



MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

Actuarial Valuation Report

July 1, 2021

SilverStone
GROUP



 **HUB**

October 13, 2021

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, 2021 Actuarial Report

Dear Board Members:

We are pleased to submit this actuarial report of the Municipal Fire and Police Retirement System of Iowa. The report presents the annual actuarial valuation, which was determined in accordance with Iowa Code Chapter 411. The costs developed and presented in this report are based on asset values as of June 30, 2021, member census data as of July 1, 2021 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 that 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 in accordance with Iowa Code Section 411.5.10-11. 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. However, future measures may differ significantly from the current measurement. Due to the limited scope of our assignment, this report does not include an analysis of the potential range of such future measures. 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. 20-4875



Michael S. Ehmke, ASA
Principal
Member of American Academy
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Enrolled Actuary No. 20-5811

GCG/MSE/ks

Enclosure

Table of Contents

	<u>Page</u>
Report Highlights	1
Comments on the Valuation	2
Actuarial Valuation Results	5
System Demographic Experience	19
System Accounting Results	20
Summary of Actuarial Assumptions	25
Summary of Actuarial Methods	29
Summary of System Provisions	30
Summary of System Members	36

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,		
	2019	2020	2021
Cities Recommended Contribution	\$ 79,963,755	\$ 85,836,388	\$ 80,528,971
Normal Contribution Rate	25.31%	26.18%	23.90%
Plan Assets			
Market Value	2,613,125,249	2,592,748,429	3,293,610,268
Actuarial Value	2,649,186,492	2,710,027,554	2,918,169,854
Prior Year Investment Return			
Market Value	5.44%	2.34%	30.78%
Actuarial Value	5.65%	5.42%	10.97%
Actuarial Accrued Liability	3,269,051,818	3,390,348,728	3,518,184,403
Funded Ratio*	81.04%	79.93%	82.95%
Annual Participating Payroll	315,937,395	327,870,085	336,941,302
Annual Normal Cost	55,133,707	56,807,678	58,814,108
Percent of Payroll	17.45%	17.33%	17.46%
Annual Pension Benefits			
Service Retirement	95,066,664	99,536,112	105,137,988
Disabled Retirement	50,710,716	52,745,112	55,264,320
Vested Retirement	7,771,656	8,418,288	9,127,704
Beneficiaries	<u>21,062,616</u>	<u>21,803,760</u>	<u>23,239,020</u>
Total	174,611,652	182,503,272	192,769,032
Number of Members			
Active	4,086	4,084	4,107
Disabled	1,134	1,141	1,159
Retirees and Beneficiaries	3,014	3,049	3,126
Vested Terminated	<u>374</u>	<u>375</u>	<u>415</u>
Total	8,608	8,649	8,807

*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 \$80,528,971 be made for the 2021 plan year. This is equal to a contribution rate of 23.90% of payroll. This rate assumes that the State of Iowa will contribute approximately \$0 for the 2021 plan year.

The System's normal contribution rate decreased from 26.18% for 2020 to 23.90% for 2021. The System's contribution rate before any adjustment to the minimum contribution rate changed as follows:

July 1, 2020 normal contribution rate:	26.18%
• Increase in contribution rate due to lower State contribution	0.00%
• Plan experience less favorable than assumed	0.01%
• Investment experience more favorable than assumed	(2.29%)
• 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:	23.90%
• Increase necessary to meet minimum contribution rate	0.00%
July 1, 2021 normal contribution rate	23.90%

Changes in System Provisions

All System provisions remained unchanged from the prior year valuation.

Changes in Actuarial Assumptions

In accordance with Iowa State Code Section 411.5.10-11, the Board of Trustees prescribes the actuarial assumptions used in this report. Per the Code Section, we as the System's actuary conduct a formal investigation, or experience study, of the primary assumptions every five years. The most recent investigation was completed for the 10-year period ending June 30, 2020.

There were no changes in actuarial assumptions from the prior year valuation.

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 Government Accounting Standards Board (GASB). 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 decreased. The average age of members included in the valuation was 40.4 for the current year and 40.8 in the prior year.

Service of Active Members – The average service of the active members has decreased. The average service of members included in the valuation was 13.2 for the current year and 13.5 in the prior year.

Participating Compensation and Members – Total participating compensation increased from \$327,870,085 to \$336,941,302, a 2.8% increase. The number of active members increased from 4,084 in 2020 to 4,107 in 2021.

Average Annual Compensation – The average compensation of active members is more than the average compensation for the prior year. The average compensation was \$80,282 in 2020 and \$82,041 in 2021.

Ages of New Service Retirement Members – The average age of active members who elected service retirement has slightly increased. The average age of new service retirements was 58.2 for the current year and 57.8 in the prior year.

