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# **CITY OF LADUE FIREMEN AND POLICEMEN'S PENSION PLAN**

## **Actuarial Valuation Report January 1, 2023**

### **Prepared by**

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## **Introduction and Purpose**

In this report, we present the results of the January 1, 2023 actuarial valuation for the City of Ladue Firemen and Policemen's Pension Plan. The report has been prepared at the request of the City for the sole use of the City of Ladue Firemen and Policemen's Pension Plan and the City of Ladue as the contributing plan sponsor.

### **Purposes of the Valuation**

The actuarial valuation of the Plan is intended to accomplish several purposes:

- (a) The determination of the employer contributions under the funding policy for the 2023 calendar year
- (b) Assessment of the relative funded position of the plan on an ongoing basis, i.e., through a comparison of plan assets and projected plan liabilities

## Actuarial Certification

As requested, we have performed an actuarial valuation of the City of Ladue Firemen and Policemen's Pension Plan as of January 1, 2023 for determining contributions for the calendar year ending December 31, 2023. Our findings are set forth in this actuary's report. This report reflects the benefit provisions in effect on January 1, 2023.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the City and Regions Bank. This information includes, but is not limited to, plan provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

The valuation results were developed using models intended for valuations that use standard actuarial techniques.

All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations).

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The City has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in this report.

Actuarial computations presented in this report are for purposes of determining the funding policy contribution amounts for the City. The calculations in the enclosed report have been made on a basis consistent with our understanding of the City's funding requirements and goals as well as our understanding of the plan provisions described on pages 16-18 of this report. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

## Actuarial Certification

Milliman's work is prepared solely for the internal business use of the City of Ladue. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

- (a) The City may provide a copy of Milliman's work, in its entirety, to the Plan's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Plan.
- (b) The City may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and has been prepared in accordance with generally recognized accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



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## Discussion of Valuation Results

### Funding Policy Contribution

The results of this valuation are used to determine the contribution rates under the funding policy to the Plan for the 2023 plan year. A comparison of policy contribution rates for the current and immediately preceding valuations is shown below:

	<u>Valuation Date</u> <u>January 1, 2022</u>	<u>Valuation Date</u> <u>January 1, 2023</u>
Applies to Calendar Year	01/01/22-12/31/22	01/01/23-12/31/23
Funding Policy Contribution (with interest)	\$1,669,111	\$1,777,472
Actual Employer Contribution	\$1,669,111	N/A

While the funding policy contribution increased in dollars from \$1,669,111 to \$1,777,472, this increase is primarily due to a loss on the actuarial value of assets.

### Plan Assets

The unaudited market value of plan assets decreased from \$48,340,991 at January 1, 2022 to \$41,362,229 at January 1, 2023. A balance sheet and statement of income and disbursements are presented on pages 7 and 8, respectively. The net market rate of return was -12.9% versus the prior year assumed rate of 6.75% resulting in a loss for the period.

The actuarial value of assets increased from \$43,355,531 at January 1, 2022 to \$44,637,764 at January 1, 2023. The development of the January 1, 2023 actuarial value of assets is presented on page 9. The net actuarial rate of return for the period was 4.9% vs. the prior year assumed rate of 6.75%.

Due to the asset smoothing method used, there are \$3,275,535 of investment losses that have not yet been recognized in the Actuarial Value of Assets (see page 9).

### Actuarial Assumptions, Methods and Plan Provisions

All actuarial assumptions, methods and plan provisions remained the same as the prior year. Descriptions of these can be found on pages 14-19.

## **Discussion of Valuation Results**

### **Plan Population**

The number of active members included in the valuation remained at 59 from the previous valuation to the current valuation. The number of members in pay status increased from 66 to 67. The number of deferred vested members decreased from 6 to 5 . A detailed reconciliation can be found on page 22.

### **GASB 67/68 Disclosures**

The GASB disclosures are presented in a separate report.

## Summary of Valuation Results

	Valuation Date <u>January 1, 2022</u>	Valuation Date <u>January 1, 2023</u>
<b>Number of Members</b>		
Active	59	59
Receiving Payments	66	67
Terminated Vested	6	5
Terminated Nonvested Refunded	0	0
Total	<u>131</u>	<u>131</u>
<b>Annual Payroll of Members under Normal Retirement Age</b>	5,608,017	5,883,069
<b>Market Value of Assets</b>	48,340,991	41,362,229
<b>Actuarial Value of Assets</b>	43,355,531	44,637,764
<b>Present Value of Future Benefits</b>	54,998,972	56,474,701
<b>Entry Age Accrued Liability</b>	45,757,993	47,102,420
<b>Unfunded Entry Age Accrued Liability</b>	2,402,462	2,464,656
<b>Entry Age Normal Cost</b>	897,170	937,893
<b>Expected Employee Contributions (reflects first 3% of contributions only)</b>	168,241	176,492
<b>Assumed Expenses</b>	25,000	25,000
<b>Funding Policy Contribution, with Interest</b>	1,669,111	1,777,472
<b>Funding Policy Contribution as a Percentage of Covered Payroll</b>	29.8%	30.2%



## Statement of Assets as of January 1, 2023

<b>Assets</b>	<b>Market Value</b>
Cash and Equivalents	511,669
Fixed Income Investments	7,391,508
Corporate Stocks - Domestic	16,530,236
Corporate Stocks - International	8,268,249
Real Estate	5,435,050
Alternate Investments	3,225,517
Accounts Receivable	0
Total Assets	<u>41,362,229</u>
<b>Liabilities</b>	
None	
<b>Net Assets</b>	<u><u>\$41,362,229</u></u>

