



nyhart
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City of Rock Island Firefighters' Pension Fund

January 1, 2022
Actuarial Valuation Report

Actuarial Certification	3
Executive Summary	5
Summary Results	5
Changes Since Prior Valuation and Key Notes	6
History of Valuation Results	7
Identification of Risks	8
Plan Maturity Measures	9
Assets and Liabilities	10
Present Value of Future Benefits	10
Funding Liabilities	11
Asset Information	12
Reconciliation of Gain/Loss	14
Contribution Requirements	15
Development of Recommended Contribution	15
Demographic Information	16
Participant Reconciliation	18
Plan Provisions	20
Actuarial Assumptions	23
Other Measurements	25
Minimum Contribution	26

At the request of the plan sponsor, this report summarizes the City of Rock Island Firefighters' Pension Fund as of January 1, 2022 . The purpose of this report is to communicate the following results of the valuation:

- Funded Status;
- Recommended City Contribution.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census information has been provided to us by the employer. Asset information has been provided to us by the administrator. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

In preparing these results, Nyhart used ProVal valuation software developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing pension valuations. We coded the plan provisions, assumptions, methods, and participant data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

The actuarial assumptions and methods were chosen by the employer. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period);
and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart



Jen Turk, FSA, EA, MAAA



Nick H. Meggos, EA, FCA

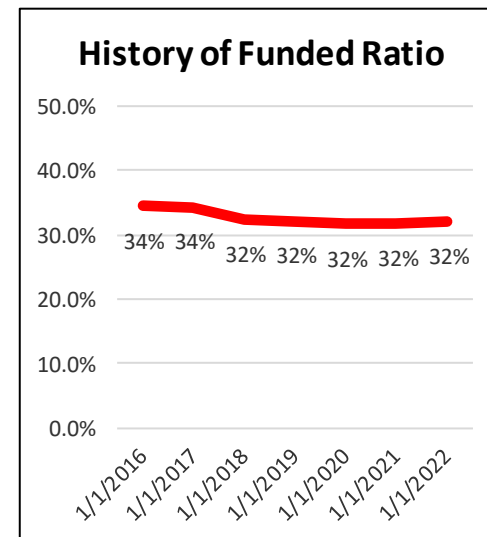
October 18, 2022

Date

Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The Accrued Liability is based on the Entry Age Normal actuarial cost method.

	January 1, 2021	January 1, 2022
Funded Status Measures		
Accrued Liability	\$ 81,378,565	\$ 85,870,319
Actuarial Value of Assets	<u>25,859,838</u>	<u>27,441,544</u>
Unfunded Accrued Liability	\$ 55,518,727	\$ 58,428,775
Funded Percentage (AVA)	31.8%	32.0%
Funded percentage (MVA)	32.8%	33.3%
Cost Measures		
Recommended Total Pension Contribution	\$ 4,505,498	\$ 4,944,540
Expected Employee Contributions	<u>(425,510)</u>	<u>(434,537)</u>
Recommended Net City Contribution	\$ 4,079,988	\$ 4,510,003
- as a Percentage of Payroll	85.2%	92.1%
Asset Measures		
Market Value of Assets (MVA)	\$ 26,660,268	\$ 28,567,210
Actuarial Value of Assets (AVA)	\$ 25,859,838	\$ 27,441,544
Actuarial Value/Market Value	97.0%	96.1%
Participant Information		
Active Participants	57	56
Terminated Vested Participants	12	15
Retirees, Beneficiaries, and Disabled Participants	<u>89</u>	<u>92</u>
Total	158	163
Payroll	\$ 4,789,832	\$ 4,894,909



Changes since Prior Valuation and Key Notes

To better reflect anticipated plan experience, the mortality assumption was changed as a result of the Illinois Firefighters' Pension Investment Fund Actuarial Experience Study published December 1, 2021. Generally, the table was updated from the RP-2006 Mortality Table with blue collar adjustment, projected generationally with scale MP-2016 from 2013 to the Pub-2010 Public Safety Mortality Table with adjustments, projected generationally with scale MP-2021 applied from 2010. The change results in an increase in benefit obligations and an increase in the recommended contribution.