Actuarial Valuation Results

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

Risk Disclosures – Actuarial standards of practice require certain risk disclosures to address the assessment of the risk to the System that actual future measurements may differ significantly from expected future measurements.

Actuarial Valuation Results

Assets – Market Value

Year Ending June 30, 2021

Market Value of Assets at June 30, 2020 \$2,592,748,429

Receipts

Member Contributions	\$ 30,587,481
Cities Contributions	82,245,851
State Contributions	0
Investment Income	815,614,873
Investment Management Expenses	(30,458,578)
Other Income	<u>209,421</u>

Total Receipts \$ 898,199,048

Disbursements

Benefit Payments to Members	\$(194,400,282)
Termination Withdrawals	(801,961)
Administrative Expenses	(1,894,969)
Disability Expenses	(235,686)
Other Expenses	<u>(4,311)</u>

Total Disbursements \$ (197,377,209)

Market Value of Assets at June 30, 2021 \$3,293,610,268

Actuarial Valuation Results
Assets – Market Value
Year Ending June 30, 2021

Assets

Cash	\$ 7,957,216	
U.S. Government Obligations	153,263,070	
U.S. Corporate Fixed Income	124,838,512	
U.S. Equity Securities	551,922,246	
Foreign Equity Securities	487,932,767	
Commingled Fixed Income	50,683,978	
Short-Term Investments	38,415,914	
Real Estate	291,872,892	
Private Equity	750,183,992	
Private Credit	21,000,000	
Multi-Strategy Commingled Fund	55,782,571	
Fund of Funds Commingled Fund	787,715,979	
Receivables	28,697,275	
Fixed/Other Assets	103,742	
Pension Related Deferred Outflows	191,539	
Total Assets		\$3,350,561,693

Liabilities

Benefits/Refunds Payable	\$(16,674,935)	
Investment Management Expenses Payable	(2,559,884)	
Administrative Expenses Payable	(354,716)	
Net Pension Liability to IPERS	(839,724)	
Payable to Brokers, Net	(36,485,151)	
Pension Related Deferred Inflows	(37,015)	
Total Liabilities		\$ (56,951,425)
Market Value of Assets at June 30, 2021		\$3,293,610,268

Actuarial Valuation Results

Assets – Actuarial Value

Year Ending June 30, 2021

1. Actuarial Value of Assets at July 1, 2020		\$2,710,027,554																																										
2. Contributions for 2020 Plan Year (Members, Cities and State)		112,833,332																																										
3. Benefit distributions and refunds for 2020 plan year		(195,202,243)																																										
4. Noninvestment Expenses																																												
a. Administrative Expenses		(1,894,969)																																										
b. Disability Expenses		(235,686)																																										
c. Other Expenses		<u>(4,311)</u>																																										
d. Total		(2,134,966)																																										
5. Expected return on Market Value of Assets for year at 7.5%		191,344,525																																										
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) <u>Asset gain or (loss)</u></th> <th style="width: 10%; text-align: center;"><u>Years Recognized</u></th> <th style="width: 10%; text-align: center;"><u>Years Remaining</u></th> <th style="width: 10%; text-align: center;">(ii) <u>Recognition Percentage</u></th> <th style="width: 10%; text-align: center;">(i) x (ii) <u>Recognized Amount</u></th> </tr> </thead> <tbody> <tr> <td>a. 2020</td> <td style="text-align: right;">\$ 594,021,191</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;">118,804,238</td> </tr> <tr> <td>b. 2019</td> <td style="text-align: right;">(132,764,343)</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">20.000</td> <td style="text-align: right;">(26,552,869)</td> </tr> <tr> <td>c. 2018</td> <td style="text-align: right;">(51,803,053)</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;">(10,360,611)</td> </tr> <tr> <td>d. 2017</td> <td style="text-align: right;">3,020,970</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;">604,194</td> </tr> <tr> <td>e. 2016</td> <td style="text-align: right;">94,033,500</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>18,806,700</u></td> </tr> <tr> <td>f. Total</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">101,301,652</td> </tr> </tbody> </table>		(i) <u>Asset gain or (loss)</u>	<u>Years Recognized</u>	<u>Years Remaining</u>	(ii) <u>Recognition Percentage</u>	(i) x (ii) <u>Recognized Amount</u>	a. 2020	\$ 594,021,191	1	4	20.000%	118,804,238	b. 2019	(132,764,343)	2	3	20.000	(26,552,869)	c. 2018	(51,803,053)	3	2	20.000	(10,360,611)	d. 2017	3,020,970	4	1	20.000	604,194	e. 2016	94,033,500	5	0	20.000	<u>18,806,700</u>	f. Total					101,301,652	
	(i) <u>Asset gain or (loss)</u>	<u>Years Recognized</u>	<u>Years Remaining</u>	(ii) <u>Recognition Percentage</u>	(i) x (ii) <u>Recognized Amount</u>																																							
a. 2020	\$ 594,021,191	1	4	20.000%	118,804,238																																							
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f. Total					101,301,652																																							
7. Asset gains/(losses) to be recognized = (6f)		101,301,652																																										
8. Actuarial Value of Assets at July 1, 2021 = (1) + (2) + (3) + (4d) + (5) + (7)		2,918,169,854																																										
9. Market Value of Assets at July 1, 2021		3,293,610,268																																										
10. Ratio of Actuarial Value to Market Value at July 1, 2021 = (8) / (9)		88.60%																																										

