

CITY OF TAYLOR
POLICE AND FIRE RETIREMENT SYSTEM

ACTUARIAL VALUATION
AS OF JUNE 30, 2022

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR BEGINNING JULY 1, 2023



FOSTER & FOSTER
ACTUARIES AND CONSULTANTS



March 7, 2023

Board of Trustees
City of Taylor Police and Fire Retirement System

Re: Actuarial Valuation Report – City of Taylor Police and Fire Retirement System

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Taylor Police and Fire Retirement System. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. Use of the results for other purposes may not be applicable and could produce significantly different results.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the Retirement System, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of its liabilities.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the Board, financial reports prepared by the custodian bank and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

In performing the analysis, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models to generate the costs. All internally developed models are reviewed as part of the process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.

The undersigned is familiar with the immediate and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Taylor, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Taylor Police and Fire Retirement System. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 630-620-0200.

Respectfully submitted,

Foster & Foster, Inc.

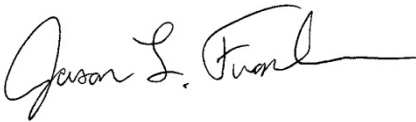
By: 

TABLE OF CONTENTS

Section	Title	Page
I	Introduction	
	a. Summary of Report	5
	b. Changes Since Prior Valuation	6
	c. Comparative Summary of Principal Valuation Results	7
II	Valuation Information	
	a. Development of Amortization Payment	12
	b. Detailed Actuarial (Gain)/Loss Analysis	13
	c. Reconciliation of Changes in Contribution Requirement	14
	d. Funding History	15
	e. Projection of Benefit Payments	16
	f. Actuarial Assumptions and Methods	17
	g. Glossary	20
	h. Discussion of Risk	21
III	Trust Fund	25
IV	Member Statistics	
	a. Statistical Data	29
	b. Age and Service Distribution	30
	c. Valuation Participant Reconciliation	33
V	Summary of Current Plan	34

SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Taylor Police and Fire Retirement System, performed as of June 30, 2022, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year beginning July 1, 2023.

The contribution requirements, compared with those set forth in the June 30, 2021 actuarial report, are as follows:

Valuation Date	6/30/2022	6/30/2021
Applicable to Fiscal Year Beginning	<u>7/1/2023</u>	<u>7/1/2022</u>
Total Recommended Contribution	\$7,144,555	\$7,269,810
% of Projected Annual Payroll	120.63%	89.68%
Member Contributions (Est.)	(508,171)	(695,518)
% of Projected Annual Payroll	(8.58%)	(8.58%)
City Recommended Contribution	6,636,384	6,574,292
% of Projected Annual Payroll	112.05%	81.10%

As you can see, the Total Recommended Contribution shows an increase from the June 30, 2021 actuarial valuation report. The increase is attributable to the natural increase in the amortization payment due to the payroll growth assumption and unfavorable plan experience.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. Sources of unfavorable experience included more retirements than expected, an average salary increase of 13.68% which exceeded the 6.52% assumption, and lower than expected inactive mortality. These losses were offset in part by gains associated with more turnover than expected and an investment return of 7.70% (Actuarial Asset Basis) which exceeded the 7.25% assumption.

CHANGES SINCE THE PRIOR VALUATION

The valuation reflects no plan changes.

The valuation reflects no assumption or method changes.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

Valuation Date	<u>6/30/2022</u>	<u>6/30/2021</u>
A. Participant Data		
Number Included		
Actives	75	96
Service Retirees	245	219
Beneficiaries	52	51
Disability Retirees	4	4
Terminated Vested	<u>7</u>	<u>7</u>
Total	383	377
Total Projected Annual Payroll	\$5,922,743	\$8,196,459
Payroll Under Assumed Ret. Age	5,922,743	8,106,270
Annual Rate of Payments to:		
Service Retirees	15,192,248	13,535,011
Beneficiaries	1,151,256	1,081,316
Disability Retirees	129,281	129,281
Terminated Vested	208,638	208,638
B. Assets		
Actuarial Value	136,989,025	135,463,508
Market Value	132,104,695	156,692,679
C. Liabilities		
Present Value of Benefits (PVB)		
Actives		
Retirement Benefits	32,566,861	49,079,704
Disability Benefits	1,115,499	1,185,082
Death Benefits	249,645	279,393
Vested Benefits	724,426	741,939
Service Retirees ¹	169,893,263	150,273,679
Beneficiaries	10,297,147	9,786,116
Disability Retirees	1,728,148	1,725,266
Terminated Vested	<u>2,765,360</u>	<u>2,751,514</u>
Total	219,340,349	215,822,693

¹ Includes reserve for DROP balances. \$1,708,647 as of 6/30/2022 and \$563,530 as of 6/30/2021.

