

FIRE AND POLICE PENSION ASSOCIATION SAMPLE OLD HIRE FIRE PENSION FUND

ACTUARIAL VALUATION REPORT AS OF JANUARY 1, 2024





To: Administrative Heads and Finance Officers of the Sample Old Hire Fire Pension Fund; administered by FPPA

Date: July 2024

Subject: **Actuarial Valuation Results as of January 1, 2024**

This report contains the actuarial valuation results as of January 1, 2024 for your department as determined by Gabriel, Roeder, Smith & Company (GRS), actuary for the Fire and Police Pension Association (FPPA). Questions about this report should be directed to FPPA, rather than to Gabriel, Roeder, Smith & Company.

Financing Objectives

This valuation was prepared to determine the Required Contribution for fiscal years 2025 and 2026. The Required Contribution for FY2025 and FY2026 is \$15,582 and is shown in Table 1, Item 10. The Required Contribution can be considered a "Reasonable Actuarially Determined Contribution" as required by the Actuarial Standards of Practice.

Due to the many factors affecting a retirement system, users of this report should be aware that contributions made at that amount do not necessarily guarantee long-term benefit security.

Benefit Provisions

This actuarial valuation reflects the provisions that were applicable to the Sample Old Hire Fire Pension Fund as of the valuation date. The details of the actuarial calculations, based on the current benefit provisions, are described in this report. Departments are allowed to model three alternative benefit packages, if desired. If alternatives were requested, a summary of the alternative requested and the actuarial results based on those packages is shown in Table 18.

Actuarial Assumptions and Methods

This actuarial valuation uses the assumptions and methods that were adopted by the Board of Directors of FPPA based upon the actuary's analysis and recommendations resulting from the 2022 Experience Study and effective in the January 1, 2024 valuations, as well as any asset allocation studies of the Old Hire Plans.

The assets associated with this plan are in the Short-Term Pool with greater exposure to income generating investments and a lower exposure to equity investments. This asset allocation is designed to meet your plan's increasing need for liquidity and to reduce the risk of loss of assets. The associated Board adopted investment return for this asset allocation is 4.50%.

A summary of the assumptions and methods can be found in Table 15. The mortality assumptions were updated to use the Pub-2010 Public Safety Mortality tables, projected with the ultimate rates of the MP-2020 projection scale.

the gains and losses since the prior valuation.

GASB Accounting

Employer reporting information for GASB Statement No. 68 is provided in a separate report.

Projected Actuarial Results

To allow the City to anticipate future contribution requirements for the Fund, we have projected the actuarial status of the Fund as of January 1, 2026. The following table provides the Required Contribution for Fiscal Years 2025 & 2026 based on the January 1, 2024 actuarial valuation and an estimated Required Contribution for Fiscal Years 2027 and 2028, based on three different investment return scenarios in 2024 & 2025 and a projected January 1, 2026 actuarial valuation.

Fiscal Year (FY)	Required Contribution - Current Financing Objectives		
	Assuming 2.50% return in FY 2024 & 2025	Assuming 4.50% return in FY 2024 & 2025	Assuming 6.50% return in FY 2024 & 2025
2025 & 2026	\$15,582	\$15,582	\$15,582
2027 & 2028	\$14,024	\$14,024	\$14,024

The projected liabilities are calculated by rolling forward the liabilities as of January 1, 2024, taking into account interest and benefit payments for the year, including mortality incidence and anticipated cost of living increases. The 4.50% scenario above coincides with the actuarial investment return assumption of 4.50%. The 2.50% and 6.50% scenarios demonstrate the impact of small amounts of investment return volatility. Actual investment return volatility could exceed the illustrated +/-2% deviation from the actuarial investment return assumption of 4.50%.

In addition to investment return experience, demographic experience and future assumption changes could also impact the actual Required Contribution for fiscal years 2027 and 2028.

Tables

This report includes the following sections:

- The executive summary includes a condensed summary of the demographic, financial, and actuarial data.
- Table 1 provides the details of the development of the Required Contribution.
- Table 2 shows the sources of change in the UAAL since the prior valuation.
- Table 3 shows historical actuarial and demographic data for the department.
- Tables 4, 5, 6, and 7 show the development of the financial information.