The retirement, withdrawal, salary scale, and inflation assumptions were changed as a result of the Illinois Firefighters' Pension Investment Fund Actuarial Experience Study published December 1, 2021. These changes contributed to the increase in benefit obligations and recommended contribution.

History of Valuation Results

	1/1/2018	1/1/2019	1/1/2020	1/1/2021	1/1/2022
Plan Funding					
Accrued Liability	\$ 73,975,743	\$ 75,204,919	\$ 78,180,215	\$ 81,378,565	\$ 85,870,319
Actuarial Value of Assets	23,937,356	24,159,850	24,673,179	25,859,838	27,441,544
Unfunded Accrued Liability	\$ 50,038,387	\$ 51,045,069	\$ 53,507,036	\$ 55,518,727	\$ 58,428,775
Funded Percentage	32.4%	32.1%	31.6%	31.8%	32.0%
Normal Cost (NC)	\$ 905,431	\$ 923,278	\$ 1,022,104	\$ 1,048,301	\$ 1,143,748
NC as a Percent of Covered Payroll	20.3%	20.3%	21.2%	21.9%	23.4%
Actual Contribution	\$ 3,290,679	\$ 3,443,224	\$ 3,791,669	TBD	TBD
Recommended Contribution	\$ 3,290,679	\$ 3,443,224	\$ 3,791,669	\$ 4,079,988	\$ 4,510,003
Recommended Contribution (% of Pay)	73.9%	75.8%	78.6%	85.2%	92.1%
Interest Rate	7.30%	7.20%	7.10%	7.00%	7.00%
Rate of Return					
Actuarial Value of Assets	6.1%	4.1%	6.0%	8.5%	9.1%
Market Value of Assets	13.9%	-3.9%	17.1%	9.7%	10.1%
Demographic Information					
Active Participants	58	58	60	57	56
Retired Participants	55	57	55	55	55
Beneficiaries	23	23	25	23	27
Disabled Participants	13	13	12	11	10
Terminated Vested Participants	-	4	9	12	15
Total Participants	149	155	161	158	163
Covered Payroll	\$ 4,455,406	\$ 4,540,219	\$ 4,824,068	\$ 4,789,832	\$ 4,894,909
Average Covered Pay	\$ 76,817	\$ 78,280	\$ 80,401	\$ 84,032	\$ 87,409

Identification of Risks

The results presented in this report are shown as single point values. However, these values are derived using assumptions about future markets and demographic behavior. If actual experience deviates from our assumptions, the actual results for the plan will consequently deviate from those presented in this report. Therefore, it is critical to understand the risks facing this pension plan. The following table shows the risks we believe are most relevant to the City of Rock Island Firefighters' Pension Fund. The risks are generally ordered with those we believe to have the most significance at the top. Also shown are possible methods by which a more detailed assessment of the risk can be performed.

Type of Risk	Method to Assess Risk
Investment Return	Scenario Testing; Asset Liability Study
Participant Longevity	Scenario Testing; Sensitivity Testing
Early Retirement	Scenario Testing; Sensitivity Testing
Salary Growth	Scenario Testing; Sensitivity Testing

Plan Maturity Measures - January 1, 2022

Each pension plan has a distinct life-cycle. New plans promise future benefits to active employees and then accumulate assets to pre-fund those benefits. As the plan matures, benefits are paid and the pre-funded assets begin to decumulate until ultimately, the plan pays out all benefits. A plan's maturity has a dramatic influence on how risks should be viewed. The following maturity measures illustrate where the City of Rock Island Firefighters' Pension Fund falls in its life-cycle.