C. Liabilities - (Continued)	<u>6/30/2022</u>	<u>6/30/2021</u>
Present Value of Future Salaries	67,613,628	70,922,680
Normal Cost (Retirement)	1,320,825	1,845,919
Normal Cost (Disability)	74,012	84,998
Normal Cost (Death)	13,042	15,431
Normal Cost (Vesting)	<u>61,206</u>	<u>69,006</u>
Total Normal Cost (EAN)	1,469,085	2,015,354
Present Value of Future Normal Costs	14,937,095	15,920,040
Accrued Liability (Retirement)	19,229,676	34,706,020
Accrued Liability (Disability)	221,260	358,412
Accrued Liability (Death)	79,569	104,830
Accrued Liability (Vesting)	188,831	196,816
Accrued Liability (Inactives) ¹	<u>184,683,918</u>	<u>164,536,575</u>
Total Actuarial Accrued Liability	204,403,254	199,902,653
Unfunded Actuarial Accrued Liability (UAAL)	67,414,229	64,439,145
Funded Ratio (AVA / AL)	67.0%	67.8%

¹ Includes reserve for DROP balances. \$1,708,647 as of 6/30/2022 and \$563,530 as of 6/30/2021.

	<u>6/30/2022</u>	<u>6/30/2021</u>
D. Actuarial Present Value of Accrued Benefits		
Vested Accrued Benefits		
Inactives ¹	184,683,918	164,536,575
Actives	11,015,250	22,690,990
Member Contributions	<u>3,587,279</u>	<u>6,557,813</u>
Total	199,286,447	193,785,378
Non-vested Accrued Benefits	<u>1,739,237</u>	<u>2,442,499</u>
Total Present Value Accrued Benefits	201,025,684	196,227,877
Funded Ratio (MVA / PVAB)	65.7%	79.9%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
Plan Experience	6,948,135	
Benefits Paid	(15,803,956)	
Interest	13,653,628	
Other	<u>0</u>	
Total	4,797,807	

¹ Includes reserve for DROP balances. \$1,708,647 as of 6/30/2022 and \$563,530 as of 6/30/2021.

Valuation Date	6/30/2022	6/30/2021
Applicable to Fiscal Year Beginning	<u>7/1/2023</u>	<u>7/1/2022</u>

E. Pension Cost

Normal Cost ¹	\$1,575,594	\$2,161,467
% of Total Annual Payroll ¹	26.60	26.66
Administrative Expenses ¹	0	0
% of Total Annual Payroll ¹	0.00	0.00
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 17 years (as of 6/30/2022) ¹	5,568,961	5,108,343
% of Total Annual Payroll ¹	94.03	63.02
Total Recommended Contribution	7,144,555	7,269,810
% of Total Annual Payroll ¹	120.63	89.68
Expected Member Contributions ¹	(508,171)	(695,518)
% of Total Annual Payroll ¹	(8.58)	(8.58)
Expected City Contribution	6,636,384	6,574,292
% of Total Annual Payroll ¹	112.05	81.10

F. Past Contributions

Plan Years Ending:	<u>6/30/2022</u>
Total Recommended Contribution	7,337,638
City	6,568,459
Actual Contributions Made:	
Members (excluding buyback)	769,179
City	<u>6,568,459</u>
Total	7,337,638

G. Net Actuarial (Gain)/Loss 3,643,863

¹ Contributions developed as of 6/30/2022 displayed above have been adjusted to account for assumed interest.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Accrued Liability</u>
2022	67,414,229
2023	66,732,800
2024	65,807,053
2028	59,138,994
2032	46,196,294
2035	30,819,075
2039	0

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

		<u>Actual</u>	<u>Assumed</u>
Year Ended	6/30/2022	13.68%	6.52%
Year Ended	6/30/2021	11.38%	6.24%
Year Ended	6/30/2020	2.25%	6.12%

(ii) 3 Year Comparison of Investment Return on Actuarial Value

		<u>Actual</u>	<u>Assumed</u>
Year Ended	6/30/2022	7.70%	7.25%
Year Ended	6/30/2021	12.88%	7.25%
Year Ended	6/30/2020	6.69%	7.25%

