



Village of Romeoville Firefighters' Pension Fund

May 1, 2023
Actuarial Valuation Report

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At the request of the plan sponsor, this report summarizes the Village of Romeoville Firefighters' Pension Fund as of May 1, 2023. The purpose of this report is to communicate the following results of the valuation:

- Funded Status;
- Recommended Village Contribution; and
- Statutory Minimum 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.

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.

In preparing the 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 material weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

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



Jennifer Turk, FSA, EA, MAAA



John Toweson, ASA

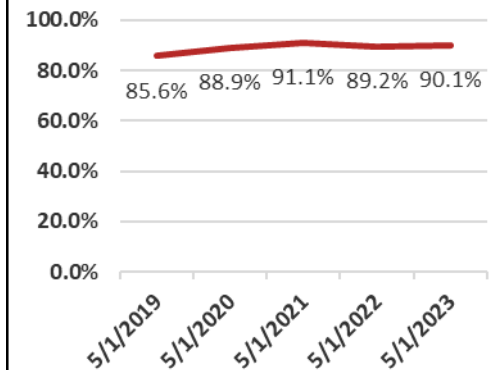
October 12, 2023
Date

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.

	May 1, 2022	May 1, 2023
Funded Status Measures		
Accrued Liability	\$15,349,967	\$16,503,546
Actuarial Value of Assets	<u>\$13,698,529</u>	<u>\$14,865,157</u>
Unfunded Accrued Liability	\$1,651,438	\$1,638,389
Funded Percentage (AVA)	89.2%	90.1%
Funded percentage (MVA)	86.5%	84.1%
Cost Measures		
Recommended Total Pension Contribution	\$925,624	\$1,026,063
Expected Employee Contributions	<u>(314,657)</u>	<u>(342,329)</u>
Recommended Net Village Contribution	\$610,967	\$683,734
- as a Percentage of Payroll	19.6%	20.2%
Asset Measures		
Market Value of Assets (MVA)	\$13,271,796	\$13,886,761
Actuarial Value of Assets (AVA)	\$13,698,529	\$14,865,157
Actuarial Value/Market Value	103.2%	107.0%
Participant Information		
Active Participants	32	35
Terminated Vested Participants	2	5
Retirees, Beneficiaries, and Disabled Participants	<u>8</u>	<u>8</u>
Total	42	48
Payroll	\$3,114,435	\$3,392,074

History of Funded Ratio



Changes since Prior Valuation and Key Notes

There have been no changes to the assumptions or plan provisions since the last valuation.

A Low-Default-Risk Obligation Measure (LDROM) was added to the report in order to comply with new Actuarial Standards of Practice requirements. This new calculation is displayed on the final page of the report.

History of Valuation Results

	5/1/2019	5/1/2020	5/1/2021	5/1/2022	5/1/2023
Plan Funding					
Accrued Liability	\$12,069,793	\$12,455,486	\$13,627,729	\$15,349,967	\$16,503,546
Actuarial Value of Assets	10,333,580	11,072,681	12,410,697	13,698,529	14,865,157
Unfunded Accrued Liability	\$1,736,213	\$1,382,805	\$1,217,032	\$1,651,438	\$1,638,389
Funded Percentage	85.6%	88.9%	91.1%	89.2%	90.1%
Normal Cost (NC)	\$502,177	\$633,807	\$735,422	\$715,313	\$802,372
NC as a Percent of Covered Payroll	27.3%	26.3%	26.5%	23.0%	23.7%
Actual Contribution	\$451,007	\$459,460	\$554,863	\$599,559	To Be Determined
Recommended Contribution	\$459,704	\$546,210	\$600,574	\$610,967	\$683,734
Recommended Contribution (% of Pay)	25.0%	22.7%	21.6%	19.6%	20.2%
Interest Rate	7.00%	7.00%	7.00%	7.00%	7.00%
Rate of Return					
Actuarial Value of Assets	5.1%	4.1%	8.7%	6.8%	5.1%
Market Value of Assets	6.2%	0.5%	27.7%	-6.2%	1.2%
Demographic Information					
Active Participants	19	25	31	32	35
Retired Participants	6	6	7	8	8
Beneficiaries	0	0	0	0	0
Disabled Participants	0	0	0	0	0
Terminated Vested Participants	4	4	3	2	5
Total Participants	29	35	41	42	48
Covered Payroll	\$1,841,684	\$2,408,762	\$2,777,970	\$3,114,435	\$3,392,074
Average Covered Pay	\$96,931	\$96,350	\$89,612	\$97,326	\$96,916

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 Village of Romeoville 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 - May 1, 2023

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 Village of Romeoville Firefighters' Pension Fund falls in its life-cycle.