Executive Summary

Item	January 1, 2024 (1)	January 1, 2022 (2)
Membership		
• Number of:		
- Active members	0	0
- Members in DROP	0	0
- Disabled members	0	0
- Retired members	1	1
- Beneficiaries	1	2
- Total	2	3
• Annualized payroll supplied by FPPA	N/A	N/A
• Annualized monthly benefits paid	\$ 19,490	\$ 21,359
Assets		
• Market value	\$ 103,519	\$ 123,713
• Actuarial value	116,540	128,060
• Return on market value - Prior year	7.4%	0.5%
• Return on market value - Prior year minus 1	(12.3%)	7.3%
• Average return on actuarial value	0.5%	3.9%
• Contribution for prior year	\$ 15,582	\$ 15,582
• Contribution for prior year minus 1	\$ 15,582	\$ 15,582
• Ratio of actuarial value to market value	112.6%	103.5%
Actuarial Information		
• Actuarial accrued liability	\$ 188,048	\$ 210,597
• Unfunded actuarial accrued liability/(surplus)	71,508	82,537
• Funded ratio	62.0%	60.8%
Required Contribution		
• For year ending December 31, 2025	\$ 15,582	\$ 15,582
• For year ending December 31, 2026	\$ 15,582	\$ 15,582



Table 1 - Development of Required Contribution

In 2019, House-Bill 20-1044 was passed which allows the Board to modify the financing objectives of the Old Hire Plans. The financing objectives are as follows:

1) Desire for Stable Contributions

The Required Contribution from the actuarial valuation as of January 1, 2022, which determines the contribution requirement for fiscal years 2023 and 2024 is \$15,582. The goal of the funding policy is for contributions to remain unchanged. Thus, unless one of the following conditions (for increased or decreased contributions) is met, the Required Contribution will remain equal to the Required Contribution from the previous biennium. If neither the conditions for increased contributions nor the conditions for decreased contributions, described below, is met, then the contribution requirement will continue to be \$15,582 for fiscal years 2025 and 2026.

2) Conditions for Increased Contributions

The Required Contribution cannot be less than the Contribution Threshold. The Contribution Threshold will equal the percent of the annual benefit payments not covered from the current funding position of the trust. It represents the amount needed to keep the funded ratio from declining from one year to the next.

Contribution Threshold = (100% - Funded Ratio) * Annual Benefit Payments + Administrative Expenses

Based on the results as of January 1, 2024, the Contribution Threshold for 2025 would be calculated as follows:

Contribution Threshold for 2025 = (100% - 61.97%) * \$19,323 + \$2,271 = \$9,620

3) Conditions for Decreased Contributions

If the Contribution Threshold for the upcoming biennium is less than 60% of the contribution from the current biennium, the Required Contribution for the new biennium will be reduced 10% from the current biennium. Currently, the Conditions for Decreased Contributions are not projected to apply for the upcoming biennium.

Finally, if the Funding Target of 100% has been achieved, then contributions can reduce to \$0.



Table 1 - Development of Required Contribution (Continued)

	January 1, 2024 (1)	January 1, 2022 (2)
1. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 1,266,665	\$ 1,298,841
b. Disabled members	0	0
c. Members in DROP	0	0
d. Active members	0	0
e. Total	<u>\$ 1,266,665</u>	<u>\$ 1,298,841</u>
2. Actuarial value of assets	\$ 535,960	\$ 625,497
3. Unfunded actuarial accrued liability (UAAL)/(surplus) (1e. - 2.)	\$ 730,705	\$ 673,344
4. Funded ratio	42.31%	48.16%
5. Contribution level current biennium (2023-2024)	\$ 65,180	\$ 54,550
6. Current Benefits	\$ 127,422	\$ 120,924
7. Administrative Expenses	\$ 2,084	\$ 2,493
8. Contribution Threshold $[(100\% - 4) \times 6 + 7]$	\$ 75,594	\$ 65,180
9. Contribution Threshold as % of Current Contribution $[8 / 5]$	116%	119%
10. Required Contribution for Upcoming Biennium	\$ 75,594	\$ 65,180

Outcome: Minimum Contribution is higher than current contribution levels. Increase contributions to \$75,594.

