892	8,102
Change due to:						
New hires and rehires	199	(1)	0	0	0	198
Terminations	(84)*	50	0	0	0	(34)
Retirement	(67)	(28)	0	0	95	0
Disability	(34)	0	0	34	0	0
Death without Beneficiary	(1)	0	(57)	(12)	(21)	(91)
Death with Beneficiary	(2)	0	71	(22)	(43)	4
Refund Paid Out	(4)**	(14)	0	0	0	(18)
Benefit Aged Out	0	0	(6)	0	0	(6)
Other	0	0	0	0	0	0
Number as of July 1, 2015	3,892***	328	891	1,121	1,923	8,155

* Eight of the Terminations are from new hires during the period July 1, 2014 to June 30, 2015.

** Zero of the Refunds Paid Out are from new hires during the period July 1, 2014 to June 30, 2015.

*** One hundred-twenty-six (126) of the Actives have elected to participate in DROP as of July 1, 2015.

Summary of System Members

Active Members—As of July 1, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total	Average Annual Salary
Under 25	94	0	0	0	0	0	0	0	94	$54,294
25-29	358	111	0	0	0	0	0	0	469	$57,924
30-34	215	321	90	0	0	0	0	0	626	$63,720
35-39	86	203	256	87	0	0	0	0	632	$67,971
40-44	30	80	186	290	66	0	0	0	652	$72,307
45-49	11	37	100	197	220	66	1	0	632	$75,828
50-54	5	16	29	66	135	160	69	0	480	$79,089
55-59	4	2	9	27	46	51	67	35	241	$81,476
60+	1	3	0	4	9	11	15	23	66	$83,894
Total	804	773	670	671	476	288	152	58	3,892	
Average Annual Salary	$56,580	$65,995	$70,551	$74,692	$78,767	$82,313	$85,784	$89,452		$70,226

Summary of System Members

Inactive Members—As of July 1, 2015

Service Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	150	$ 9,476,112	$63,174
60-64	358	20,686,548	57,784
65-69	385	20,697,108	53,759
70-74	258	12,182,400	47,219
75-79	198	8,141,688	41,120
80-84	137	4,775,640	34,859
Over 84	113	3,565,992	31,557
Total	1,599	$79,525,488	$49,735

Vested Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	91	$1,830,468	$20,115
60-64	89	1,887,816	21,211
65-69	76	1,225,488	16,125
70-74	30	459,192	15,306
75-79	15	163,524	10,902
80-84	19	155,772	8,199
Over 84	4	25,428	6,357
Total	324	$5,747,688	$17,740

Summary of System Members

Inactive Members—As of July 1, 2015

Accidental Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	18	$ 673,392	$37,411
40-44	24	869,100	36,213
45-49	37	1,372,164	37,086
50-54	57	2,357,772	41,364
55-59	124	5,338,248	43,050
60-64	173	7,685,400	44,424
65-69	186	7,725,336	41,534
70-74	146	5,694,804	39,006
75-79	90	3,313,272	36,814
80-84	59	1,999,740	33,894
Over 84	27	895,632	33,172
Total	941	$37,924,860	$40,303

Ordinary Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	7	$ 165,168	$23,595
40-44	10	299,124	29,912
45-49	15	438,408	29,227
50-54	14	438,420	31,316
55-59	24	906,468	37,770
60-64	33	1,300,788	39,418
65-69	37	1,280,304	34,603
70-74	19	657,660	34,614
75-79	15	442,632	29,509
80-84	5	144,096	28,819
Over 84	1	26,208	26,208
Total	180	$ 6,099,276	$33,885

Summary of System Members

Inactive Members—As of July 1, 2015

Beneficiaries (Spouse)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	4	$ 116,052	$29,013
40-44	4	104,388	26,097
45-49	15	346,740	23,116
50-54	12	272,616	22,718
55-59	35	792,396	22,640
60-64	69	1,686,072	24,436
65-69	93	2,153,256	23,153
70-74	103	2,190,888	21,271
75-79	151	2,934,552	19,434
80-84	143	2,691,804	18,824
Over 84	222	3,976,152	17,911
Total	851	$17,264,916	$20,288

Beneficiaries (Children)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 3	0	$ 0	$ 0
3-5	0	0	0
6-8	1	4,248	4,248
9-11	4	21,708	5,427
12-14	4	21,096	5,274
15-17	10	60,792	6,079
18-20	11	62,988	5,726
Over 20	10	71,088	7,109
Total	40	$241,920	$6,048

Summary of System Members

Inactive Members—As of July 1, 2015

Terminated Vested

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	99	$1,152,096	$11,637
40-44	59	856,056	14,509
45-49	66	1,261,680	19,116
50-54	103	2,188,392	21,247
Over 54	1	1,224	1,224
Total	328	$5,459,448	$16,645