Duration of Liabilities: 12.3

Duration is the most common measure of plan maturity. It is defined as the sensitivity of the liabilities to a change in the interest rate assumption. The metric also approximates the weighted average length of time, in years, until benefits are expected to be paid. A plan with high duration is, by definition, more sensitive to changes in interest rates. A plan with low duration is more susceptible to risk if asset performance deviates from expectations as there would be less time to make up for market losses in adverse market environments while more favorable environments could result in trapped surplus from gains. Conversely, high duration plans can often take on more risk when investing, and low duration plans are less sensitive to interest rate fluctuations.

Demographic Distribution - Ratio of Actively Accruing Participants to All Participants: 34.4%

A plan with a high ratio is more sensitive to fluctuations in salary (if a salary-based plan) and statutory changes. A plan with a low ratio is at higher risk from demographic experience. Such a plan should pay close attention to valuation assumptions as there will be less opportunity to realize future offsetting gains or losses when current experience deviates from assumptions. Plans with a low ratio also have limited opportunities to make alterations to plan design to affect future funded status.

Asset Leverage - Ratio of Payroll for Plan Participants to Market Value of Assets: 17.1%

Younger plans typically have a large payroll base from which to draw in order to fund the plan while mature plans often have a large pool of assets dedicated to providing benefits to a population primarily consisting of members no longer on payroll. Plans with low asset leverage will find it more difficult to address underfunding, as the contributions needed to make up the deficit will represent a higher percentage of payroll than for a plan with high asset leverage.

Benefit Payment Percentage - Ratio of Annual Benefit Payments to Market Value of Assets: 17.9%

As a plan enters its decumulation phase, a larger percentage of the pre-funded assets are paid out each year to retirees. A high percentage is not cause for alarm as long as the plan is nearly fully funded. However, such a plan is more sensitive to negative asset performance, especially if cash contributions are not an option to make up for losses.

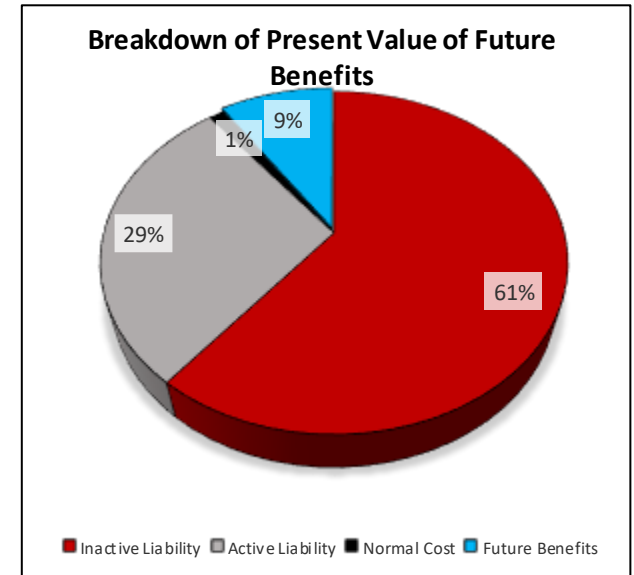
Present Value of Future Benefits

The Present Value of Future Benefits represents the future benefits payable to the existing participants.

January 1, 2022

Present Value of Future Benefits

Active Participants	
Retirement	\$ 33,330,768
Disability	3,139,212
Death	366,735
Termination	778,545
Total Active	\$ 37,615,260
Inactive participants	
Retired Participants	\$ 44,139,118
Beneficiaries	8,360,163
Disabled Participants	5,678,258
Terminated Vested Participants	156,234
Total Inactive	\$ 58,333,773
Total	\$ 95,949,033
Present Value of Future Payrolls	\$ 48,444,986
Present Value of Future Employee Contributions	\$ 4,220,363