Contribution increases



Table 1 - Development of Required Contribution (Continued)

	January 1, 2024 (1)	January 1, 2022 (2)
1. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 468,686	\$ 497,925
b. Disabled members	0	0
c. Members in DROP	0	0
d. Active members	0	0
e. Total	<u>\$ 468,686</u>	<u>\$ 497,925</u>
2. Actuarial value of assets	\$ 255,047	\$ 264,223
3. Unfunded actuarial accrued liability (UAAL)/(surplus) (1e. - 2.)	\$ 213,639	\$ 233,702
4. Funded ratio	54.42%	53.06%
5. Contribution level current biennium (2023-2024)	\$ 29,203	\$ 29,203
6. Current Benefits	\$ 42,384	\$ 42,427
7. Administrative Expenses	\$ 1,861	\$ 3,039
8. Contribution Threshold [(100% - 4) x 6 + 7]	\$ 21,180	\$ 22,954
9. Contribution Threshold as % of Current Contribution [8 / 5]	73%	79%
10. Required Contribution for Upcoming Biennium	\$ 29,203	\$ 29,203

Outcome: Conditions to increase or decrease contributions not met. Continue annual funding of \$29,203.

Contribution remains level



Table 1 - Development of Required Contribution (Continued)

	January 1, 2024 (1)	January 1, 2022 (2)
1. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 52,891,141	\$ 59,489,177
b. Disabled members	1,151,342	1,392,828
c. Members in DROP	0	0
d. Active members	0	0
e. Total	\$ 54,042,483	\$ 60,882,005
2. Actuarial value of assets	\$ 46,779,910	\$ 47,855,392
3. Unfunded actuarial accrued liability (UAAL)/(surplus) (1e. - 2.)	\$ 7,262,573	\$ 13,026,613
4. Funded ratio	86.56%	78.60%
5. Contribution level current biennium (2023-2024)	\$ 1,278,836	\$ 1,278,836
6. Current Benefits	\$ 5,075,205	\$ 5,404,926
7. Administrative Expenses	\$ 24,576	\$ 25,642
8. Contribution Threshold [(100% - 4) x 6 + 7]	\$ 706,684	\$ 1,182,296
9. Contribution Threshold as % of Current Contribution [8 / 5]	55%	92%
10. Required Contribution for Upcoming Biennium	\$ 1,150,952	\$ 1,278,836

Outcome: Minimum Contribution is less than 60% of current contribution levels. Reduce contributions 10% to \$1,150,952. |

Contribution decreases



Table 2 - Change in UAAL

1. Unfunded actuarial accrued liability (UAAL) as of <u>January 1</u> of prior valuation year	\$	82,537
2. Benefit modifications from prior valuation		0
3. Total normal cost for FY2022 & FY2023		0
4. Contributions less administrative expenses during FY2022		(12,508)
5. Contributions less administrative expenses during FY2023		(14,114)
6. Interest at 4.50%		6,421
7. Expected UAAL as of this valuation (sum of 1. to 6.)	\$	62,336
8. Actual UAAL at end of period	\$	71,508
9. Actuarial gain/(loss) for the period (7. - 8.)	\$	(9,172)
<u>SOURCE OF GAINS/(LOSSES)</u>		
10. Asset gain/(loss) (See Table 7)	\$	(10,014)
11. Salary/rank liability gain/(loss) for the period	\$	0
12. Assumption gain/(loss) for the period	\$	1,614
13. Net liability gain/(loss) for the period (9. - 10. - 11. - 12.)	\$	(772)