## Statement of Income and Disbursements

<b>Market Value of Assets as of January 1, 2022</b>	\$48,340,991
<b>Income</b>	
City Contributions	1,669,111
Employee Contributions	341,154
Investment Income (Including Realized and Unrealized Capital Gain/Losses)	(6,771,450)
Interest and Dividends	691,890
Other Income	0
Change in Accrued Income	0
Total Income	<u>(4,069,295)</u>
<b>Expenses</b>	
Employee Benefit Distributions	2,814,467
Investment Expenses	80,330
Administrative Expenses	14,670
Total Expenses	<u>2,909,467</u>
Net Increase (Decrease)	(6,978,762)
<b>Market Value of Assets as of December 31, 2022</b>	<u><u>\$41,362,229</u></u>
<b>Rate of Return</b>	-12.9%

## Development of Actuarial Value of Assets

1. Actuarial Value of Assets as of January 1, 2022	\$43,355,531
2. Contributions	2,010,265
3. Benefit Payments	(2,814,467)
4. Expenses	(14,670)
5. Expected Return at 6.75%	2,898,861
6. Expected Actuarial Value of Assets as of December 31, 2022 = (1) + (2) + (3) + (4) + (5)	45,435,520
7. Market Value of Assets as of December 31, 2022	41,362,229
8. Adjustments on Market Value (See Schedule of Market Value Adjustments below)	(797,756)
9. Actuarial Value of Assets as of December 31, 2022 = (6) + (8), but not less than 80% of (7) nor more than 120% (7)	\$44,637,764

### Schedule of Market Value Adjustments

Plan Year	Gain/(Loss) Base	Unrecognized Balance 1/1/2022	12/31/2022 Adjustment	Unrecognized Balance 1/1/2023
2018	(4,675,523)	(935,105)	(935,105)	0
2019	3,822,790	1,529,116	764,558	764,558
2020	1,733,563	1,040,138	346,713	693,425
2021	4,189,139	3,351,311	837,828	2,513,483
2022	(9,058,751)	N/A	(1,811,750)	(7,247,001)
<b>Total</b>	N/A	4,985,460	(797,756)	(3,275,535)

## Actuarial Balance Sheet

The key elements of the actuarial funding process are illustrated in the Actuarial Balance Sheet. The format of the balance sheet captures the essential purpose of an actuarial cost method - the determination of assets sufficient to provide for pension benefits.

The Actuarial Present Value of Current and Prospective Plan Benefits is the liability that must be balanced by Current and Prospective assets. The Present Value of Future Normal Cost Contributions represents the prospective assets from contributions that will be made for costs allocated to the future.

January 1, 2023

### Liabilities

#### 1. Actuarial Present Value of Future Benefits

a. Active Members	\$25,973,825
b. Terminated Vested Members	1,220,774
c. Retired Members	24,820,618
d. Beneficiaries	1,954,352
e. Disabled Members	2,505,132
f. Total	56,474,701

### Assets

#### 1. Current Valuation Assets

a. Actuarial Value of Assets	44,637,764
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#### 2. Prospective Valuation Assets

a. Unfunded Actuarial Accrued Liability	2,464,656
b. Present Value of Future Normal Cost Contributions	9,372,281

#### 3. Total

56,474,701

## Development of Funding Policy Contribution

January 1, 2023

### 1. Entry Age Accrued Liability

a. Active Members	\$16,601,544
b. Terminated Vested Members	1,220,774
c. Retired Members	24,820,618
d. Beneficiaries	1,954,352
e. Disabled Members	2,505,132
f. Total	47,102,420
 <b>2. Actuarial Value of Assets</b>	 44,637,764
 <b>3. Funded Ratio: (2) / (1f)</b>	 94.8%
 <b>4. Entry Age Unfunded Accrued Liability: (1f) - (2)</b>	 2,464,656
 <b>5. Entry Age Normal Cost:</b>	 937,893
 <b>6. Expected Employee Contributions:*</b>	 176,492
 <b>7. Assumed Expenses at Beginning of Year (\$25,000 at mid year)</b>	 24,197
 <b>8. Normal Cost Including Expenses: (5) - (6) + (7)</b>	 785,598
 <b>9. Covered Payroll</b>	 5,883,069
 <b>10. Amortization of Unfunded Actuarial Accrued Liability</b>	 934,760
 <b>11. Funding Policy Contribution at Beginning of Year: (8) + (10)</b>	 1,720,358
 <b>12. Funding Policy Contribution, with Interest to Expected Payment Date</b>	 1,777,472
 <b>13. Funding Policy Contribution as a Percentage of Payroll</b>	 30.2%