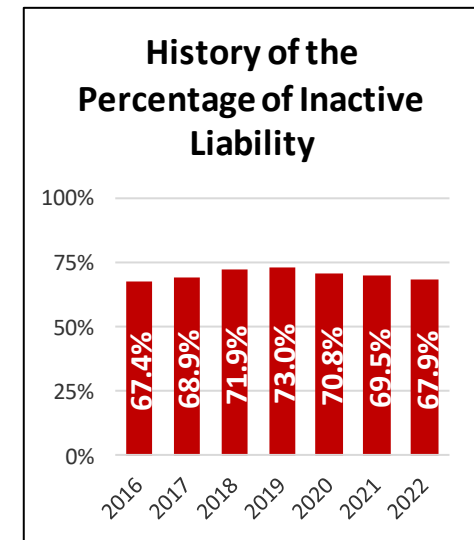
Accrued Liability

The Funding Liability measures the present value of benefits earned as of the valuation date, using the actuarial assumptions described in the assumption section of this report and the Entry Age Normal actuarial cost method.

January 1, 2022

Funding Liabilities

Active Participants	
Retirement	\$ 24,997,002
Disability	1,998,974
Death	171,630
Termination	368,940
Total Active	\$ 27,536,546
Inactive Participants	
Retired Participants	\$ 44,139,118
Beneficiaries	8,360,163
Disabled Participants	5,678,258
Terminated Vested Participants	156,234
Total Inactive	\$ 58,333,773
Total	\$ 85,870,319
Normal Cost	\$ 1,143,748



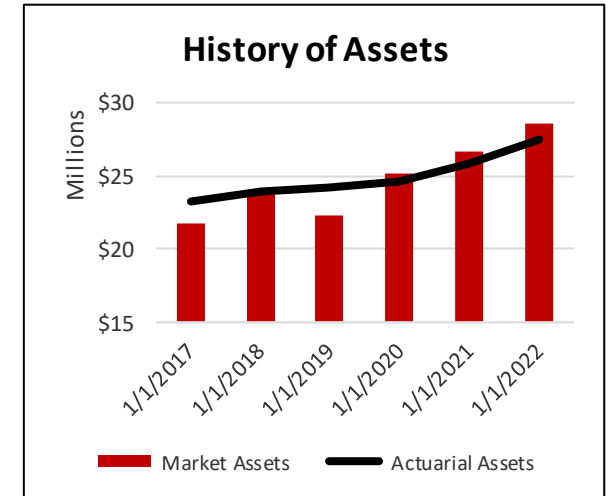
Asset Information

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

January 1, 2022

Market Value Reconciliation

Market Value of Assets, Beginning of Prior Year	\$ 26,660,268
Contributions	
Employer Contributions	\$ 3,791,669
Member Contributions	429,847
Total	\$ 4,221,516
Investment Income	2,652,128
Benefit Payments	(4,900,049)
Administrative Expenses	(66,653)
Market Value of Assets, Beginning of Current Year	\$ 28,567,210
Return on Market Value	10.1%
 Actuarial value of assets	
Value at Beginning of Current Year	\$ 27,441,544



Asset Information (continued)

Plan Assets are used to develop funded percentages and contribution requirements.

January 1, 2022

1. Expected Market Value of Assets	
(a) Market Value of Assets, Beginning of Prior Year	\$ 26,660,268
(b) Contributions	4,221,516
(c) Benefit Payments	(4,900,049)
(d) Administrative Expenses	(66,653)
(e) Expected Return	1,972,846
(f) Expected Market Value of Assets, Beginning of Current Year	\$ 27,887,928
2. Market Value of Assets, Beginning of Current Year	\$ 28,567,210
3. Actual Return on Market Value	\$ 2,652,128
4. Amount Subject to Phase-in [(3)-(1e)]	\$ 679,282
5. Phase-in of Asset Gain/(Loss)	
(a) Current Year [80% x \$ 679,282]	\$ 543,426
(b) First Prior Year [60% x \$ 527,334]	316,400
(c) Second Prior Year [40% x \$ 2,048,037]	819,215
(d) Third Prior Year [20% x \$ (2,766,874)]	(553,375)
(e) Total Phase-in	\$ 1,125,666
6. Actuarial Value of Assets, Beginning of Current Year [(2)-(5e)]	\$ 27,441,544
7. Return on Actuarial Value of Assets	9.1%