Table 3 - Actuarial Experience

	<u>2024</u>	<u>2022</u>	<u>2020</u>	<u>2018</u>	<u>2016</u>	<u>2014</u>
1. Number of members						
a. Active	0	0	0	0	0	0
b. Retired	1	1	1	2	2	2
c. DROP	0	0	0	0	0	0
d. Beneficiaries	1	2	2	1	1	1
e. Disabled	0	0	0	0	0	0
f. Total	2	3	3	3	3	3
2. Covered payroll	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Average compensation	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
4. Valuation results						
a. Normal cost	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
b. Accrued liability	188,048	210,597	225,085	259,957	270,577	269,960
c. Actuarial value of assets	116,540	128,060	146,174	136,707	155,044	175,503
d. Unfunded liability	71,508	82,537	78,911	123,250	115,533	94,457
e. Remaining amortization period	N/A	N/A	N/A	14	17	17
f. Funded ratio	62.0%	60.8%	64.9%	52.6%	57.3%	65.0%
5. Required contribution						
a. Amount	\$ 15,582	\$ 15,582	\$ 15,582	\$ 15,582	\$ 15,624	\$ 9,793
b. Per member	7,791	5,194	5,194	5,194	5,208	3,264



Table 4 - Reconciliation of Net Plan Assets

	Year Ending	
	12/31/2023 (1)	12/31/2022 (2)
1. Market value of assets at beginning of year	\$ 101,615	\$ 123,713
2. Revenue for the year		
a. Plan direct inflows		
i. Employer contributions	\$ 15,582	\$ 15,582
ii. State contributions	0	0
iii. Affiliations	0	0
iv. Plan directed expenses	0	0
v. Total	\$ 15,582	\$ 15,582
b. Allocated income		
i. Interest	\$ 2,331	\$ 1,646
ii. Dividends	141	149
iii. Other Income	44	62
iv. Net change accrued income	110	131
v. Unrealized gain/(loss)	6,730	(12,296)
vi. Realized gain/(loss)	(1,687)	(4,141)
vii. Total	\$ 7,669	\$ (14,449)
c. Total Revenue (2a. + 2b.)	\$ 23,251	\$ 1,133
3. Expenditures for the year		
a. Plan direct outflows		
i. Net benefits	\$ (19,490)	\$ (19,802)
ii. Refunds	0	0
iii. Total	\$ (19,490)	\$ (19,802)
b. Allocated expense		
i. Investment expenses	\$ (389)	\$ (355)
ii. Directed plan expenses	(814)	(2,261)
iii. Allocated fees and expenses	(654)	(813)
iv. Total allocated expenditures	\$ (1,857)	\$ (3,429)
c. Total expenditures (3a. + 3b.)	\$ (21,347)	\$ (23,231)
4. Increase/(Decrease) in net assets (2c. + 3c.)	\$ 1,904	\$ (22,098)
5. Market value of assets at end of year (1. + 4.)	\$ 103,519	\$ 101,615



Table 5 - Development of Actuarial Value of Assets

	Year Ending	
	12/31/2023 (1)	12/31/2022 (2)
1. Actuarial value of assets at beginning of year	\$ 121,059	\$ 128,060
2. Cash flow for the year		
a. Contributions	\$ 15,582	\$ 15,582
b. State contributions	0	0
c. Affiliation contributions	0	0
d. Benefit payments	(19,490)	(19,802)
e. Administrative and other expenses	(1,468)	(3,074)
f. Net cash flow	\$ (5,376)	\$ (7,294)
3. Expected investment earnings	\$ 5,327	\$ 5,599
4. Expected actuarial value of assets at end of year	\$ 121,010	\$ 126,365
5. Actual market value of assets at end of year	\$ 103,519	\$ 101,615
6. Excess earnings/(shortfall)	\$ (17,491)	\$ (24,750)
7. Excess earnings/(shortfall) recognized (Table 6, Item 6)	\$ (4,470)	\$ (5,306)
8. Final actuarial value of assets (Item 4 + Item 7)	\$ 116,540	\$ 121,059



Table 6 - Development of Amounts to be Recognized in the Actuarial Value of Assets