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,	
	<u>2020</u>	<u>2021</u>
1. Actuarial Accrued Liability before changes		
a. Active members		
Service retirements/DROP	\$1,145,608,199	\$1,153,345,797
Ordinary disability	22,763,552	23,054,353
Accidental disability	116,556,431	117,919,811
Ordinary death	3,153,524	3,191,011
Accidental death	6,088,108	6,142,185
Withdrawal	<u>38,045,907</u>	<u>38,682,142</u>
Total Active	1,332,215,721	1,342,335,299
b. Inactive members		
Members receiving benefits	2,008,736,264	2,119,198,841
Deferred vested terminations	48,909,558	55,989,100
Refund of member contributions due	<u>487,185</u>	<u>661,163</u>
Total Inactive	2,058,133,007	2,175,849,104
c. Total Actuarial Accrued Liability	3,390,348,728	3,518,184,403
2. Actuarial Value of Plan Assets	2,710,027,554	2,918,169,854
3. Unfunded Actuarial Accrued Liability before changes =[Excess of (1) over (2)]	680,321,174	600,014,549
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	680,321,174	600,014,549

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>2020</u>	<u>2021</u>
1. Annual Normal Cost		
Benefit Normal Cost	\$56,807,678	\$58,814,108
Other	0	0
Total	56,807,678	58,814,108
2. Annual Participating Payroll	327,870,085	336,941,302
3. Annual Normal Cost as a Percentage of Participating Payroll = (1) / (2)	17.33%	17.46%

Actuarial Valuation Results

Annual Contributions

Preliminary Total Contribution	As of July 1,	
	<u>2020</u>	<u>2021</u>
1. Annual Normal Cost	\$56,807,678	\$58,814,108
2. Estimated Member Contributions	30,819,788	31,672,482
3. Unfunded Actuarial Accrued Liability Amortization Payment	59,851,487	53,373,587
4. Total (Cities plus State) Contribution = (1) – (2) + (3)	85,839,377	80,515,213
Cities' Contribution		
5. Preliminary Total Contribution = (4)	85,839,377	80,515,213
6. Estimated State Contribution	0	0
7. Preliminary Cities' Contribution = (5) – (6)	85,839,377	80,515,213
8. Covered Payroll	327,870,085	336,941,302
9. Cities' Contribution as a percent of payroll = (7) / (8)	26.18%	23.90%
10. Minimum required contribution rate for Cities	17.00%	17.00%
11. Cities' Contribution = [Greater of (9) or (10)] x (8)	85,836,388	80,528,971

Actuarial Valuation Results

Unfunded Accrued Liability Payments

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

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

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
21,275,521	July 1, 2016	Actuarial Loss
(10,467,574)	July 1, 2016	Assumption Change
(7,154,241)	July 1, 2017	Actuarial Gain
39,751,096	July 1, 2017	Assumption Change
(15,920,159)	July 1, 2018	Actuarial Gain
21,266,192	July 1, 2018	Assumption Change
63,348,299	July 1, 2019	Actuarial Loss
63,889,229	July 1, 2020	Actuarial Loss
(77,624,458)	July 1, 2021	Actuarial Gain

Initial Charge	Initial Term-Years	Remaining Term	Amortization
Amortization Base		on Valuation Date	Payment
\$ 657,280,700	25	17	\$54,851,250
32,616,664	25	18	2,721,919
17,508,411	25	19	1,461,108
21,275,521	25	20	1,775,480
39,751,096	25	21	3,317,300
21,266,192	25	22	1,774,702
63,348,299	25	23	5,286,529
63,889,229	25	24	<u>5,331,670</u>
		Total	76,519,958

Initial Credit	Initial Term-Years	Remaining Term	Amortization
Amortization Base		on Valuation Date	Payment
\$ 101,748,328	25	18	\$ 8,491,080
64,447,420	25	19	5,378,253
10,467,574	25	20	873,538
7,154,241	25	21	597,034
15,920,159	25	22	1,328,566
77,624,458	25	25	<u>6,477,900</u>
		Total	23,146,371