\*Reflects first 3% of employee contributions

## Determination of Amortization Charges for the Funding Policy Contribution

Date Incurred	Description	Initial Balance	Initial Amortization Period	Unamortized Base January 1, 2022	Contribution to Base	Unamortized Base January 1, 2023	Amortization Payment
1/1/2013	Initial Unfunded Accrued Liability	12,814,062	20	5,087,393	1,220,095	4,210,697	1,125,320
1/1/2014	Experience Gain	(961,835)	20	(568,205)	(91,276)	(515,283)	(84,186)
1/1/2015	Experience Gain	(417,005)	20	(322,918)	(39,427)	(305,288)	(36,364)
1/1/2016	Experience Loss	457,069	20	370,738	43,180	352,583	39,826
1/1/2017	Assumption Changes	1,703,516	20	1,439,767	160,804	1,376,147	148,313
1/1/2017	Experience Gain	(503,306)	20	(425,384)	(47,509)	(406,588)	(43,819)
1/1/2018	Assumption Changes	(207,036)	20	(181,576)	(19,528)	(174,304)	(18,011)
1/1/2018	Experience Gain	(644,345)	20	(565,096)	(60,777)	(542,463)	(56,056)
1/1/2019	Assumption Changes	(20,096)	20	(18,534)	(1,893)	(17,892)	(1,746)
1/1/2019	Experience Loss	840,086	20	774,752	79,149	747,899	73,001
1/1/2020	Assumption Changes	(111,881)	20	(106,293)	(10,533)	(102,935)	(9,715)
1/1/2020	Experience Gain	(1,259,278)	20	(1,196,379)	(118,558)	(1,158,577)	(109,349)
1/1/2021	Experience Gain	(627,686)	20	(612,695)	(59,053)	(594,999)	(54,466)
1/1/2022	Assumption Changes	1,637,111	20	1,637,111	153,916	1,593,700	141,960
1/1/2022	Experience Gain	(2,910,219)	20	(2,910,219)	(273,609)	(2,833,050)	(252,355)
1/1/2023	Experience Loss	835,009	20	N/A	N/A	835,009	72,407
<b>Total</b>		10,624,166		2,402,462	934,981	2,464,656	934,760

## Determination of (Gain)/Loss for Plan Year Ending December 31, 2022

1. Unfunded Accrued Liability as of January 1, 2022	\$2,402,462
2. Employer Normal Cost as of January 1, 2022	728,929
3. Assumed Expenses as of January 1, 2022	24,197
4. Interest on (1), (2) and (3) at 6.75%	213,002
5. Employer Contributions for the Prior Plan Year	1,669,111
6. Interest on (5) at 6.75%	69,832
7. Change in Unfunded Accrued Liability due to Assumption Change	0
8. Expected Unfunded Actuarial Accrued Liability as of December 31, 2022 = (1) + (2) + (3) + (4) - (5) - (6) + (7)	1,629,647
9. Entry Age Accrued Liability as of December 31, 2022	47,102,420
10. Actuarial Value of Assets as of December 31, 2022	44,637,764
11. Unfunded Actuarial Accrued Liability as of December 31, 2022	2,464,656
12. (Gain)/Loss for Plan Year Ending December 31, 2022 = (11) - (8)	835,009

## Actuarial Methods and Assumptions

### Interest (adopted 01/01/2022)

6.75% per annum, compounded annually

### Salary Increases (adopted 01/01/2013)

4.50% per annum, compounded annually

### Inflation (adopted 01/01/2013)

2.50% per annum

### Mortality (adopted 01/01/2022)

Healthy Lives: Pub-2010 Public Safety Employee, Health Annuitant, and Contingent Survivor Mortality Tables projected Generationally using Scale MP-2021

Disabled Lives: Pub-2010 Public Safety Disabled Mortality Tables projected Generationally using Scale MP-2021

### Withdrawal

Rates vary by age. Rates at selected ages are:

<b>Age</b>	<b>Percent Withdrawing</b>
20	10.0%
25	8.0%
30	5.5%
35	3.4%
40	1.4%
45	0.2%
50	0.0%

### Retirement (adopted 01/01/2017)

Rates vary by age as follows:

<b>Age</b>	<b>Percent Retiring</b>
55	50%
56-58	20%
59	50%
60	100%

Terminated vested participants are assumed to retire at age 55.



## Actuarial Methods and Assumptions

**Disability** 1985 Pension Disability Table – Class 3. Disabilities are assumed to be 75% duty related. Rates at selected ages are:

<b>Age</b>	<b>Percent Becoming Disabled</b>
20	0.14%
25	0.20%
30	0.30%
35	0.42%
40	0.59%
45	0.82%
50	1.22%
55	2.09%
60	3.10%

**Administrative Expenses** \$25,000 per year

**Marriage** 80% of members are assumed to be married at the time of withdrawal, retirement, death or disability. Males are assumed to be 4 years older than their

### Children of Active Employees

Active members are assumed to have one child. Each child is assumed to be born at a member's age 28.

**Form of Payment** All members are assumed to elect the Life Annuity with a 50% postretirement death benefit payable to a spouse and eligible children, with the exception that those who terminate prior to retirement are assumed to elect a return of contributions.

### Actuarial Cost Method (adopted 01/01/2013)

The Entry Age Normal Cost Method on a closed group basis was used. Normal costs are computed as a level percent of pay. The Entry Age Normal Unfunded Accrued Liability (UAL) is amortized on a level dollar basis over a closed 20 year period with future changes in UAL resulting in separate 20-year amortization bases.

## Actuarial Methods and Assumptions

**Asset Valuation Method** An asset valuation method is used to help smooth short term fluctuations in market value. The actuarial value of assets is equal to the prior year's actuarial value of assets adjusted as follows:

1. increased with actual contributions for the year;
2. reduced by actual benefit payments and expenses for the year;
3. increased by expected investment income calculated using the assumed rate of return
4. increased by phased in investment gains/(losses)
5. limited to no less than 80% of market value and no more than 120% of market value

Each year, the amount of investment gain/(loss) to be phased in is equal to the excess of the plan's market value over the sum of the expected asset value and the unrecognized balances of investment gains/(losses) for the previous five years. 20% of this amount plus 20% of the similar amounts calculated in each of the four preceding years are summed and recognized as the amount of phased-in gains recognized in the current year.