	Year Ending	
	12/31/2023 (1)	12/31/2022 (2)
1. Remaining deferrals of excess (shortfall) of investment income from prior years		
a. Current year - 4	\$ 0	\$ (184)
b. Current year - 3	0	0
c. Current year - 2	(3,122)	0
d. Current year - 1	(16,322)	(4,163)
e. Total	\$ (19,444)	\$ (4,347)
2. Current year (Table 5, Item 6 - Table 6, Item 1)	\$ 1,953	\$ (20,403)
3. Amounts to be immediately recognized due to offsetting current year experience (Item 2) against prior year deferrals (Item 1)		
a. Current year - 4	\$ 0	\$ 0
b. Current year - 3	0	0
c. Current year - 2	1,953	0
d. Current year - 1	0	0
e. Current year	(1,953)	0
f. Total	\$ 0	\$ 0
4. Remaining prior year deferrals		
a. Current year - 4	\$ 0	\$ (184)
b. Current year - 3	0	0
c. Current year - 2	(1,169)	0
d. Current year - 1	(16,322)	(4,163)
e. Current year	0	(20,403)
f. Total	\$ (17,491)	\$ (24,750)
5. Deferral of excess (shortfall) of investment income for:		
a. Current year - 4	\$ 0	\$ 0
b. Current year - 3	0	0
c. Current year - 2	(779)	0
d. Current year - 1	(12,242)	(3,122)
e. Current year	0	(16,322)
f. Total	\$ (13,021)	\$ (19,444)
6. Total amount recognized in actuarial value of assets (Item 3.f + Item 4.f. - Item 5.f.)	\$ (4,470)	\$ (5,306)



Table 7 - Gain/(Loss) on Actuarial Value of Assets

	January 1, 2024 (1)	January 1, 2022 (2)
1. Actuarial assets, prior valuation	\$ 128,060	\$ 146,174
2. Total contributions since prior valuation	\$ 31,164	\$ 31,164
3. Benefits and refunds since prior valuation	\$ (39,292)	\$ (55,710)
4. Administrative and other expenses since prior valuation	\$ (4,542)	\$ (4,168)
5. Assumed net investment income at 4.50%		
a. Beginning assets	\$ 11,785	\$ 13,452
b. Contributions	1,418	1,418
c. Benefits, refunds and administrative expenses	(2,039)	(2,852)
d. Total	\$ 11,164	\$ 12,018
6. Expected actuarial assets (1. + 2. + 3. + 4. + 5.)	\$ 126,554	\$ 129,478
7. Actual actuarial assets, this valuation	\$ 116,540	\$ 128,060
8. Net asset gain/(loss) since prior valuation (7. - 6.)	\$ (10,014)	\$ (1,418)
	Loss	Loss

Table 8 - Statement of Funding Progress

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL (3) - (2))	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as a percent of payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
January 1, 2004	\$ 285,589	\$ 301,378	\$ 15,789	94.8%	\$ 0	N/A
January 1, 2006	289,752	294,576	4,824	98.4%	0	N/A
January 1, 2008	298,702	286,223	(12,479)	104.4%	0	N/A
January 1, 2010	235,088	277,241	42,153	84.8%	0	N/A
January 1, 2012	196,945	280,501	83,556	70.2%	0	N/A
January 1, 2014	175,503	269,960	94,457	65.0%	0	N/A
January 1, 2016	155,044	270,577	115,533	57.3%	0	N/A
January 1, 2018	136,707	259,957	123,250	52.6%	0	N/A
January 1, 2020	146,174	225,085	78,911	64.9%	0	N/A
January 1, 2022	128,060	210,597	82,537	60.8%	0	N/A
January 1, 2024	116,540	188,048	71,508	62.0%	0	N/A

The funded status measure may be appropriate for assessing the need for future contributions. The funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.



Table 9 - History of Employer Contributions

The following exhibit shows a history of the Required Contribution and the actual contributions made to the Plan.