DEVELOPMENT OF JUNE 30, 2022 AMORTIZATION PAYMENT

(1)	Unfunded Actuarial Accrued Liability as of June 30, 2021	\$64,439,145
(2)	Sponsor Normal Cost developed as of June 30, 2021	1,366,852
(3)	Expected administrative expenses for the year ended June 30, 2022	0
(4)	Expected interest on (1), (2) and (3)	4,770,935
(5)	Sponsor contributions to the System during the year ended June 30, 2022	6,568,459
(6)	Expected interest on (5)	238,107
(7)	Expected Unfunded Actuarial Accrued Liability as of June 30, 2022, (1)+(2)+(3)+(4)-(5)-(6)	63,770,366
(8)	Change to UAAL due to Assumption Change	0
(9)	Change to UAAL due to Actuarial (Gain)/Loss	3,643,863
(10)	Unfunded Accrued Liability as of June 30, 2022	67,414,229
(11)	UAAL Subject to Amortization (100% AAL less Actuarial Assets)	67,414,229

<u>Date</u> <u>Established</u>	<u>Years</u> <u>Remaining</u>	<u>6/30/2022</u> <u>Amount</u>	<u>Amortization</u> <u>Amount</u>
6/30/2022	17	67,414,229	5,192,504

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2021	\$64,439,145
(2) Expected UAAL as of June 30, 2022	63,770,366
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(594,807)
Salary Increases	1,301,418
Active Decrements	737,657
Inactive Mortality	640,750
Other	<u>1,558,845</u>
Change in UAAL due to (Gain)/Loss	3,643,863
Change to UAAL due to Assumption Change	<u>0</u>
(4) Actual UAAL as of June 30, 2022	\$67,414,229

RECONCILIATION OF CHANGES IN CONTRIBUTION REQUIREMENT

(1) Contribution Determined as of June 30, 2021	\$ 6,574,292
(2) Summary of Contribution Impact by component:	
Change in Normal Cost	(585,873)
Change in Assumed Administrative Expense	-
Investment Return (Actuarial Asset Basis)	(49,136)
Salary Increases	107,508
New Entrants	-
Active Decrements	60,936
Inactive Mortality	52,931
Contributions (More) or Less than Recommended	-
Increase in Amortization Payment Due to Payroll Growth Assumption	178,792
Change in Expected Member Contributions	187,347
Assumption Change	-
Other	<u>109,587</u>
Total Change in Contribution	62,092
(3) Contribution Determined as of June 30, 2022	\$6,636,384

FUNDING HISTORY

Valuation Date	Applicable Fiscal Year Beginning	Valuation Assets	Actuarial Accrued Liabilities	Funded Ratio	Unfunded Actuarial Accrued Liabilities ¹	Recommended Employer Contribution as a% of Payroll	Recommended Employer Contribution -
6/30/2003	7/1/2004	103,993,810	113,029,146	92.0%	9,035,336	2,497,495	20.32%
6/30/2004	7/1/2005	100,385,111	117,089,217	85.7%	16,704,106	2,943,025	24.94%
6/30/2005	7/1/2006	98,951,961	123,358,784	80.2%	24,406,823	4,023,065	29.95%
6/30/2006	7/1/2007	100,038,258	132,777,933	75.3%	32,739,675	4,977,904	35.18%
6/30/2007	7/1/2008	105,253,136	138,917,506	75.8%	33,664,370	5,483,018	36.61%
6/30/2008	7/1/2009	107,616,702	143,634,491	74.9%	36,017,789	5,613,904	38.19%
6/30/2009	7/1/2010	106,010,390	146,368,393	72.4%	40,358,003	5,917,992	40.58%
6/30/2010	7/1/2011	104,077,490	150,774,376	69.0%	46,696,886	6,059,600	45.04%
6/30/2011	7/1/2012	103,934,745	155,333,797	66.9%	51,399,052	6,070,834	48.85%
6/30/2012	7/1/2013	99,683,637	160,414,696	62.1%	60,731,059	5,145,379	63.36%
6/30/2013	7/1/2014	99,259,779	161,043,175	61.6%	61,783,396	5,409,465	56.03%
6/30/2014	7/1/2015	105,226,637	167,330,715	62.9%	62,104,078	5,588,834	55.44%
6/30/2015	7/1/2016	111,681,871	168,842,174	66.1%	57,160,303	5,190,370	53.87%
6/30/2016	7/1/2017	114,904,904	171,511,297	67.0%	56,606,393	4,987,980	60.76%
6/30/2017	7/1/2018	120,061,921	185,870,601	64.6%	65,808,680	6,344,603	68.89%
6/30/2018	7/1/2019	123,671,115	189,748,432	65.2%	66,077,317	6,314,749	77.62%
6/30/2019	7/1/2020	126,307,470	192,880,943	65.5%	66,573,473	6,416,342	78.37%
6/30/2020	7/1/2021	127,124,839	193,219,158	65.8%	66,094,319	6,568,459	79.10%
6/30/2021	7/1/2022	135,463,508	199,902,653	67.8%	64,439,145	6,574,292	81.10%
6/30/2022	7/1/2023	136,989,025	204,403,254	67.0%	67,414,229	6,636,384	112.05%