## Summary of Plan Provisions

A summary of the current primary provisions of the Plan is presented below. A complete description of the provisions can be found in Ordinance 1932, as amended by Ordinances 2032 and 2056

<b>Effective Date</b>	Originally effective May 1, 1947; most recently restated effective November 19, 2007 and most recently amended December 17, 2012.
<b>Eligibility</b>	Any salaried uniformed employee of the Fire Department or Police Department of the City of Ladue becomes eligible after his first hour of employment.
<b>Employee Contributions</b>	Each Employee shall contribute 6.0% of salary to the Pension Fund in 2014 and thereafter. Contributions accumulate at an interest rate of 4% as established by the Board of Trustees.
<b>Salary</b>	Calendar year compensation paid to an employee by the City of Ladue, including LTD premiums, temporary disability payments, and employee contributions to an eligible deferred compensation plan, cafeteria plan, or transportation expense program.
<b>Final Average Salary (FAS)</b>	Average monthly salary during the last 60 months of employment, or average monthly salary during an employee's entire employment if employed less than 60 months. The FAS for a disabled participant is determined as of the Date of Disability.
<b>Career Average Salary (CAS)</b>	Average monthly salary during an employee's entire employment. The CAS for a disabled participant is determined as of the Date of Disability.
<b>Years of Service</b>	Sum of continuous periods of service from date of hire to date of termination, including periods on LTD, Family and Medical Leave, and absences without pay lasting less than 31 consecutive days. Does not include partial years of service.

## Summary of Plan Provisions

### Normal Retirement

Eligibility:	Age 55 with 10 Years of Service.
Benefit:	<u>Employees hired prior to January 1, 2013:</u>  Less than 20 Years of Service: 2% of CAS multiplied by Years of Service.  At least 20 Years of Service: 40% of FAS + 2.5% of FAS multiplied by Years of Service in excess of 20 up to a maximum of 10.  <u>Employees hired on or after January 1, 2013:</u>  Less than 30 Years of Service: 2% of CAS multiplied by Years of Service.  At least 30 Years of Service: 60% of FAS.

### Disability Benefit

Eligibility:	10 years of Credited Service including period of Disability.
Benefit:	Disability Benefits are paid outside the Plan by the City's Long Term Disability Plan for disabilities that occur after January 1, 2008. Upon attaining Early or Normal Retirement eligibility, a disabled member is entitled to the Early or Normal Retirement Benefit based on FAS at Date of Disability and Credited Service including the period while on LTD.

### Early Retirement

Eligibility:	Age 50 with 10 Years of Service.
Benefit:	Accrued Benefit based on FAS or CAS and Years of Service at retirement actuarially reduced for early commencement.

**Deferred Retirement**      A member may defer his pension after age 55 upon discretion of the City Council.

## Summary of Plan Provisions

### Vested Termination Benefit

Less than 10 Years of Service: Refund of contributions with interest.

At least 10 Years of Service: Either refund of contributions with interest or the participant's Accrued Benefit based on FAS or CAS and Credited Service at termination actuarially adjusted for date of retirement.

### Death Benefit

Active Duty: 50% of FAS plus 10% of FAS for each Dependent Child to a maximum of three.

Active Non-Duty: 5% of FAS multiplied by Years of Service up to a maximum of 24% of FAS plus 2% of FAS multiplied by Years of Service up to a maximum of 10% of FAS for each Dependent Child to a maximum of three.

Duty Disability (Disabled prior to January 1, 2008):

40% of FAS plus 10% of FAS for each Dependent Child to a maximum of three.

Non-Duty Disability (Disabled prior to January 1, 2008):

Two thirds of the benefit the disabled retiree was receiving plus one third of the benefit the disabled retiree was receiving for each Dependent Child to a maximum of three.

### Cost-of-Living Adjustment (COLA)

Benefits commencing on or after April 17, 1972 are adjusted each January 1 for an annual COLA based on the Consumer Price Index on September 30 prior to the adjustment date. COLAs are limited to a maximum annual increase of 2% and a lifetime maximum of 20%. If the CPI is less than 1% during a year, there shall be no adjustment, and if the CPI is negative, there shall be no adjustment unless the decrease is 2% or more. Retirees and disabled members (who became disabled prior to January 1, 2008) first become eligible for the COLA on the second January 1<sup>st</sup> following retirement.

**Normal Form of Payment** Life Annuity with a 50% post retirement death benefit payable to a spouse (who has attained age 50) and eligible children (single and below age 18).