Reconciliation of Gain/Loss

January 1, 2022

Liability (Gain)/Loss

Actuarial Liability, Beginning of Prior Year	\$ 81,378,565
Normal Cost	1,048,301
Benefit Payments	(4,900,049)
Expected Interest	5,598,379
	5,598,379
Expected Actuarial Liability, Beginning of Current Year	\$ 83,125,196
Actual Actuarial Liability, Before Changes	\$ 83,438,650
Liability (Gain)/Loss	\$ 313,454

Asset (Gain)/Loss

Actuarial Value of Assets, Beginning of Prior Year	\$ 25,859,838
Contributions	4,221,516
Benefit Payments and Administrative Expenses	(4,966,702)
Expected Return	1,784,107
	1,784,107
Expected Actuarial Value of Assets, Beginning of Current Year	\$ 26,898,759
Actual Actuarial Value of Assets, Beginning of Current Year	\$ 27,441,544
Asset (Gain)/Loss	\$ (542,785)

Total (Gain)/Loss

\$ (229,331)

Development of Recommended Contribution

The recommended contribution is the annual amount needed to fund the plan to 90% by the end of the 2040 fiscal year as a level percentage of payroll, using the Entry Age Normal actuarial cost method. The recommended contribution is subject to the State statutory minimum, which is the annual amount needed to fund the plan to 90% by the end of the 2040 fiscal year as a level percentage of payroll, using the Projected Unit Credit actuarial cost method.

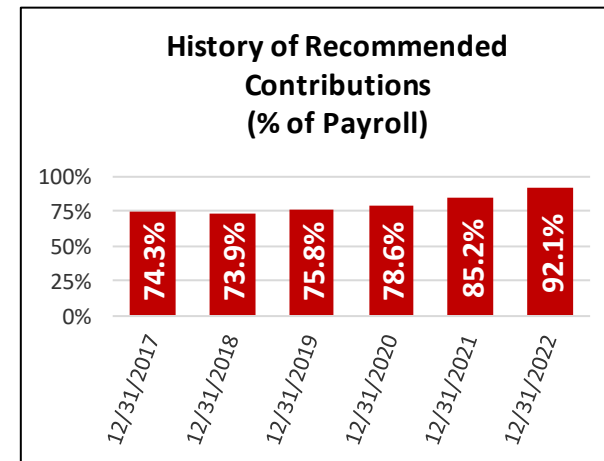
January 1, 2022

Funded Position

1. Entry Age Normal Accrued Liability	\$ 85,870,319
2. 90% of Entry Age Normal Accrued Liability	\$ 77,283,287
3. Actuarial Value of Assets	27,441,544
4. Unfunded Actuarial Accrued Liability (UAAL) (2 – 3)	\$ 49,841,743

Recommended Contribution

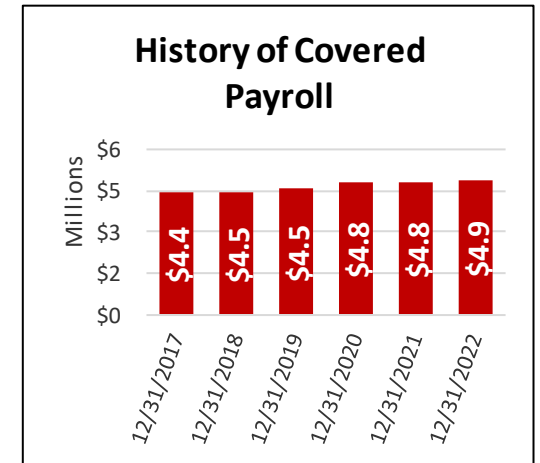
1. Normal Cost	\$ 1,143,748
2. Administrative Expenses	-
3. Amortization of UAAL	3,480,560
4. Applicable Interest	293,284
5. Total Recommended Contribution	\$ 4,917,592
6. Expected Employee Contributions	434,537
7. Net Recommended City Contribution (5 – 6)	\$ 4,483,055
8. Minimum Contribution (Public Act 096-1495 Tax Levy Requirement)	\$ 4,510,003
9. Final Recommended Contribution [max (7,8)]	\$ 4,510,003
As a Percentage of Expected Payroll	92.1%