Net Amortization Payment	\$53,373,587
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Actuarial Valuation Results

Actuarial Gain/(Loss)

Expected Unfunded Actuarial Accrued Liability

1. Expected Actuarial Accrued Liability

Actuarial Accrued Liability on July 1, 2020	\$3,390,348,728
Normal Cost	56,807,678
Benefit Distributions	(195,202,243)
Interest on above at 7.50% to June 30, 2021	251,348,980
Total	3,503,303,143

2. Expected Assets

Actuarial Value of Assets on July 1, 2020	2,710,027,554
Contributions	112,833,332
Benefit Distributions and Noninvestment Expenses	(197,337,209)
Interest on above at 7.50% to June 30, 2021	200,140,459
Total	2,825,664,136

3. Expected Unfunded Actuarial Accrued Liability on June 30, 2021 677,639,007

Actual Unfunded Actuarial Accrued Liability

1. Actuarial Accrued Liability Before Changes	3,518,184,403
2. Actuarial Value of Assets	2,918,169,854
3. Actual Unfunded Actuarial Accrued Liability on July 1, 2021 (1) – (2)	600,014,549

Actuarial Gain or (Loss)

1. Expected Unfunded Actuarial Accrued Liability	677,639,007
2. Actual Unfunded Actuarial Accrued Liability	600,014,549
3. Actuarial Gain or (Loss) for 2021 Fiscal Year (1) – (2)	77,624,458

Actuarial Valuation Results

Actuarial Present Value of Accrued Benefits

	As of July 1,	
	<u>2020</u>	<u>2021</u>
1. Present value of vested accrued benefits		
a. Present value of vested accrued benefits for active members	\$1,030,296,090	\$1,037,719,399
b. Present value of benefits for terminated members	49,396,743	56,650,263
c. Present value of benefits for retirees, beneficiaries and disableds	2,008,736,264	2,119,198,841
Total	\$3,088,429,097	\$3,213,568,503
2. Present value of accrued nonvested benefits	37,827,576	38,100,125
3. Present value of all accrued benefits = (1) + (2)	\$3,126,256,673	\$3,251,668,628
4. Market value of assets	\$2,592,748,429	\$3,293,610,268
5. Ratio of market value of assets to the present value of all accrued benefits = (4) ÷ (3)	82.93%	101.29%
6. Ratio of market value of assets to the present value of vested accrued benefits = (4) ÷ (1)	83.95%	102.49%

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, 2020	\$3,126,256,673
Change in present value of accrued benefits from July 1, 2020 to July 1, 2021 due to:	
• Additional benefits accumulated	\$ 93,332,698
• Interest due to passage of time	227,281,500
• Benefits paid	(195,202,243)
• Change in assumptions	0
• Changes in System provisions	<u>0</u>
Actuarial present value of accrued benefits on July 1, 2021	\$3,251,668,628

Actuarial Valuation Results

Risk Disclosures

The Actuarial Standards Board provides guidance to actuaries when performing certain actuarial services in the form of standards of practice. The Actuarial Standards Board has issued a standard of practice (ASOP No. 51) on risk disclosure that applies to actuaries when performing a funding valuation of a defined benefit pension plan. This standard of practice addresses assessment and disclosure of the risk that actual future measurements may differ significantly from expected future measurements of pension liabilities, funded status and actuarially determined contributions.

Risk is defined as the potential of actual future measurements to deviate from expected future measurements. This deviation results when actual future experience is different from actuarially assumed experience. Sample sources of risk include: investment returns, asset/liability mismatch, interest rates, longevity and other demographic risks and contribution risk.

The results of the actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain future experience will not exactly match the assumptions. As an example, investment performance may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these potential differences when making decisions that may affect the future financial health of the System or of the System's members.

In addition, as plans mature they accumulate larger pools of assets and liabilities. This increases the potential risk to plan funding and the finances of those who are responsible for plan funding. For example, an investment loss on a larger pool of assets results in a larger dollar amount which will need to be recouped through either future investment gains or increased contributions. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Maturity Risk	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Retired Participant Liability	2,008,736,264	2,119,198,841
Total Plan Liability	3,390,348,728	3,518,184,403
Ratio	59.2%	60.2%

Higher maturity risk related to investment returns is associated with plans whose retired liability is a significant and growing proportion of the plan's total liability, since it is more difficult to restore a plan financially after losses occur due to a shorter duration of liability where significant retired liability exists.