PROJECTION OF BENEFIT PAYMENTS

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2022	378,609	16,612,575	16,991,184
2023	672,014	16,456,004	17,128,018
2024	962,457	16,284,877	17,247,334
2025	1,185,192	16,098,165	17,283,357
2026	1,261,566	15,895,404	17,156,970
2027	1,419,785	15,676,351	17,096,136
2028	1,501,573	15,440,954	16,942,527
2029	1,564,893	15,189,068	16,753,961
2030	1,584,668	14,974,679	16,559,347
2031	1,589,280	14,689,915	16,279,195
2032	1,594,849	14,389,727	15,984,576
2033	1,602,323	14,074,709	15,677,032
2034	1,608,591	13,745,664	15,354,255
2035	1,616,035	13,403,583	15,019,618
2036	1,624,391	13,049,601	14,673,992
2037	1,749,297	12,684,964	14,434,261
2038	1,861,746	12,311,040	14,172,786
2039	2,161,687	11,929,307	14,090,994
2040	2,416,289	11,541,280	13,957,569
2041	2,819,841	11,148,441	13,968,282
2042	3,593,267	10,752,077	14,345,344
2043	4,193,343	10,353,299	14,546,642
2044	4,900,201	9,953,034	14,853,235
2045	5,652,668	9,551,941	15,204,609
2046	6,191,775	9,150,491	15,342,266
2047	6,591,654	8,748,986	15,340,640
2048	6,899,785	8,347,592	15,247,377
2049	7,122,430	7,946,366	15,068,796
2050	7,191,337	7,545,311	14,736,648
2051	7,184,344	7,144,417	14,328,761
2052	7,148,929	6,743,722	13,892,651
2053	7,102,250	6,343,399	13,445,649
2054	7,050,908	5,943,846	12,994,754
2055	6,994,857	5,545,746	12,540,603
2056	6,933,651	5,150,139	12,083,790
2057	6,866,749	4,758,410	11,625,159
2058	6,793,571	4,372,241	11,165,812
2059	6,713,511	3,993,551	10,707,062
2060	6,625,942	3,624,443	10,250,385
2061	6,530,233	3,267,140	9,797,373

ACTUARIAL ASSUMPTIONS AND METHODS

Interest Rate	7.25% per year compounded annually, net of investment related expenses.																																								
Mortality Rate	RP 2014 Combined Healthy Mortality Table. 100% of deaths are assumed to be non-duty.																																								
Retirement Age	See table later in this section.																																								
Disability Rate	See table later in this section. 90% of disabilities are assumed to be in the line of duty.																																								
Termination Rate	See table later in this section.																																								
Inflation	3.50%.																																								
Salary Increases	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Age</th> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Across the Board</th> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Merit and Longevity</th> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Total</th> </tr> </thead> <tbody> <tr><td>20</td><td>3.50%</td><td>4.50%</td><td>8.00%</td></tr> <tr><td>25</td><td>3.50%</td><td>4.51%</td><td>8.01%</td></tr> <tr><td>30</td><td>3.50%</td><td>4.09%</td><td>7.59%</td></tr> <tr><td>35</td><td>3.50%</td><td>2.60%</td><td>6.10%</td></tr> <tr><td>40</td><td>3.50%</td><td>1.70%</td><td>5.20%</td></tr> <tr><td>45</td><td>3.50%</td><td>1.70%</td><td>5.20%</td></tr> <tr><td>50</td><td>3.50%</td><td>1.70%</td><td>5.20%</td></tr> <tr><td>55</td><td>3.50%</td><td>1.60%</td><td>5.10%</td></tr> <tr><td>60</td><td>3.50%</td><td>1.50%</td><td>5.00%</td></tr> </tbody> </table>	Age	Across the Board	Merit and Longevity	Total	20	3.50%	4.50%	8.00%	25	3.50%	4.51%	8.01%	30	3.50%	4.09%	7.59%	35	3.50%	2.60%	6.10%	40	3.50%	1.70%	5.20%	45	3.50%	1.70%	5.20%	50	3.50%	1.70%	5.20%	55	3.50%	1.60%	5.10%	60	3.50%	1.50%	5.00%
Age	Across the Board	Merit and Longevity	Total																																						
20	3.50%	4.50%	8.00%																																						
25	3.50%	4.51%	8.01%																																						
30	3.50%	4.09%	7.59%																																						
35	3.50%	2.60%	6.10%																																						
40	3.50%	1.70%	5.20%																																						
45	3.50%	1.70%	5.20%																																						
50	3.50%	1.70%	5.20%																																						
55	3.50%	1.60%	5.10%																																						
60	3.50%	1.50%	5.00%																																						
Final Salary Load	Final salary is loaded 17% for police members and 10% for fire members to account for unused sick leave payouts.																																								
Marital Status	90% of Members are assumed to be married.																																								
Spouse's Age	Males are assumed to be three years older than females.																																								
Member Contribution Interest	2.00%.																																								
Funding Method	Entry Age Normal.																																								
Actuarial Asset Method	Investment gains and losses are smoothed over a five-year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of the Market Value of Assets.																																								