Duration of Liabilities: 17.3

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: 72.9%

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: 24.4%

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: 3.5%

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.

May 1, 2023

Present Value of Future Benefits

Active Participants

Retirement	\$15,197,630
Disability	2,511,056
Death	285,057
Termination	742,605
Total Active	\$18,736,348

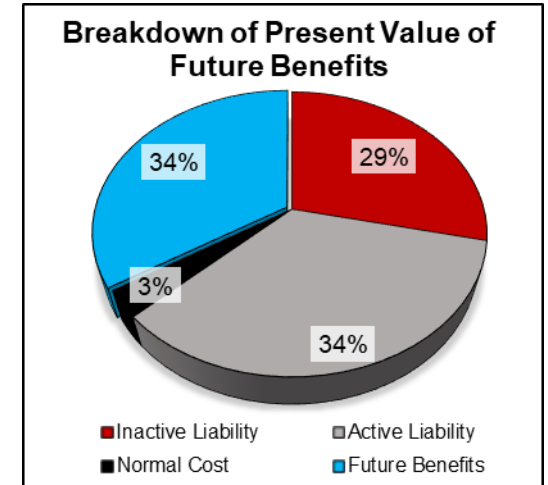
Inactive participants

Retired Participants	\$6,851,917
Beneficiaries	-
Disabled Participants	-
Terminated Vested Participants	621,964
Total Inactive	\$7,473,881

Total \$26,210,229

Present Value of Future Payrolls \$44,899,574

Present Value of Future Employee Contributions \$4,135,796



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.

May 1, 2023

Funding Liabilities

Active Participants

Retirement	\$7,829,640
Disability	857,404
Death	68,547
Termination	274,074
Total Active	\$9,029,665

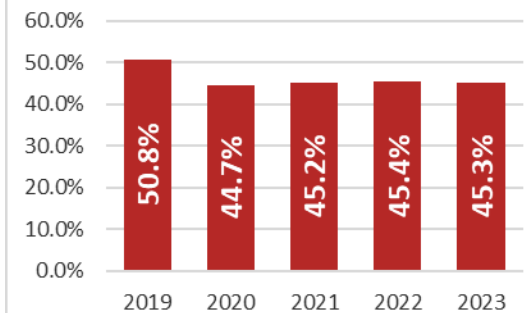
Inactive Participants

Retired Participants	\$6,851,917
Beneficiaries	-
Disabled Participants	-
Terminated Vested Participants	621,964
Total Inactive	\$7,473,881

Total \$16,503,546

Normal Cost \$802,372

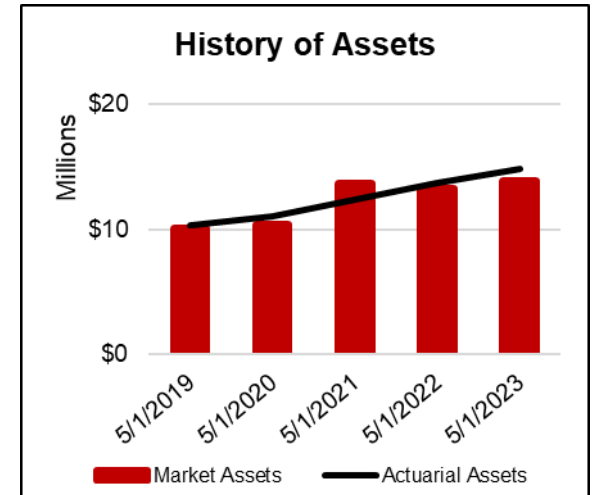
History of the Percentage of Inactive Liability



Asset Information

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

	May 1, 2023
Market Value Reconciliation	
Market Value of Assets, Beginning of Prior Year	\$13,271,796
Contributions	
Employer Contributions	\$599,559
Member Contributions	297,978
Total	\$897,537
Investment Income	162,850
Benefit Payments	(419,551)
Administrative Expenses	(25,871)
Market Value of Assets, Beginning of Current Year	\$13,886,761
Return on Market Value	1.2%
Actuarial value of assets	
Value at Beginning of Current Year	\$14,865,157