Cash Flow Risk	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Contributions in prior year	107,360,296	112,833,332
Benefit Payments in prior year	(185,942,113)	(195,202,243)
Net Cash Flow	(78,581,817)	(82,368,911)

More risk related to investment volatility is associated with plans whose benefit payments are significant compared to the plan contributions. If, for example, a plan has negative cash flow and experiences investment returns below an assumed rate then there are fewer assets that can be reinvested to earn potentially higher returns that may follow.

Actuarial Valuation Results

Risk Disclosures

Asset Volatility Risk	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Market Value of Assets	2,592,748,429	3,293,610,268
Annual Payroll	327,870,085	336,941,302
Asset Volatility Ratio	7.9	9.8

More risk related to investment return and future costs are associated with plans whose asset volatility ratio is high and growing, which is a characteristic of more mature plans.

Liability Volatility Risk	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Actuarial Accrued Liability	3,390,348,728	3,518,184,403
Annual Payroll	327,870,085	336,941,302
Liability Volatility Ratio	10.3	10.4

More risk related to experience losses and future costs are associated with plans whose liability volatility ratio is high and growing, which is a characteristic of more mature plans.

Funded Volatility Risk	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Market Value of Assets	2,592,748,429	3,293,610,268
Actuarial Accrued Liability	3,390,348,728	3,518,184,403
Ratio	76.5%	93.6%

More risk is associated with plans that have lower funded ratios.

Interest Rate Risk

This risk refers to the potential that interest rates will be different than expected. The liabilities determined have been calculated by computing the present value of expected future benefit payments using the interest rate described in the assumptions section. If the interest rate in future valuations is different from that used in this valuation, future liabilities, funding contributions and funded status may differ significantly from those presented in this valuation. As a general rule, using a higher interest rate to compute the present value of future benefit payments will result in a lower liability, and vice versa. One aspect that can be used to estimate the impact of different interest rates is the plan's duration.

	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Duration of Plan Liability	12.6 years	12.5 years

Retirement Risk

This risk refers to the potential for members to retire and receive subsidized benefits more valuable than expected. The System has valuable early retirement and disability benefits. If participants retire or become disabled at earlier ages than anticipated by the actuarial assumptions, it is expected that additional funding will be required.

Actuarial Valuation Results

Risk Disclosures

Investment Risk

This risk refers to the potential that investment returns will be different than expected. To the extent that actual investment returns differ from the assumed investment return, the System's future assets, funding contributions and funded status may differ significantly from those presented in this valuation. This risk is illustrated in the System's 25-year funding forecasts with alternative investment returns, presented outside of this report.

Demographic Risks

This risk refers to the potential that mortality or other demographic experience will be different than expected. The liabilities determined have been calculated by assuming that members will follow patterns of demographic experience (e.g., mortality, withdrawal, disability, retirement, DROP participation, etc.) as described in the report. If actual demographic experience or future demographic assumptions are different from what is assumed to occur in this valuation, future pension liabilities, funding contributions and funded status may differ significantly from those presented in this valuation.

Contribution Risk

This risk refers to contributions that will consistently fall short of the Actuarially Determined Contribution (ADC). If contributions are deferred to the future, investment income is lost in the intervening period and the System becomes more expensive.

The assumptions used to determine the risk measures are identical to the assumptions used for recommended funding purposes on the respective valuation dates. The liability measures are based on the Entry Age Normal Actuarial Accrued Liability.

System Demographic Experience

During the plan year July 1, 2020 to June 30, 2021, actual demographic experience differed from that expected by the actuarial assumptions, as summarized below.

Decrement Type	Expected	Actual
Actives		
Service Retirement	44	50
Accidental Disability	27	44
Ordinary Disability	7	11
Accidental Death	2	0
Ordinary Death	1	2
Withdrawal	93	140
DROP Participation	38	55
DROP Premature Withdrawal	7	16
DROP Retirement	34	31
DROP Death	0	0
Inactives		
Beneficiary Death	51	54
Disabled Death	35	39
Retirement Death	61	66
Vested Termination Death	1	2

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, 2021 were as follows:

Total Pension Liability	\$3,518,184,403
Plan Fiduciary Net Position	<u>3,293,610,268</u>
Net Pension Liability	224,574,135

Plan Fiduciary Net Position as a percentage of the Total Pension Liability 93.62%

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	\$3,958,172,215	\$3,518,184,403	\$3,153,019,943
Plan Fiduciary Net Position	<u>3,293,610,268</u>	<u>3,293,610,268</u>	<u>3,293,610,268</u>
Net Pension Liability	664,561,947	224,574,135	(140,590,325)