% Retiring
During the Year

Service	Corp/Patrol Hired			
	Other Police Age < 60 Rate	After 9/30/11 Age < 60 Rate	Fire Age < 60 Rate	All Age 60+ Rate
<20	N/A	N/A	N/A	100%
20	70%	N/A	70%	100%
21	20%	N/A	40%	100%
21	20%	N/A	30%	100%
23	20%	N/A	20%	100%
21	20%	N/A	20%	100%
25	100%	50%	50%	100%
26	100%	40%	50%	100%
27	100%	40%	50%	100%
28	100%	40%	50%	100%
29	100%	40%	50%	100%
30	100%	90%	100%	100%
31	100%	40%	100%	100%
32+	100%	100%	100%	100%

GLOSSARY

Total Annual Payroll is the projected annual rate of pay for the fiscal year following the valuation date of all covered members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded.

Unfunded Accrued Liability is the excess of the Accrued Actuarial Liability over the Actuarial Value of Assets.

Total Recommended Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over closed period (17 years as of June 30, 2022). The recommended amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

- (a) The normal cost accrual rate equals:
 - (i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by
 - (ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.
- (b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.
- (c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.
- (d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various assumption scenarios. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

- **Contribution Risk:** This risk results from the potential that actual employer contributions may deviate from actuarially determined contributions, which are determined in accordance with the Board’s funding policy. The funding policy is intended to result in contribution requirements that if paid when due, will result in a reasonable expectation that assets will accumulate to be sufficient to pay plan benefits when due. Contribution deficits, particularly large deficits and those that occur repeatedly, increase future contribution requirements and put the plan at risk for not being able to pay plan benefits when due.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature plans with a substantial inactive liability. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 38.7% on June 30, 2019 to 24.4% on June 30, 2022, indicating that the plan has been maturing.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 90.4%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors will need to be made up for over a shorter time horizon than would be needed for a less mature plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 65.5% on June 30, 2019 to 67.0% on June 30, 2022.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, decreased from -5.0% on June 30, 2019 to -6.5% on June 30, 2022. The current Net Cash Flow Ratio of -6.5% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>6/30/2022</u>	<u>6/30/2021</u>	<u>6/30/2020</u>	<u>6/30/2019</u>
<u>Support Ratio</u>				
Total Actives	75	96	105	103
Total Inactives	308	281	270	266
Actives / Inactives	24.4%	34.2%	38.9%	38.7%
 <u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	132,104,695	156,692,679	124,779,730	129,210,901
Total Annual Payroll	5,922,743	8,196,459	8,404,265	8,383,795
MVA / Total Annual Payroll	2,230.5%	1,911.7%	1,484.7%	1,541.2%
 <u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	184,683,918	164,536,575	156,802,053	153,571,506
Total Accrued Liability	204,403,254	199,902,653	193,219,158	192,880,943
Inactive AL / Total AL	90.4%	82.3%	81.2%	79.6%
 <u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	136,989,025	135,463,508	127,124,839	126,307,470
Total Accrued Liability	204,403,254	199,902,653	193,219,158	192,880,943
AVA / Total Accrued Liability	67.0%	67.8%	65.8%	65.5%
 <u>Net Cash Flow Ratio</u>				
Net Cash Flow ¹	(8,539,273)	(7,546,154)	(7,386,282)	(6,440,993)
Market Value of Assets (MVA)	132,104,695	156,692,679	124,779,730	129,210,901
Ratio	-6.5%	-4.8%	-5.9%	-5.0%

¹ Determined as total contributions minus benefit payments and administrative expenses.