Asset Information (continued)

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

	May 1, 2023
1. Expected Market Value of Assets	
(a) Market Value of Assets, Beginning of Prior Year	\$13,271,796
(b) Contributions	897,537
(c) Benefit Payments	(419,551)
(d) Administrative Expenses	(25,871)
(e) Expected Return	944,850
(f) Expected Market Value of Assets, Beginning of Current Year	<u>\$14,668,761</u>
2. Market Value of Assets, Beginning of Current Year	\$13,886,761
3. Actual Return on Market Value	\$162,850
4. Amount Subject to Phase-in [(3)-(1e)]	(\$782,000)
5. Phase-in of Asset Gain/(Loss)	
(a) Current Year [80% x (\$782,000)]	(\$625,600)
(b) First Prior Year [60% x (\$1,829,958)]	(1,097,975)
(c) Second Prior Year [40% x \$2,194,333]	877,733
(d) Third Prior Year [20% x (\$662,771)]	<u>(132,554)</u>
(e) Total Phase-in	(\$978,396)
6. Actuarial Value of Assets, Beginning of Current Year [(2)-(5e)]	\$14,865,157
7. Return on Actuarial Value of Assets	5.1%

Reconciliation of Gain/Loss

May 1, 2023

Liability (Gain)/Loss

Actuarial Liability, Beginning of Prior Year	\$15,349,967
Normal Cost	715,313
Benefit Payments	(419,551)
Expected Interest	1,109,885
Expected Actuarial Liability, Beginning of Current Year	\$16,755,614
Actual Actuarial Liability, Before Changes	\$16,503,546
Liability (Gain)/Loss	(252,068)

Asset (Gain)/Loss

Actuarial Value of Assets, Beginning of Prior Year	\$13,698,529
Contributions	897,537
Benefit Payments and Administrative Expenses	(445,422)
Expected Return	974,721
Expected Actuarial Value of Assets, Beginning of Current Year	\$15,125,365
Actual Actuarial Value of Assets, Beginning of Current Year	\$14,865,157
Asset (Gain)/Loss	\$260,208

Total (Gain)/Loss

\$8,140

Development of Recommended Contribution

The recommended contribution is the annual amount needed to fund the plan to 100% 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.

In accordance with ASOP No. 4, we reviewed the plan's funding method (liability method, amortization method and period, asset smoothing method), contribution policy & allocation procedures, and the computation of the recommended contribution. We believe each to be reasonable, both individually and in combination, as expected plan costs are expected to be fully funded over a reasonable timeframe.

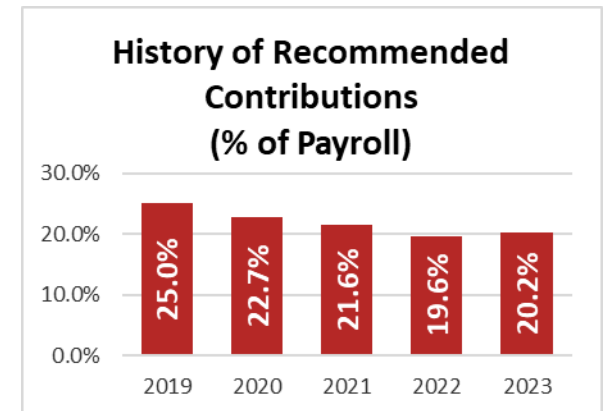
May 1, 2023

Funded Position

1. Entry Age Normal Accrued Liability	\$16,503,546
2. 100% of Entry Age Normal Accrued Liability	\$16,503,546
3. Actuarial Value of Assets	<u>14,865,157</u>
4. Unfunded Actuarial Accrued Liability (UAAL) (2 – 3)	\$1,638,389

Recommended Contribution

1. Normal Cost	\$802,372
2. Administrative Expenses	25,871
3. Amortization of UAAL	130,694
4. Applicable Interest	<u>67,126</u>
5. Total Recommended Contribution	\$1,026,063
6. Expected Employee Contributions	<u>342,329</u>
7. Net Recommended Village Contribution (5 – 6)	\$683,734
8. Minimum Contribution (Public Act 096-1495 Tax Levy Requirement)	\$479,711
9. Final Recommended Contribution [max (7,8)]	\$683,734
As a Percentage of Expected Payroll	20.2%