System Accounting Results

Schedule of Changes in Net Pension Liability

	Fiscal Year Ending June 30		
	2021	2020	2019
Total Pension Liability			
Service Cost	56,807,678	55,133,707	53,017,674
Interest	251,348,980	242,467,141	233,282,508
Changes of Benefit Terms	0	0	0
Difference between Expected and Actual Experience	14,881,260	9,638,175	16,177,781
Changes of Assumptions	0	0	0
Benefit Payments, including refunds	(195,202,243)	(185,942,113)	(178,457,619)
Net Change in Total Pension Liability	127,835,675	121,296,910	124,020,344
Total Pension Liability – Beginning of Year	3,390,348,728	3,269,051,818	3,145,031,474
Total Pension Liability – End of Year	3,518,184,403	3,390,348,728	3,269,051,818
Plan Fiduciary Net Position			
Contributions – Employer and State	82,245,851	77,551,461	78,766,019
Contributions – Member	30,587,481	29,808,835	28,472,627
Net Investment Income	785,156,295	60,250,246	136,635,233
Benefit Payments, including refunds	(195,202,243)	(185,942,113)	(178,457,619)
Administrative Expenses	(1,894,969)	(1,887,579)	(1,797,284)
Other	(30,576)	(157,670)	(121,714)
Net Change in Plan Fiduciary Net Position	700,861,839	(20,376,820)	63,497,262
Plan Fiduciary Net Position – Beginning of Year	2,592,748,429	2,613,125,249	2,549,627,987
Plan Fiduciary Net Position – End of Year	3,293,610,268	2,592,748,429	2,613,125,249
Net Pension Liability – End of Year	224,574,135	797,600,299	655,926,569
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	93.62%	76.47%	79.94%
Covered-Employee Payroll*	324,953,814	317,709,825	302,713,506
Net Pension Liability as a Percentage of the Covered-Employee Payroll	69.11%	251.05%	216.68%

*Actual for noted period as provided by the System.

System Accounting Results

Schedule of Contributions

	Fiscal Year Ending June 30		
	2021	2020	2019
Actuarially Determined Contribution	\$82,245,851	\$77,551,461	\$78,766,019
Contributions in Relation to the Actuarially Determined Contribution	82,245,851	77,551,461	78,766,019
Contribution Deficiency/ (Excess)	0	0	0
Covered-Employee Payroll*	324,953,814	317,709,825	302,713,506
Contributions as a Percentage of Covered-Employee Payroll	25.31%	24.41%	26.02%

*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, 2021
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	3.75% to 15.11%
Investment Rate of Return	7.50%
Mortality Table	RP 2014 Blue Collar Healthy Annuitant table with males set-forward zero years, females set-forward two years and disabled set-forward three years (male only rates), with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.

System Accounting Results

Actuarial Assumptions

The actuarial assumptions used in the valuation were adopted by the Board of Trustees in accordance with Iowa Code Section 411.5.10-11, which results in the assumptions being considered prescribed assumptions by another party under applicable actuarial standards of practice. The Board of Trustees adopts the actuarial assumptions based on the actuarial investigation completed every five years. The most recently completed investigation was for the 10-year period ending June 30, 2020.

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	3.75% to 15.11%
Mortality Table	RP 2014 Blue Collar Healthy Annuitant table with males set-forward zero years, females set-forward two years and disabled set-forward three years (male only rates), with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.
Actuarial Cost Method	Entry Age Normal

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2021 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

The actuarial assumptions used in the valuation were adopted by the Board of Trustees in accordance with Iowa Code Section 411.5.10-11, which results in the assumptions being considered prescribed assumptions by another party under applicable actuarial standards of practice. The Board of Trustees adopts the actuarial assumptions based on the actuarial investigation completed every five years. The most recently completed investigation was for the 10-year period ending June 30, 2020.

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:

<u>Age</u>	<u>Rate</u>
20	15.11%
25	9.88
30	6.79
35	4.82
40	4.46
45	4.00
50 or Over	3.75

Mortality Rates

Pre-retirement Mortality

- Ordinary

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.01%
25	0.01
30	0.01
35	0.02
40	0.03
45	0.03
50	0.05
55	0.06
60	0.09
65	0.13

- Accidental

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.03%
25	0.02
30	0.02
35	0.02
40	0.02
45	0.03
50	0.07
55	0.14
60	0.23
65	0.41

Summary of Actuarial Assumptions (continued)

Post-retirement Mortality

- Ordinary

RP 2014 Blue Collar Healthy Annuitant Mortality Table with males set-forward zero years and females set-forward two years with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.

- Disabled

RP 2014 Blue Collar Healthy Annuitant Mortality Table – Male, set-forward three years with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.