STATEMENT OF FIDUCIARY NET POSITION
June 30, 2022

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents	3,544,580
Total Cash and Equivalents	3,544,580
Receivables:	
Accounts Receivable-Other	158,978
Accrued Interest and Dividends	68,871
Total Receivable	227,849
Investments:	
Fixed Income	5,172,361
Domestic and International Equities	81,775,720
Alternative Investments	41,384,185
Total Investments	128,332,266
Other Assets	0
Total Assets	132,104,695
 <u>LIABILITIES</u>	
Liabilities:	
Total Liabilities	0
Net Assets:	
Active and Retired Members' Equity	132,104,695
NET POSITION RESTRICTED FOR PENSIONS	132,104,695
TOTAL LIABILITIES AND NET ASSETS	132,104,695

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED June 30, 2022
Market Value Basis

ADDITIONS

Contributions:		
Member	769,179	
City	6,568,459	
Total Contributions		7,337,638
Investment Income:		
Miscellaneous Income	10,359	
Unrealized Gain (Loss)	(15,450,757)	
Net Increase in Fair Value of Investments		(15,440,398)
Interest & Dividends		0
Less Expenses ¹		(568,195)
Net Investment Income		(16,008,593)
Other		0
Total Additions		(8,670,955)

DEDUCTIONS

Distributions to Members:		
Benefit Payments	15,803,956	
Refunds	0	
Total Distributions		15,803,956
Administrative Expenses		72,955
Other		40,118
Total Deductions		15,917,029
Net Increase in Net Position		(24,587,984)
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		156,692,679
End of the Year		132,104,695

¹ Expenses include investment advisory, custodial and performance monitoring fees

ACTUARIAL ASSET VALUATION

June 30, 2022

Development of Actuarial Value of Assets

Market Value of Assets, 6/30/2022	132,104,695
(Gains)/Losses Not Yet Recognized	4,884,330
Preliminary Actuarial Value of Assets, 6/30/2022	136,989,025
6/30/2022 Limited Actuarial Assets, Total	136,989,025

Development of Investment Gain/Loss

Market Value of Assets, 6/30/2021	156,692,679
Actuarial Value of Assets, 6/30/2021	135,463,508
Contributions Less Benefit Payments and Administrative Expenses	(8,579,391)
Expected Investment Earnings ¹	9,510,101
Actual Net Investment Earnings	(16,008,593)
2022 Actuarial Investment Gain/(Loss)	(25,518,694)

¹ Expected Investment Earnings = 7.25% x (135,463,508 + 0.5 x -8,579,391)

Gains/(Losses) Not Yet Recognized

Plan Year	Gain/(Loss)	Amounts Not Yet Recognized by Valuation Year				
Ending		2022	2023	2024	2025	2026
6/30/2019	(2,026,319)	(405,264)	0	0	0	0
6/30/2020	(5,934,428)	(2,373,771)	(1,186,886)	0	0	0
6/30/2021	30,516,100	18,309,660	12,206,440	6,103,220	0	0
6/30/2022	(25,518,694)	(20,414,955)	(15,311,216)	(10,207,478)	(5,103,739)	0
Total		(4,884,330)	(4,291,662)	(4,104,258)	(5,103,739)	0

Development of Asset Returns

(A) 6/30/2021 Actuarial Assets:	135,463,508
(I) Net Investment Income:	
1. Change in Actuarial Value	10,662,744
2. Investment Expenses	(568,195)
Total	10,104,908
(B) 6/30/2022 Preliminary Actuarial Assets:	136,989,025
Actuarial Asset Rate of Return = (2 x I) / (A + B - I):	7.70%
Market Value of Assets Rate of Return:	-10.50%
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)	594,807

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
June 30, 2022
Actuarial Asset Basis

INCOME		
Contributions:		
Member	769,179	
City	6,568,459	
Total Contributions		7,337,638
Earnings from Investments		
Miscellaneous Income	10,359	
Change in Actuarial Value	10,662,744	
Total Earnings and Investment Gains		10,673,103
EXPENSES		
Administrative Expenses:		
Investment Related ¹	568,195	
Other	113,073	
Total Administrative Expenses		681,268
Distributions to Members:		
Benefit Payments	15,803,956	
Refunds	0	
Total Distributions		15,803,956
Change in Net Assets for the Year		1,525,517
Net Assets Beginning of the Year		135,463,508
Net Assets End of the Year		136,989,025
Excess Earnings Reserve		

¹ Investment Related expenses include investment advisory, custodial and performance monitoring fees.