Demographic Information

The foundation of a reliable actuarial report is the participant information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

	January 1, 2021	January 1, 2022
Participant Counts		
Active Participants	57	56
Retired Participants	55	55
Beneficiaries	23	27
Disabled Participants	11	10
Terminated Vested Participants	<u>12</u>	<u>15</u>
Total Participants	158	163
Active Participant Demographics		
Average Age	41.5	41.6
Average Service	14.2	14.6
Average Compensation	\$ 84,032	\$ 87,409
Covered Payroll	\$ 4,789,832	\$ 4,894,909



Demographic Information (continued)

	January 1, 2021	January 1, 2022
Retiree Statistics		
Average Age	71.0	71.4
Average Monthly Pension Benefit	\$ 5,175	\$ 5,126
Beneficiary Statistics		
Average Age	76.5	76.2
Average Monthly Pension Benefit	\$ 3,119	\$ 3,321
Disabled Participants Statistics		
Average Age	69.6	69.4
Average Monthly Pension Benefit	\$ 3,407	\$ 3,840
Terminated Participants Statistics		
Average Age	35.9	34.4
Average Monthly Pension Benefit*	\$ 323	\$ 252

* Average monthly pension benefit does not include participants eligible for a return of contributions only.

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	Totals
Prior Year	57	12	11	55	23	158
Active						
To Retired	0	0	0	0	0	0
To Disabled	(1)	0	1	0	0	0
To Terminated Vested	(1)	1	0	0	0	0
Terminated Nonvested (return of employee contributions)	(2)	0	0	0	0	(2)
Terminated Vested						
To Retired	0	(2)	0	2	0	0
Return of employee contributions	0	0	0	0	0	0
Disabled						
To Death	0	0	(2)	0	2	0
Retired						
To Death with Beneficiary	0	0	0	(2)	2	0
To Death without Beneficiary	0	0	0	0	0	0
Beneficiaries						
To Death	0	0	0	0	0	
Expired Child Coverage	0	0	0	0	0	0
Additions	3	4	0	0	0	7
Departures	0	0	0	0	0	0
Current Year	56	15	10	55	27	163

Active Participant Schedule

Active participant information grouped based on age and service.

Age Group	Years of Service										Total	Average Pay
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up		
Under 25	2										2	63,763
25 to 29	1	5									6	71,956
30 to 34		2	6	1							9	77,830
35 to 39		1	2	3	2						8	81,061
40 to 44				1	3	3					7	93,174
45 to 49				1	6	7					14	90,889
50 to 54					1	2	2				5	105,051
55 to 59						2	1	1			4	106,117
60 to 64							1				1	112,309
65 to 69												
70 & up												
Total	3	8	8	6	12	14	4	1	0	0	56	87,409

Eligibility for Participation

Firefighters of the City of Rock Island

Accrual of Benefits

For employees hired prior to January 1, 2011, the normal retirement benefit is equal to 50% of the final salary plus 2.5% of any service over 20 years (with a maximum of 30) times the final salary. There is a minimum benefit of \$1,159.27 per month. The benefit is paid as a 100% joint and survivor benefit with the spouse, children under 18, or dependent parents of the participants as the survivor.

For employees hired after or on January 1, 2011, the normal retirement benefit is equal to 2.5% of the final average salary times benefit service (maximum 30 years.) The benefit is paid as a 66.67% joint and survivor benefit with the spouse, children under 18, or dependent parents of the participants as the survivor.

Benefits

Normal Retirement

Eligibility For employees hired prior to January 1, 2011, the normal retirement date is the first day of the month on or after completion of 20 years of service and attainment of age 50.

For employees hired after or on January 1, 2011, the normal retirement date is the first day of the month on or after completion of 10 years of service and attainment of age 55.