## Summary of Member Data

	January 1, 2022	January 1, 2023
<b>Active Members</b>		
Count	59	59
Plan Compensation	\$5,608,017	\$5,883,069
Average Compensation	\$95,051	\$99,713
Average Age	41.1	41.6
Average Service	11.3	11.7
<b>Retired Members (Including Beneficiaries and Disableds)</b>		
Count	66	67
Total Monthly Benefits	\$227,232	\$232,503
Average Monthly Benefits	\$3,443	\$3,470
<b>Terminated Vested Members</b>		
Count	6	5
Total Monthly Benefits	\$12,889	\$9,946
Average Monthly Benefits	\$2,148	\$1,989
<b>Terminated Nonvested Due Refund of Contributions</b>		
Count	0	0
Employee Contributions	\$0	\$0

**Distribution of Active Members by Age and by Years of Service**  
(as of January 1, 2023)

Attained Age	Years of Credited Service										Total	
	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 and up		
Under 25	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	1	5	0	0	0	0	0	0	0	0	0	6
30 to 34	1	5	2	1	0	0	0	0	0	0	0	9
35 to 39	0	1	5	4	0	0	0	0	0	0	0	10
40 to 44	1	1	0	2	5	1	0	0	0	0	0	10
45 to 49	0	1	3	5	3	2	0	0	0	0	0	14
50 to 54	0	0	1	0	3	1	4	0	0	0	0	9
55 to 59	0	0	0	0	0	1	0	0	0	0	0	1
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0
70 and up	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>13</b>	<b>11</b>	<b>12</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>59</b>

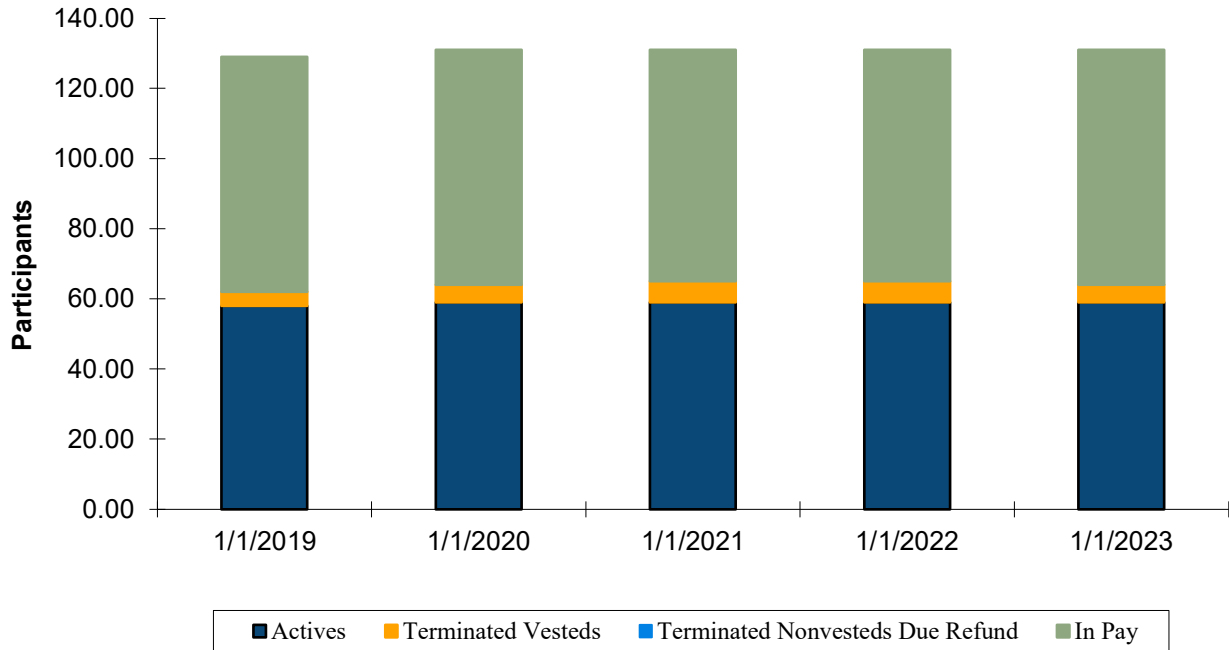
## Summary of Changes in Member Data

	Active Members	Members in Pay Status	Terminated Vested Members	Total
<b>Count as of January 1, 2022</b>	59	66	6	131
New Entrants	3	0	0	3
Rehired	0	0	0	0
Retired	(1)	2	(1)	0
Became Disabled	0	0	0	0
Lump Sum Payouts	0	0	0	0
Died with Beneficiary	0	(1)	0	(1)
New Beneficiaries / Alternate Payees	0	1	0	1
Died without Beneficiary	0	(1)	0	(1)
Terminated with Vesting	0	0	0	0
Terminated without Vesting	(2)	0	0	(2)
Data Corrections	0	0	0	0
<b>Total Changes</b>	<b>0</b>	<b>1</b>	<b>(1)</b>	<b>0</b>
<b>Count as of January 1, 2023</b>	<b>59</b>	<b>67</b>	<b>5</b>	<b>131</b>