Fiscal Year Ending	Required Contribution	Actual Contribution	Percent
(1)	(2)	(3)	(4)
December 31, 2015	\$ 9,793	\$ 9,793	100%
December 31, 2016	9,793	9,793	100%
December 31, 2017	15,624	15,624	100%
December 31, 2018	15,624	15,624	100%
December 31, 2019	15,582	15,624	100%
December 31, 2020	15,582	15,582	100%
December 31, 2021	15,582	15,582	100%
December 31, 2022	15,582	15,582	100%
December 31, 2023	15,582	15,582	100%
December 31, 2024	15,582	N/A	



Table 10 - Cash Flow Analysis

Year Ending December 31, (1)	Contributions for the Year (2)	Expenditures During the Year			External Cash Flow for the Year (6)	Market Value of Assets (7)	External Cash Flow as Percent of Market Value (8)
		Benefit Payments ** (3)	Expenses (4)	Total (5)			
2013	\$ 8,461	\$ (27,990)	\$ (2,223)	\$ (30,213)	\$ (21,752)	\$ 173,527	(12.5%)
2014	8,461	(27,990)	(5,881)	(33,871)	(25,410)	158,873	(16.0%)
2015	9,793	(27,990)	(581)	(28,571)	(18,778)	142,811	(13.1%)
2016	9,793	(27,990)	(2,088)	(30,078)	(20,285)	129,550	(15.7%)
2017	15,624	(27,990)	(1,065)	(29,055)	(13,431)	133,165	(10.1%)
2018	15,624	(19,631)	(3,401)	(23,032)	(7,408)	125,876	(5.9%)
2019	15,624	(12,860)	(1,377)	(14,237)	1,387	142,049	1.0%
2020	15,582	(29,988)	(2,723)	(32,711)	(17,129)	134,685	(12.7%)
2021	15,582	(25,722)	(1,445)	(27,167)	(11,585)	123,713	(9.4%)
2022	15,582	(19,802)	(3,074)	(22,876)	(7,294)	101,615	(7.2%)
2023	15,582	(19,490)	(1,468)	(20,958)	(5,376)	103,519	(5.2%)
2024*	15,582	(19,323)	(2,271)	(21,594)	(6,012)	102,030	(5.9%)
2025*	15,582	(18,931)	(2,328)	(21,259)	(5,677)	100,817	(5.6%)
2026*	15,582	(18,495)	(2,386)	(20,881)	(5,299)	99,935	(5.3%)

* Cash flow estimated based on expected contributions and expected benefit payments.

** Expected Benefit Payments for 2024 and beyond include expected mortality and if applicable, future cost of living increases.



Table 11 - Membership Data

	<u>January 1, 2024</u>		<u>January 1, 2022</u>		<u>January 1, 2020</u>
	(1)		(2)		(3)
1. Active members					
a. Number	0		0		0
b. Total payroll	\$ 0	\$	0	\$	0
c. Average annual salary	\$ 0	\$	0	\$	0
d. Average age	N/A		N/A		N/A
e. Average service	N/A		N/A		N/A
2. Members in DROP					
a. Number	0		0		0
b. Total annual benefits	\$ 0	\$	0	\$	0
c. Average annual benefit	\$ N/A	\$	N/A	\$	N/A
d. Average age	N/A		N/A		N/A
3. Service retirees					
a. Number	1		1		1
b. Total annual benefits	\$ 12,860	\$	12,860	\$	12,860
c. Average annual benefit	\$ 12,860	\$	12,860	\$	12,860
d. Average age	77.0		75.0		73.0
4. Disabled retirees					
a. Number	0		0		0
b. Total annual benefits	\$ 0	\$	0	\$	0
c. Average annual benefit	\$ N/A	\$	N/A	\$	N/A
d. Average age	N/A		N/A		N/A
5. Beneficiaries					
a. Number	1		2		2
b. Total annual benefits	\$ 6,630	\$	8,499	\$	8,499
c. Average annual benefit	\$ 6,630	\$	4,250	\$	4,250
d. Average age	77.0		84.0		82.0

Table 12 - Summary of Retirees by Age and Type

Age	Retirees		Disabled Members		Beneficiaries		Members in DROP		All	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 50	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
50-54	0	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0
75-79	1	1,072	0	0	1	553	0	0	2	813
Greater than 80	0	0	0	0	0	0	0	0	0	0
All	1	\$ 1,072	0	\$ 0	1	\$ 553	0	\$ 0	2	\$ 813