Disability Rates

- Ordinary

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.07%
25	0.07
30	0.07
35	0.09
40	0.13
45	0.16
50	0.22
55	0.31
60	0.64
65	1.31

- Accidental

Rates varying by age – Sample rates:

<u>Age</u>	<u>Rate</u>
20	0.10%
25	0.10
30	0.10
35	0.10
40	0.27
45	0.43
50	0.83
55	1.88
60	3.86
65	4.49

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	1.62
45	1.00
50	1.00
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	60%
56	15
57-60	10
61	15
62	20
63	30
64	35
65	100

DROP

- Participation

Rates varying by age if eligible for DROP – Sample rates:

<u>Age</u>	<u>Rate</u>
55-56	50%
57-62	100
63 or over	0

- 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 according to above rates. 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

The actuarial methods used in the valuation were adopted by the Board of Trustees in accordance with Iowa Code Section 411.5.10-11, which results in the methods being considered prescribed methods by another party under applicable actuarial standards of practice.

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.

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, 2021 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:

<u>Effective Date</u>	<u>Percentage</u>
October 16, 1992	6.10%
July 1, 1993	7.10
July 1, 1994	8.10
January 1, 1995	8.35
July 1, 1995	9.35
July 1, 2009	9.40

Cities

The amount actuarially determined necessary to fund the benefits in accordance with accepted actuarial principles but not less than 17% of the Earnable Compensation of the active members.

State

The annual appropriation expected from the State of Iowa to fund benefits is \$0.

Summary of System Provisions (continued)

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

Summary of System Provisions (continued)

DROP Benefit (continued)

Member Contributions

Member's contributions will be contributed to the general System assets during the member's participation period.

City Contributions

Cities' contributions equal to the normal contribution rate determined annually but never less than 17% of Earnable Compensation will be contributed to the general System assets during the member's participation period.

Investment Return

Earnings and capital gains or losses on the investments shall be credited to the general System assets and not to the individual member DROP Accounts.

Benefit Escalation

The applicable escalator provisions apply from the member's actual date of retirement at the end of the DROP participation period. No escalation will occur during the DROP participation period.

Benefit Distributions

At the actual date of retirement, the member's DROP Account will be payable, upon application by the member, in the form of a lump sum distribution or rollover to an eligible plan. The regular Chapter 411 Benefit will commence on the member's actual date of retirement.

Premature Withdrawal and Accrual of Benefit

An amount equal to 75% of the member's DROP benefit shall accrue to the benefit of the member for each month of DROP participation. An amount equal to 25% of the member's accumulated DROP benefit shall accrue to the benefit of the member upon either: (1) completion of the selected participation period, or (2) termination of participation due to becoming eligible for a disability benefit, or (3) death prior to completion of the selected participation period.

Termination Benefit

Eligibility

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

Summary of System Provisions (continued)

Termination Benefit (continued)

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

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

Accidental Disability Benefit

Eligibility	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: <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>July 1,</u>		
	<u>2019</u>	<u>2020</u>	<u>2021</u>
Active Members			
Number	4,086	4,084	4,107
Average Attained Age	40.8	40.8	40.4
Average Past Service	13.5	13.5	13.2
Total Annual Compensation	\$315,937,395	\$327,870,085	\$336,941,302
Average Annual Compensation	77,322	80,282	82,041
Non-Active Members in Pay Status			
Number	4,148	4,190	4,285
Average Age (excluding children)	70.0	70.1	70.1
Total Annual Benefits	\$174,611,652	\$182,503,272	\$192,769,032
Average Annual Benefit	42,095	43,557	44,987
Non-Active Members with Deferred Benefits			
Number*	374	375	415
Average Age	43.8	44.2	43.7
Total Annual Benefits	\$ 6,820,968	\$ 7,297,104	\$ 8,524,068
Average Annual Benefit	18,238	19,459	20,540

* Excludes 60, 65 and 84 terminated nonvested members who had not yet received a refund of contributions as of 2019, 2020 or 2021 respectively.

Summary of System Members

Reconciliation of Participant Counts

	Active	Terminated Vested	In Pay Status			Total
			Beneficiaries	Disabled	Retirees	
Number as of July 1, 2020	4,084	375	928	1,141	2,121	8,649
Change due to:						
New hires and rehires	334	(4)	0	0	0	330
Terminations	(120)*	83	0	0	0	(37)
Retirement	(97)	(26)	0	0	123	0
Disability	(55)	(1)	0	56	0	0
Death without Beneficiary	0	(1)	(54)	(8)	(23)	(86)
Death with Beneficiary	(2)	(1)	81	(31)	(43)	4
Refund Paid Out	(37)**	(10)	0	0	0	(47)
Benefit Aged Out	0	0	(6)	0	0	(6)
Other	0	0	0	1	(1)	0
Number as of July 1, 2021	4,107***	415	949	1,159	2,177	8,807

* Seventeen of the Terminations are from new hires during the period July 1, 2020 to June 30, 2021.