\*Members in Pay Status includes 3 Alternate Payees

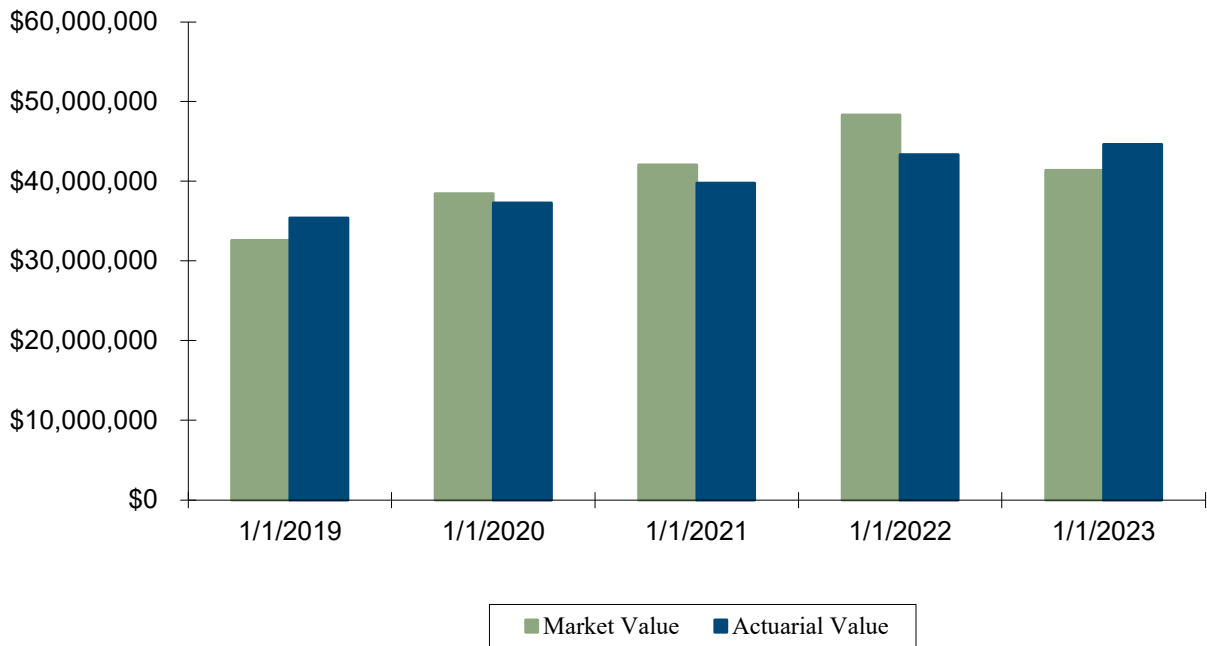


## Member Data



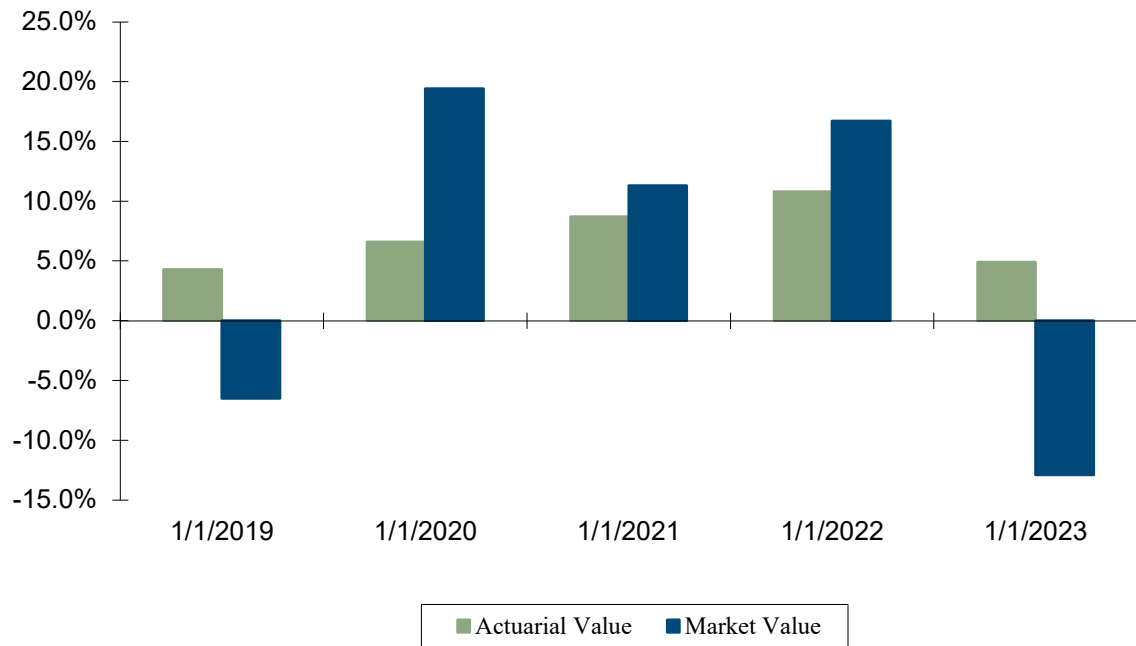
Valuation Date	1/1/2019	1/1/2020	1/1/2021	1/1/2022	1/1/2023
Actives	58	59	59	59	59
Terminated Vested	4	5	6	6	5
Terminated Nonvested Due Refund	0	0	0	0	0
In Pay	67	67	66	66	67
<b>Total</b>	<b>129</b>	<b>131</b>	<b>131</b>	<b>131</b>	<b>131</b>