Benefit Unreduced Accrued Benefit payable immediately.

Early Retirement

Eligibility For employees hired prior to January 1, 2011 and terminating with less than 20 years of service
 For employees hired after or on January 1, 2011 who has attained age 50 and has 10 years of service.

Benefit For those hired prior to January 1, 2011 a reduced Accrued Benefit shall be paid at age 60 based on the schedule below.
 For those hired after or on January 1, 2011 the Accrued Benefit is reduced by 0.5% for each month prior to age 55.

Benefit Service	Accrual Percentage	Benefit Service	Accrual Percentage
10	15.0%	15	30.0%
11	17.6%	16	33.6%
12	20.4%	17	37.4%
13	23.4%	18	41.4%
14	26.6%	19	45.6%

Termination

Eligibility	For employees hired prior to January 1, 2011, age 60 with 8 years of service. For employees hired after or on January 1, 2011, age 55 with 10 years of service.
Benefit	Accrued Benefit. Refund of contributions for employees that do not meet the eligibility criteria above.

Disability In The Line of Duty

Eligibility	For participants who become disabled in the line of duty.
Benefit	The greater of 65% of the final salary or the accrued benefit

Disability Not In The Line of Duty

Eligibility	For participants who become disabled outside of the line of duty.
Benefit	50% of the final salary

Death In the Line of Duty

Eligibility	For participants who die in the line of duty.
Benefit	The benefit is 100% of final salary paid to the survivor.

Death Not In the Line of Duty

Eligibility	For participants who die outside of the line of duty.
Benefit	For those hired before 1/1/2011 with greater than 20 years of service, a benefit of 100% of the accrued benefit is paid to the survivor. For those with more than 10 years of service, but less than 20 years of service, a benefit of 54% of the final salary is paid to the survivor. For those hired after 1/1/2011, a benefit equal to the greater of 54% of Final Salary and 66-2/3% of the accrued benefit is paid to the survivor.

Compensation

Final Salary is the salary attached to the rank held on the last day of service, or one year prior to the last day, whichever is greater.

Final Average Salary is the average monthly salary obtained by dividing the total salary of the firefighter during the 48 consecutive months of service within the last 60 months of service in which the total salary was the highest by the number of months of service in that period. Salary will not exceed \$106,800 adjusted from January 1, 2011 with the lesser of 3% and 100% of the CPI on November 1.

Credited Service

For Vesting and Benefit Accrual purposes, pension service credit is based on elapsed time from hire.

Employee Contributions

9.455% of Compensation

COLA

Eligibility All Participants

Benefit For employees hired prior to January 1, 2011 a compound COLA of 3% is granted each year after attainment of age 55 and 1 year of payments.

For employees hired after or on January 1, 2011 a simple COLA of the lesser of 3% and 50% of the CPI on November 1 is granted each year after attainment of age 60 and 1 year of payments.

For disabled employees, a simple COLA is available after attainment of age 60 and 1 year of payments. For employees hired prior to January 1, 2011 the COLA is 3%. For employees hired after January 1, 2011, the COLA is the lesser of 3% and 50% of the CPI on November 1.

Plan Provisions Not Included

We are not aware of any plan provisions not included in the valuation

Adjustments Made for Subsequent Events

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report.

Except where otherwise indicated, the following assumptions were selected by the plan sponsor with the concurrence of the actuary.