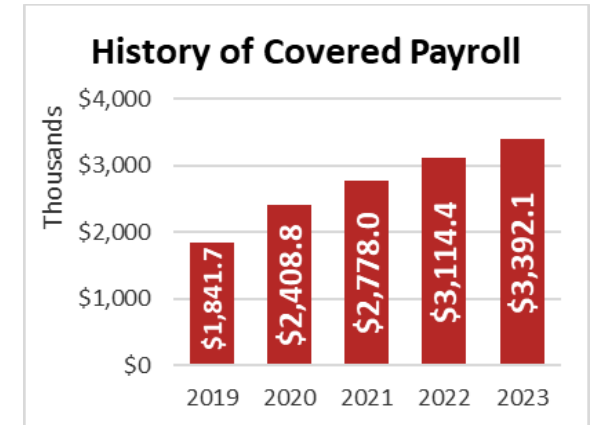
The Plan's Normal Cost plus interest on the Unfunded Actuarial Accrued Liability is \$630,896 .

A contribution greater than the Normal Cost plus interest on the Unfunded Actuarial Accrued Liability will reduce the Unfunded Actuarial Accrued Liability, if all other assumptions are met. A contribution less than the Normal Cost plus interest on the Unfunded Actuarial Accrued Liability will increase the Unfunded Actuarial Accrued Liability, if all other assumptions are met. Consider making a contribution greater than the Normal Cost plus interest on the Unfunded Actuarial Accrued Liability in order to pay down the Plan's shortfall more rapidly if that amount is greater than your funding policy contribution.

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.

	May 1, 2022	May 1, 2023
Participant Counts		
Active Participants	32	35
Retired Participants	8	8
Beneficiaries	0	0
Disabled Participants	0	0
Terminated Vested Participants	2	5
Total Participants	42	48
Active Participant Demographics		
Average Age	36.7	36.3
Average Service	8.4	8.0
Average Compensation	\$97,326	\$96,916
Covered Payroll	\$3,114,435	\$3,392,074



Demographic Information (continued)

	May 1, 2022	May 1, 2023
Retiree Statistics		
Average Age	58.8	59.8
Average Monthly Pension Benefit	\$4,204	\$4,312
Beneficiary Statistics		
Average Age	N/A	N/A
Average Monthly Pension Benefit	N/A	N/A
Disabled Participants Statistics		
Average Age	N/A	N/A
Average Monthly Pension Benefit	N/A	N/A
Terminated Participants Statistics		
Average Age	46.4	40.3
Average Monthly Pension Benefit*	\$2,258	\$2,499

* 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	32	2	0	8	0	42
Active						
To Retired	0	0	0	0	0	0
To Disabled	0	0	0	0	0	0
To Terminated Vested	(2)	2	0	0	0	0
Terminated Nonvested (return of employee contributions)	(1)	0	0	0	0	(1)
Terminated Vested						
Return of employee contributions	0	0	0	0	0	0
Disabled						
To Death	0	0	0	0	0	0
Retired						
To Death with Beneficiary	0	0	0	0	0	0
To Death without Beneficiary	0	0	0	0	0	0
Beneficiaries						
To Death	0	0	0	0	0	0
Expired Child Coverage	0	0	0	0	0	0
Additions	6	1	0	0	0	7
Departures	0	0	0	0	0	0
Current Year	35	5	0	8	0	48

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											0	
25 to 29	4	4									8	\$72,973
30 to 34	2	5	3								10	\$89,590
35 to 39		3	1	2							6	\$96,432
40 to 44			1	1	5						7	\$117,222
45 to 49				1	2						3	\$117,679
50 to 54											0	
55 to 59											0	
60 to 64					1						1	\$160,203
65 to 69											0	
70 & up											0	
Total	6	12	5	4	8	0	0	0	0	0	35	\$96,916

Eligibility for Participation

Firefighters of the Village of Romeoville

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 50% (100% effective January 1, 2020) 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. Prescribed assumptions are based on the requirements of the relevant law and applicable regulations.