Table 13 - Schedule of Retirants & Annuitants Added to and Removed from Rolls

Valuation Year January 1	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Benefits	Average Annual Benefits	Average Age
	Number	Annual Benefits*	Number	Annual Benefits	Number	Annual Benefits			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2004	N/A	N/A	N/A	N/A	3	\$ 27,990	N/A	\$ 9,330	N/A
2006	0	\$ (1)	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	65.0
2008	0	\$ 0	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	67.0
2010	0	\$ 0	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	69.0
2012	0	\$ 0	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	71.0
2014	0	\$ 0	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	73.0
2016	0	\$ 0	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	75.0
2018	0	\$ 0	0	\$ 0	3	\$ 27,989	0%	\$ 9,330	77.0
2020	1	\$ 6,630	1	\$ 13,260	3	\$ 21,359	(23.7%)	\$ 7,120	79.0
2022	1	\$ 6,630	1	\$ 6,630	3	\$ 21,359	0%	\$ 7,120	81.0
2024	0	\$ 0	1	\$ 1,869	2	\$ 19,490	(8.8%)	\$ 9,745	77.0

* Includes cost-of-living adjustments granted since the prior valuation.



Table 14 - Risks Associated with Measuring the Accrued Liability and Required Contribution

The determination of the accrued liability requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability that results from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

- A: Investment risk – actual investment returns may differ from the expected returns;
- B: Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
- C: Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees or other relevant contribution base;
- D: Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
- E: Other demographic risks

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.



Table 14 - Risks Associated with Measuring the Accrued Liability and Required Contribution (Continued)

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of retirees and beneficiaries and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	January 1, 2024	January 1, 2022
Ratio of net cash flows to market value of assets	-5%	-9%
Duration of the actuarial accrued liability	7.0	7.5

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions (see Table 8).

Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.



Table 14 - Risks Associated with Measuring the Accrued Liability and Required Contribution (Continued)

Low-Default-Risk Obligation Measure

Introduction

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the “Low-Default-Risk Obligation Measure” (LDROM). The rationale that the ASB cited for the calculation and disclosure of the LDROM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below (emphasis added):

“The ASB believes that the calculation and disclosure of this measure provides **appropriate, useful information for the intended user regarding the funded status of a pension plan**. The calculation and disclosure of this additional measure is **not intended to suggest that this is the “right” liability measure** for a pension plan. However, the ASB does believe that **this additional disclosure provides a more complete assessment of a plan’s funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.**”

Comparing the Accrued Liabilities and the LDROM

One of the fundamental financial objectives of a pension plan is to finance each member’s retirement benefits over the period from the member’s date of hire until the member’s projected date of retirement (entry age actuarial cost method) as a level percentage of payroll. To fulfill this objective, the discount rate that is used to value the accrued liabilities is set equal to the **expected return** on the diversified portfolio of assets (referred to sometimes as the investment return assumption). The current investment return assumption is 4.50%.

The LDROM is meant to approximately represent the lump sum cost to a plan to purchase low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDROM is very dependent upon market interest rates at the time of the LDROM measurement. The lower the market interest rates, the higher the LDROM, and vice versa. As of January 1, 2024, the current investment return assumption of 4.50% could be considered a reasonable rate for the LDROM. This results in no difference between the valuation accrued liabilities and the LDROM.



Table 15 - Summary for Actuarial Assumptions, Methods, and Changes

The calculations set forth in this report are based on the following assumptions:

1. Investment Return Rate 4.50% per annum (net of investment expenses), compounded annually

2. Post-Retirement Mortality
 - a) Healthy Retirees, Beneficiaries, and Disabled Retirees (retired after January 1, 1980) Pub-2010 Public Safety Healthy Annuitant Mortality Tables for males and females, amount-weighted, projected with the ultimate values of the MP-2020 projection scale.