STATISTICAL DATA

Valuation Date	<u>6/30/2022</u>	<u>6/30/2021</u>	<u>6/30/2020</u>	<u>6/30/2019</u>
<u>Actives</u>				
Number	75	96	105	103
Average Current Age	35.1	38.2	38.2	38.3
Average Age at Employment	26.8	25.9	25.8	25.6
Average Past Service	8.3	12.3	12.4	12.7
Average Annual Salary	\$74,023	\$80,450	\$75,405	\$76,800
<u>Service Retirees</u>				
Number	245	219	209	204
Average Current Age	63.5	64.3	64.1	N/A
Average Annual Benefit	\$62,009	\$61,804	\$61,233	\$66,736 ¹
DROP Retirees incl. in Retirees	24	6	2	1
<u>Beneficiaries</u>				
Number	52	51	50	47
Average Current Age	71.2	70.3	69.8	N/A
Average Annual Benefit	\$22,140	\$21,202	\$21,361	N/A
EDROs incl. in Beneficiaries	29	29	28	N/A
<u>Disability Retirees</u>				
Number	4	4	4	8
Average Current Age	62.4	61.4	60.4	N/A
Average Annual Benefit	\$32,320	\$32,320	\$32,320	N/A
<u>Terminated Vested</u>				
Number	7	7	7	7
Average Current Age	45.3	N/A	N/A	N/A
Average Annual Benefit	\$29,805	\$29,805	\$29,805	\$29,805

¹ 6/30/2019 Retiree average annual benefit amount includes retirees, beneficiaries and disabled.

AGE AND SERVICE DISTRIBUTION
TOTAL

AGE	PAST SERVICE											Total	Total Pay ¹
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+		
20 - 24	1	0	0	0	0	0	0	0	0	0	0	1	\$ 4,052
25 - 29	1	1	4	3	2	0	0	0	0	0	0	11	\$ 641,462
30 - 34	12	1	2	2	1	12	3	0	0	0	0	33	\$ 1,974,660
35 - 39	1	0	0	1	0	5	1	0	0	0	0	8	\$ 531,199
40 - 44	0	0	1	0	1	0	2	9	2	0	0	15	\$ 1,610,130
45 - 49	0	0	0	0	0	0	0	2	4	0	0	6	\$ 697,180
50 - 54	0	0	0	0	0	0	0	0	1	0	0	1	\$ 93,052
55 - 59	0	0	0	0	0	0	0	0	0	0	0	0	\$ 0
60 - 64	0	0	0	0	0	0	0	0	0	0	0	0	\$ 0
65+	0	0	0	0	0	0	0	0	0	0	0	0	\$ 0
Total	15	2	7	6	4	17	6	11	7	0	0	75	\$ 5,551,735

¹ Total Pay is salaries for the period ending 6/30/2022.

AGE DISTRIBUTION
 RETIREES, DISABLEDS AND BENEFICIARIES

AGE	Count	Annual Pensions	
< 45	12	\$	457,587
45 - 49	27	\$	1,833,356
50 - 54	41	\$	2,372,793
55 - 59	41	\$	2,650,574
60 - 64	23	\$	1,220,047
65 - 69	38	\$	1,977,737
70 - 74	34	\$	1,885,416
75 - 79	44	\$	1,797,734
80 - 84	22	\$	837,255
85 - 89	17	\$	463,539
90 - 94	1	\$	30,001
95 - 99	1	\$	10,589
100 +	0	\$	0
Total	301	\$	15,536,627

AGE DISTRIBUTION
INACTIVE VESTED MEMBERS

AGE	Count	Annual Pensions	
< 45	3	\$	79,314
45 - 49	3	\$	86,789
50 - 54	1	\$	42,534
Total	7	\$	208,638

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 6/30/2021	96
b. Terminations	
i. Vested (partial or full) with deferred benefits	0
ii. Non-vested or full lump sum distribution received	0
iii. Refunded	(9)
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	(9)
f. DROP	<u>(18)</u>
g. Continuing participants	60
h. New entrants	<u>15</u>
i. Total active life participants in valuation	75