Valuation Date	May 1, 2023								
Participant and Asset Information Collected as of	May 1, 2023								
Actuarial Cost Method (CO)	Entry Age Normal Cost Method								
Amortization Method – Recommended Contribution (CO)	Closed level percentage of payroll amortization of 100% of the Unfunded Actuarial Accrued Liability using a 2.75% payroll growth assumption over the period ending on April 30, 2040 (17-year amortization in 2023)								
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)	Recommended rates from the 2021 IL Firefighters' Pension Investment Experience study. Sample rates include: <table data-bbox="932 820 1192 941"> <tr> <th><u>Service</u></th><th><u>Rate</u></th></tr> <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> </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%								
Ad-hoc Cost-of-living Increases	3.0% (1.125% for those hired after 1/1/2011)								
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 Public Safety Disabled Retiree Mortality Table with 1.178 adjustment for males, with generational improvement scale MP-2021 applied from 2010. 20% of deaths are assumed to be in the line of duty								

Retirement Rates (FE)

Recommended rates from the 2021 IL Firefighters' Pension 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 IL Firefighters' Pension Investment Fund Experience study. Sample rates include:

<u>Age</u>	<u>Rate</u>
20	0.000%
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 IL Firefighters' Pension Investment Fund 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

Equal to the administrative expenses paid in the prior year.

Funding Policy

Equal to the normal cost plus an amortization of the unfunded liability to fund the plan to 100% as a level percentage of payroll by 2040 using the Entry Age Normal cost method.

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)
- ✓ Low-Default-Risk Obligation Measure (LDROM)

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

	May 1, 2023
1. Accrued liability using projected unit credit cost method	\$15,801,797
2. 90% of Accrued liability	\$14,221,617
3. Actuarial value of assets	<u>14,865,157</u>
4. Unfunded liability to be amortized [(2)-(3)]	(\$643,540)
5. Total normal cost using projected unit credit cost method	\$793,726
6. Administrative expenses	25,871
7. 17-year level pay amortization of (4)	(51,335)
8. Applicable interest	<u>53,778</u>
9. Minimum contribution (5 + 6 + 7 + 8)	\$822,040
10. Expected employee contributions	<u>342,329</u>
11. Net employer minimum contribution (9 – 10)	\$479,711

Actuarial Cost Method

Projected Unit Credit

Amortization Method

Closed level percentage of payroll amortization of 90% of Unfunded Actuarial Accrued Liability using a 2.75% payroll growth assumption over the period ending on April 30, 2040 (17-year amortization in 2023)

Asset Method

5-year smoothing of asset gains and losses

Interest Rate

7.00%, net of investment expenses

The statutory minimum contribution outlined in Illinois statutes targets reaching 90% funded on a Projected Unit Credit basis by 2040. By design this results in the unfunded actuarial accrued liability not being fully funded by the end of the amortization period. This was put in place as temporary budget relief and should not be viewed as a viable long term contribution strategy. We recommended the fund follow the more robust recommended contribution method, targeting 100% funded by 2040.

Low-Default-Risk Obligation Measure (LDROM)

For reports issued after February 15, 2023 the Plan's actuary is generally required to disclose liabilities under an alternative low-default-risk based discount rate. This LDROM liability measure represents the estimated asset value as of the measurement date the Plan would need in order to purchase a low-default-risk fixed income securities portfolio with durations that are reasonably consistent with the timing of benefits expected to be paid from the plan.

May 1, 2023

LDROM liability	\$ (23,439,482)
Market value of assets	\$ 13,886,761
LDROM funded status	\$ (9,552,721)

The LDROM liability measure is for informational purposes only. The plan sponsor has no requirements to contribute to the Plan to meet this threshold, and the funded status on this basis is not reported to any government agency or used for any restrictions.

If Plan assets are invested to earn in excess of a fixed income portfolio, a shortfall on this basis may not necessarily mean the security of participant benefits is at risk. If the plan is fully funded, or nearly fully funded, on the LDROM measure, the plan sponsor may want to consider reducing investment risk in order to offer greater benefit security and lower contribution volatility. We did not perform an analysis of assumption or provision changes resulting from a potential shift in investment policy due to the limited scope of our engagement.

The above LDROM liability measure applies a single effective discount rate of 4.95% which would produce approximately the same discounted cashflows as the FTSE Above Median AA Index as of April 30, 2023. All other data, assumptions, methods and provisions are the same as those detailed in this report.