## Total Assets



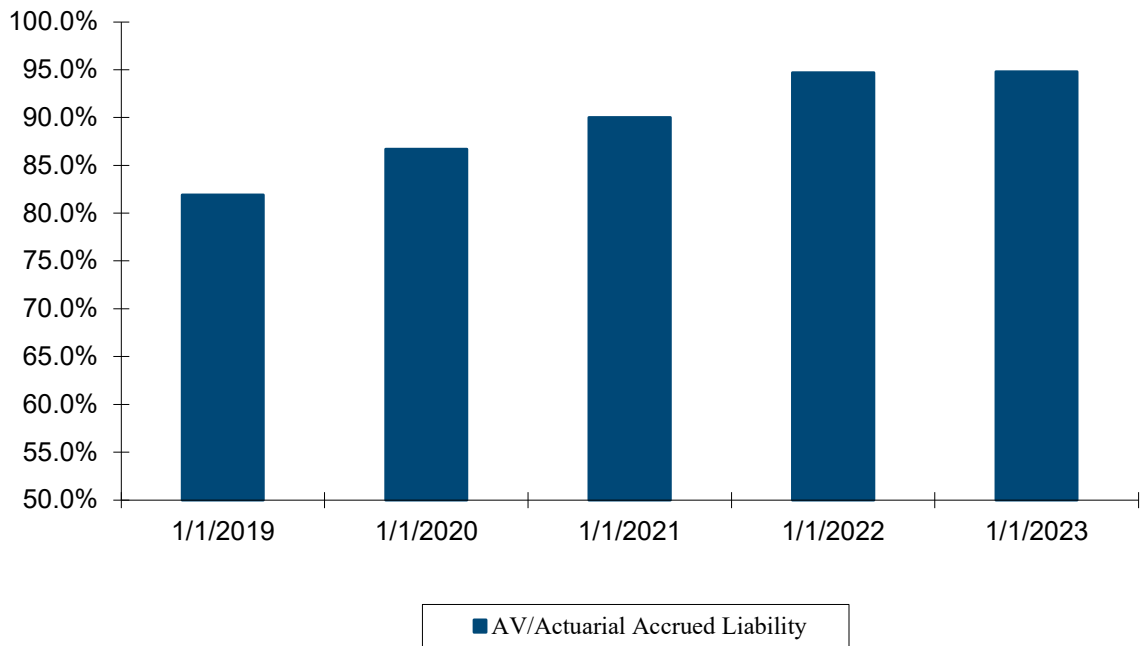
Valuation Date	Market Value	Actuarial Value
1/1/2019	\$32,599,549	\$35,377,311
1/1/2020	\$38,451,363	\$37,264,050
1/1/2021	\$42,056,622	\$39,776,584
1/1/2022	\$48,340,991	\$43,355,531
1/1/2023	\$41,362,229	\$44,637,764

### Rate of Return (%) on Total Assets



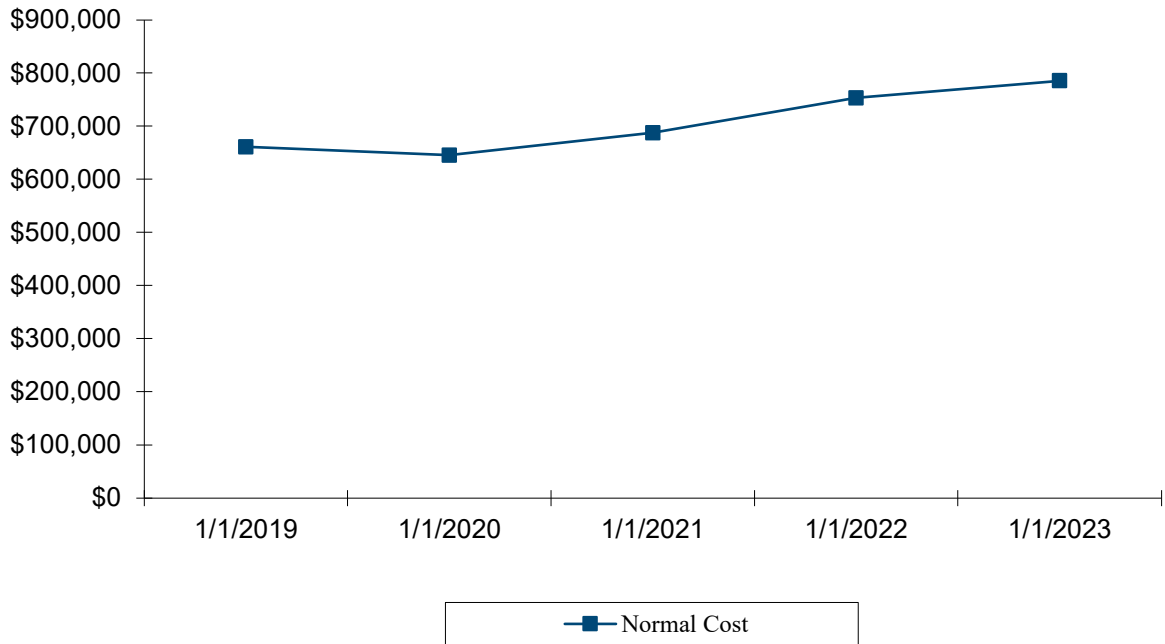
Valuation Date	Actuarial Value	Market Value
1/1/2019	4.3%	-6.5%
1/1/2020	6.6%	19.4%
1/1/2021	8.7%	11.3%
1/1/2022	10.8%	16.7%
1/1/2023	4.9%	-12.9%