Valuation Date	January 1, 2022								
Participant and Asset Information Collected as of	January 1, 2022								
Actuarial Cost Method (CO)	Entry Age Normal Cost Method – Percent of Salary								
Amortization Method – Recommended Contribution (CO)	Closed level percentage of payroll amortization of 90% of the Unfunded Actuarial Accrued Liability using a 3.50% payroll growth assumption over the period ending on December 31, 2040 (19-year amortization in 2022)								
Asset Method	5-year smoothing of asset gains and losses								
Interest Rates (CO)	7.00%, net of investment expenses								
Inflation (FE)	2.25%								
Annual Pay Increases (FE)	Varies by service. Same as the 2021 Consolidated Investment Fund Experience Study. Sample rates include: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: left;"><u>Service</u></th> <th style="text-align: left;"><u>Rate</u></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>12.50%</td> </tr> <tr> <td>5</td> <td>7.50%</td> </tr> <tr> <td>10+</td> <td>4.00%</td> </tr> </tbody> </table>	<u>Service</u>	<u>Rate</u>	0	12.50%	5	7.50%	10+	4.00%
<u>Service</u>	<u>Rate</u>								
0	12.50%								
5	7.50%								
10+	4.00%								
Mortality Rates (FE)									
Healthy (pre-commencement)	Pub-2010 Public Safety Employee Mortality Table without adjustment, with generational improvement scale MP-2021 applied from 2010								
Healthy (post-commencement)	Pub-2010 Public Safety Employee Mortality Table with 1.081 adjustment for males, with generational improvement scale MP-2021 applied from 2010 The Pub-2010 Public Safety Survivor Mortality Table with 1.098 adjustment for females, with generational improvement scale MP-2021 applied from 2010 is used for survivors.								
Disabled	Pub-2010 Disabled Retiree Mortality Table with 1.178 adjustment for males, with generational improvement scale MP-2021 applied from 2010.								
	10% of service deaths are assumed to be service related								

Ad-hoc Cost-of-living Increases

3.0% (1.125% for those hired after 1/1/2011)

Retirement Rates (FE)

Recommended rates from the 2021 Consolidated Investment Fund Experience Study. Sample rates include:

Tier I		Tier II	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
50-51	12%	50-54	3%
52-53	15%	55	30%
54-59	20%	56-59	20%
60-62	25%	60-62	25%
63-64	33%	63-64	33%
65-69	50%	65-69	50%
70+	100%	70+	100%

Disability Rates (FE)

Recommended rates from the 2021 IDOI experience study. Sample rates include:

<u>Age</u>	<u>Rate</u>
20	0.010%
30	0.068%
40	0.420%
50	0.900%

80% of disabilities are assumed to be in the line of duty

Termination Rates (FE)

Recommended rates from the 2021 IDOI experience study. Sample rates include:

<u>Age</u>	<u>Rate</u>
20	10.00%
30	4.00%
40	1.20%
50	1.00%

Marital Status and Ages (FE)

80% of participants are assumed to be married with female spouses 3 years younger.

Expense Load

None.

Funding Policy

Statutory minimum contribution, with additional funding at the discretion of the City.

FE indicates an assumption representing an estimate of future experience

MD indicates an assumption representing observations of estimates inherent in market data

CO indicates an assumption representing a combination of an estimate of future experience and observations of market data

The actuarial report also shows the necessary items required for plan reporting and any state requirements.

- ✓ Minimum contribution (Public Act 096-1495 Tax Levy Requirement)

Minimum Contribution (Public Act 096-1495 Tax Levy Requirement)

January 1, 2022

1. Accrued liability using projected unit credit cost method	\$ 83,856,376
2. 90% of Accrued liability	\$ 75,470,738
3. Actuarial value of assets	27,441,544
4. Unfunded liability to be amortized [(2)-(3)]	\$ 48,029,194
5. Total normal cost using projected unit credit cost method	\$ 1,295,507
6. Administrative expenses	-
7. 19-year level pay amortization of (4)	3,353,986
8. Applicable interest	295,047
9. Minimum contribution (5 + 6 + 7 + 8)	\$ 4,944,540
10. Expected employee contributions	434,537
11. Net employer minimum contribution (9 – 10)	\$ 4,510,003

Actuarial Cost Method

Projected Unit Credit

Amortization Method

Closed level percentage of payroll amortization of 90% of Unfunded Actuarial Accrued Liability using a 3.50% payroll growth assumption over the period ending on December 31, 2040 (19-year amortization in 2022)

Asset Method

5-year smoothing of asset gains and losses

Interest Rate

7.00%, net of investment expenses