** None of the Refunds Paid Out are from new hires during the period July 1, 2020 to June 30, 2021.

*** One hundred thirty-seven (137) of the Actives have elected to participate in DROP as of July 1, 2021.

Summary of System Members
Active Members—As of July 1, 2021

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	249	0	0	0	0	0	0	0	249	\$62,558
25-29	438	88	0	0	0	0	0	0	526	\$67,178
30-34	262	288	74	1	0	0	0	0	625	\$73,932
35-39	118	174	277	82	1	0	0	0	652	\$79,466
40-44	33	71	151	263	81	0	0	0	599	\$86,230
45-49	13	26	66	150	242	49	0	0	546	\$89,567
50-54	10	10	32	94	189	198	58	0	591	\$94,335
55-59	4	1	5	20	49	56	86	19	240	\$99,623
60+	1	4	3	7	17	16	18	13	79	\$98,642
Total	1,128	662	608	617	579	319	162	32	4,107	
Average Annual Salary	\$65,529	\$78,821	\$82,850	\$88,035	\$92,368	\$101,225	\$103,217	\$114,444		\$82,041

Summary of System Members

Inactive Members—As of July 1, 2021

Service Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	164	\$ 10,965,768	\$ 66,864
60-64	271	18,207,000	67,185
65-69	393	25,581,756	65,094
70-74	370	22,904,928	61,905
75-79	249	14,045,832	56,409
80-84	168	8,389,884	49,940
Over 84	<u>123</u>	<u>5,042,820</u>	<u>40,999</u>
Total	1,738	\$105,137,988	\$ 60,494

Vested Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
55-59	98	\$ 2,633,964	\$ 26,877
60-64	105	2,238,120	21,315
65-69	97	2,099,784	21,647
70-74	75	1,329,348	17,725
75-79	38	578,520	15,224
80-84	13	152,292	11,715
Over 84	<u>13</u>	<u>95,676</u>	<u>7,360</u>
Total	439	\$ 9,127,704	\$ 20,792

Summary of System Members

Inactive Members—As of July 1, 2021

Accidental Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	13	\$ 571,884	\$ 43,991
40-44	33	1,448,520	43,895
45-49	34	1,515,504	44,574
50-54	84	4,153,956	49,452
55-59	92	5,104,932	55,488
60-64	135	7,158,768	53,028
65-69	165	8,503,188	51,534
70-74	163	7,916,352	48,567
75-79	123	5,655,084	45,976
80-84	66	2,856,000	43,273
Over 84	<u>50</u>	<u>2,007,948</u>	<u>40,159</u>
Total	958	\$46,892,136	\$48,948

Ordinary Disability Retirements

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	8	\$ 229,644	\$ 28,706
40-44	14	480,660	34,333
45-49	20	765,720	38,286
50-54	25	1,093,524	43,741
55-59	20	882,156	44,108
60-64	22	998,832	45,401
65-69	31	1,461,444	47,143
70-74	31	1,267,956	40,902
75-79	18	746,364	41,465
80-84	7	270,252	38,607
Over 84	<u>5</u>	<u>175,632</u>	<u>35,126</u>
Total	201	\$8,372,184	\$ 41,653

Summary of System Members

Inactive Members—As of July 1, 2021

Beneficiaries (Spouse)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	5	\$ 140,892	\$ 28,178
40-44	6	168,204	28,034
45-49	14	462,804	33,057
50-54	20	590,676	29,534
55-59	24	655,404	27,309
60-64	55	1,500,288	27,278
65-69	100	2,855,712	28,557
70-74	128	3,538,548	27,645
75-79	147	3,676,608	25,011
80-84	165	4,010,316	24,305
Over 84	<u>237</u>	<u>5,316,528</u>	<u>22,433</u>
Total	901	\$22,915,980	\$ 25,434

Beneficiaries (Children)

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 3	0	\$ 0	\$ 0
3-5	1	5,328	5,328
6-8	2	16,920	8,460
9-11	4	27,144	6,786
12-14	4	32,124	8,031
15-17	9	53,904	5,989
18-20	15	81,852	5,457
Over 20	<u>13</u>	<u>105,768</u>	<u>8,136</u>
Total	48	\$ 323,040	\$ 6,730

Summary of System Members

Inactive Members—As of July 1, 2021

Terminated Vested

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	131	\$1,853,352	\$14,148
40-44	83	1,617,984	19,494
45-49	78	1,664,352	21,338
50-54	118	3,324,252	28,172
Over 54	<u>5</u>	<u>64,128</u>	<u>12,826</u>
Total	415	\$8,524,068	\$20,540