## Funded Ratio: Actuarial Value of Assets (AVA) vs. Actuarial Accrued Liability (AAL)



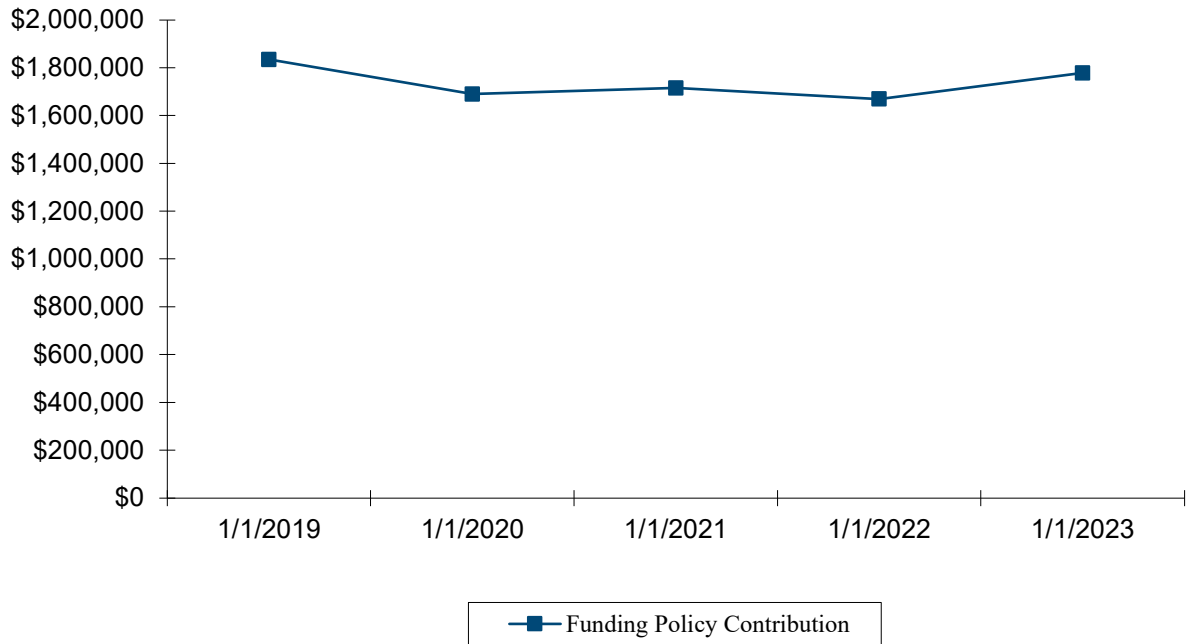
Valuation Date	AVA/AAL
1/1/2019	81.9%
1/1/2020	86.7%
1/1/2021	90.0%
1/1/2022	94.7%
1/1/2023	94.8%

## Employer Normal Cost



Valuation Date	Normal Cost
1/1/2019	\$661,114
1/1/2020	\$645,483
1/1/2021	\$687,367
1/1/2022	\$753,126
1/1/2023	\$785,598

## Funding Policy Contribution



<u>Valuation Date</u>	<u>Funding Policy Contribution</u>
1/1/2019	\$1,834,700
1/1/2020	\$1,690,108
1/1/2021	\$1,715,333
1/1/2022	\$1,669,111
1/1/2023	\$1,777,472

## Actuarial Standard of Practice (ASOP 51)

The purpose of this appendix is to identify, assess, and provide illustrations of risks that are significant to the Plan, and in some cases to the Plan's participants.

The results of the actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match the assumptions. As an example, investments 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 Plan, or of the Plan's participants.

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. As an example, it is more difficult for a plan sponsor to deal with the effects of a 10% investment loss on a plan with \$1 Billion in assets and liabilities than if the same plan sponsor is responsible for a 10% investment loss on a plan with \$1 Million in assets and liabilities. 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

Actuarial Standard of Practice No. 51 (ASOP 51) addresses these issues by providing actuaries with guidance for assessing and disclosing the risk associated with measuring pension liabilities and the determination of pension plan contributions. Specifically, it directs the actuary to:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

ASOP 51 states that if in the actuary's professional judgment, a more detailed assessment would be significantly beneficial in helping the individuals responsible for the plan to understand the risks identified by the actuary, then the actuary should recommend that such an assessment be performed.

This appendix uses the framework of ASOP 51 to communicate important information about: significant risks to the Plan, the Plan's maturity, and relevant historical Plan data.

<b>Maturity Risk</b>	Definition:	This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time.
	Identification:	The Plan is subject to maturity risk because as Plan assets and liabilities continue to grow, the impact of any gains or losses on the assets or liabilities also becomes larger.
	Assessment:	Currently assets are equal to 25 times last year's contributions indicating a one-year asset loss of 10% would be equal to 2.5 times last year's contributions.

## Actuarial Standard of Practice (ASOP 51)

<b>Retirement Risk</b>	Definition:	This is the potential for participants to retire and receive subsidized benefits more valuable than expected.
	Identification:	This plan has valuable early retirement benefits. If participants retire at earlier ages than anticipated by the actuarial assumptions, it is expected that additional funding will be required.
<b>Investment Risk</b>	Definition:	The potential that investment returns will be different than expected.
	Identification:	To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, funding contributions and funded status may differ significantly from
<b>Interest Rate Risk</b>	Definition:	The potential that interest rates will be different than expected.
	Identification:	The pension liabilities reported herein have been calculated by computing the present value of expected future benefit payments using the interest rate(s) described in the appendix. If interest rate(s) in future valuations are different from those used in this valuation, future pension 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 pension liability, and vice versa. One aspect that can be used to estimate the impact of different interest rates is the plan's duration.
	Assessment:	If the interest rate changes by 1%, the estimated percentage change in pension liability is approximately 12%.
<b>Demographic Risk</b>	Definition:	The potential that mortality or other demographic experience will be different than expected.
	Identification:	The pension liabilities reported herein have been calculated by assuming that participants will follow patterns of demographic experience (e.g. mortality, withdrawal, disability, retirement, form of payment election, etc.) as described in the appendix. 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.