<u>Age</u>	Annual Rate Per 1,000 (for 2024)	
	<u>Males</u>	<u>Females</u>
50	1.587	1.232
55	2.530	2.133
60	4.200	3.687
65	7.325	6.402
70	13.167	11.160
75	23.967	19.464
80	43.709	33.936

- b) Disabled Retirees (retired before January 1, 1980) Post-Retirement Mortality Rates Set-Forward Three Years

<u>Age</u>	Annual Rate Per 1,000 (for 2024)	
	<u>Males</u>	<u>Females</u>
50	2.092	1.711
55	3.406	2.960
60	5.820	5.109
65	10.326	8.880
70	18.743	15.484
75	34.153	27.012
80	62.176	47.101

Table 15 - Summary for Actuarial Assumptions, Methods, and Changes (Continued)

3.	Administrative Expenses	An explicit administrative expense equal to the average of the actual expenses for the two prior years.
4.	Benefit Escalation	0.00%
5.	Changes in Actuarial Assumptions	The global assumption set for plans administered by FPPA was changed in the 2022 Experience Study and effective as of January 1, 2023. This is the first valuation for this plan with the new assumptions. The mortality assumptions were updated to use the Pub-2010 Public Safety Mortality tables projected with the ultimate rates of the MP-2020 projection scale.
6.	Changes in Actuarial Methods	None.

7. Asset Valuation Method

The asset valuation method is based on a comparison of expected and actual asset values. The actuarial value of assets is equal to the market value of assets less a five-year phase in of the Excess (Shortfall) between expected investment return and actual income determined as follows:

- At the beginning of each plan year, an expected actuarial asset value is calculated as the sum of the previous year's actuarial value increased with a year's interest at the Plan valuation rate plus net cash flow (excluding expenses) adjusted for interest (at the same rate) to the end of the previous plan year.
- The difference between the expected actuarial asset value and the actual market value is the investment gain or (loss) for the previous plan year.
- If the current year's difference is the opposite sign of any of the prior year's deferred Excesses\ (ShortFalls), then the prior year's bases (starting with the oldest) are reduced dollar for dollar along with the current year's base. Any remaining bases are then recognized over five years (20% per year) from their initial creation.

8. Contributions Requirement

Please see Table 1 for a description of the current policy regarding the development of the Required Contribution.



Table 17 - Definition of Terms

1. Actuarial Cost Method

A method for determining the actuarial present value of future benefits and allocating such value to time periods in the form of a normal cost and an actuarial accrued liability.

2. Present Value of Future Benefits

This is computed by projecting the total future benefit cash flow from the Plan, using actuarial assumptions, and then discounting the cash flow to the valuation date.

3. Normal Cost

Computed differently under different actuarial cost methods, the normal cost generally represents the value of the portion of the participant's anticipated retirement, termination, and/or death and disability benefits accrued during a year. Once all active members are retired, the Normal Cost is \$0.

4. Actuarial Accrued Liability

Computed differently under different actuarial cost methods. Generally actuarial accrued liability represents the value of the portion of the participant's anticipated retirement, termination, and/or death and disability benefits accrued as of the valuation date.

5. Entry Age Actuarial Cost Method

A method under which a participant's actuarial present value of future benefits is allocated on a level basis over the earnings of the participant between his/her entry into the Plan and his/her assumed exit.

6. Unfunded Actuarial Accrued Liability

The difference between total actuarial present value of future benefits over the sum of the tangible assets of the Plan and the actuarial present value of the members' future normal costs. The Plan is underfunded if the difference is positive and overfunded if the difference is negative.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to the Plan, as valued by the actuary for purposes of the actuarial valuation.



Table 17 - Definition of Terms (Continued)

8. Actuarial Gain or Loss

From one valuation to the next, if the experience of the plan differs from that anticipated by the actuarial assumptions, an actuarial gain or loss occurs. For example, an actuarial gain would occur if the assets in the trust had a yield of 12% based on actuarial value, while the assumed yield on the actuarial value of assets was 4.50%.

9. Required Contribution

Actuarially determined contribution that satisfies Board and Statutory requirements.



Optional

Table 18 - Supplemental Studies

For each actuarial valuation, the plan can request up to three proposed amendments to be studied by the actuary. The following is the descriptions and results of these studies.



This concludes the
Reading Old Hire Actuarial Reports
Presentation.

If you wish further information
or have questions please call

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