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested <u>Deferred</u>	<u>Total</u>
a. Number prior valuation	219	51	4	7	281
Retired	9	0	0	0	9
DROP	18	0	0	0	18
Vested Deferred	0	0	0	0	0
Death, With Survivor	(1)	1	0	0	0
Death, No Survivor	0	0	0	0	0
Disabled	0	0	0	0	0
Refund of Contributions	0	0	0	0	0
Rehires	0	0	0	0	0
New EDROs	0	0	0	0	0
Data Corrections	0	0	0	0	0
Hired/Termed in Same Year	0	0	0	0	0
b. Number current valuation	245	52	4	7	308

SUMMARY OF CURRENT PLAN PROVISIONS

Plan	<p>The Plan is a single employer defined benefit pension plan that covers all eligible public safety employees of the City. The plan is administered by a Board of Trustees comprised of five members:</p> <ul style="list-style-type: none">a.) One police officer elected by plan members,b.) One firefighter elected by plan members,c.) Two members representing the City, andd.) The city treasurer.
Final Average Compensation (FAC)	<p>Highest 3 years out of last 10. Fire FAC will use base wages only and overtime is capped at \$3,000. Corporal/Patrol FAC shall be base wage plus a maximum of 240 hours of paid leave.</p>
Service Retirement	
Eligibility	<p>Corporal/Patrol hired prior to 10/1/2011 and Fire hired prior to August 1, 2012: Any age with 20 or more years of service or age 60 regardless of service.</p> <p>Corporal/Patrol hired after 9/30/2011: Age 50 with 25 or more years of service or age 60.</p> <p>Fire hired after August 1, 2021: Any age with 20 or more years of service or age 60 regardless of service.</p> <p>Police Command: Any age with 25 or more years of service or age 60 regardless of service.</p>
Annual Benefit	<p>Corporal/Patrol hired prior to 10/1/2011: Straight life pension equals 2.80% FAC times first 25 years of service, maximum of 70% of FAC.</p> <p>Police Command and Fire hired prior July 1, 2007: Straight life pension equals 2.80% of FAC times first 25 years of service plus 1.00% of FAC times years of service in excess of 25 years to a maximum of 75% of FAC.</p> <p>Fire hired on or after July 1, 2007 (and before August 1, 2012) and Corporal/Patrol hired after 9/30/2011: Straight life pension equals 2.25% of FAC times years of service.</p> <p>Fire hired on or after August 1, 2021: Straight life pension equals 2.25% of FAC times years of service to a maximum of 75% of FAC.</p>

Duty Disability Retirement

Eligibility	Payable upon the total and permanent disability of a member in the line of duty.
Benefit	To age 55: 50% of FAC. At age 55: Same as service retirement pension with service credit from date of disability to age 55.

Non-Duty Disability Retirement

Eligibility	Payable upon the total and permanent disability of a member with 5 or more years of service
Benefit	To Age 55: 1.50% of FAC times years of service. At Age 55: Same as service retirement pension.

Deferred Retirement

Eligibility	10 years of credited service.
Benefit	Computed as service retirement but based upon service, FAC and benefit provisions in effect at termination. Benefit begins at date retirement would have occurred had member remained in employment.

Duty Death in Service Survivor's Pension

Eligibility	Payable upon the expiration of a worker's compensation to the survivors of a member who died in the line of duty.
Benefit	Same amount that was paid by worker's compensation.

Non-Duty Death in Service Survivor's Pension

Eligibility	Payable to a surviving spouse, if any, upon the death of a member with 10 or more years of service.
Benefit	Fire: Spouse's pension equals 60% of the straight life pension. All others: Accrued straight life pension actuarially reduced in accordance with an Option I election

Death After Retirement Survivor's Pension

Eligibility	Payable to an eligible surviving spouse, if any, upon the death of a retired member who was receiving a straight life pension which was effective July 1, 1975 or later.
Annual Benefit:	Spouse's pension equals 60% of the straight life pension the deceased retiree was receiving.

Deferred Retirement Option Plan

Eligibility	Must be Police Command or member of the Taylor Professional Fire Fighters Associate Local 1252 hired before August 1, 2012. Members can elect DROP after earning 20 years of service. Fire members must earn 20 years on or before June 30, 2022.
Participation	Not to exceed 60 months.
Rate of Return	DROP Interest for each DROP Participant prior to termination of employment shall be equal to the rate paid to an employee who terminates their employment and withdraws their annuity in lieu of a retirement. Upon termination of employment, DROP Interest shall be credited at the same rate and in the same manner as interests is credited to an employee who withdraws their annuity and terminates employment in lieu of a retirement.
Member Contributions	8.00% of pay. Member contributions earn 2.00% interest.