City of Longmont “Old Hire” Police Officers’ Pension Plan

ACTUARIAL VALUATION REPORT AS OF
JANUARY 1, 2022

August 30, 2022

Mr. James Golden
Finance Director
City of Longmont
350 Kimbark Street
Civic Center Complex
Longmont, CO 80501

Re: Actuarial Valuation as of January 1, 2022 for the "Old Hire" Police Officers' Pension Plan

Dear Jim:

The results of the January 1, 2022 Annual Actuarial Valuation of the "Old Hire" Police Officers' Pension Plan are presented in this report.

Actuarial Valuation

The primary purposes of the valuation report are to determine the adequacy of the current employer contribution rate, to describe the current financial condition of the Plan, and to analyze changes in the Plan's condition. Historical information has also been provided on funding progress and other information.

Valuations are prepared annually, as of January 1st, the first day of the plan year.

Funded Status and Actuarially Determined Contribution (ADC)

As of the current valuation date, the Plan's surplus (the excess of assets over accrued liability) is $182,404. The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) increased from January 1, 2021. The funded ratio at the valuation date is 117.0%, while it was 107.9% as of the previous valuation date. 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.

The actuarially determined contribution remained at $0 due to the funded ratio staying above 100%.

Benefit Provisions

The actuarial valuation reflects the benefit and contribution provisions set forth in the Plan. It is the policy of the Plan sponsor to fund the actuarially determined contribution. Effective January 1, 2022, retirees and beneficiaries in pay status received a benefit increase of 5%.

Assumptions and Methods

Actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by the Plan's actuary. These assumptions are internally consistent and are reasonable based on the expected experience of the Plan.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Demographic Data and Asset Information

Member data for retired participants as well as asset information was supplied as of the current valuation date, by the staff. There are no active members. We have not subjected either information to any auditing procedures, but have examined both for reasonableness and consistency with the prior year's information.

Disclosures

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the 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, and changes in plan provisions or applicable law. Due to the many factors affecting a retirement system, users of this report should be aware that contributions made at the rate consistent with the current funding policy do not necessarily guarantee long-term benefit security.

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion the results presented also comply with the Plan as amended and restated, and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The signing actuaries are independent of the plan sponsor. Both are actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and Report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,
Gabriel, Roeder, Smith & Co.

Paul T. Wood, ASA, FCA, MAAA
Senior Consultant

Thomas Lyle, FSA, FCA, EA, MAAA
Consultant

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SECTION A

SUMMARY OF RESULTS

SUMMARY OF RESULTS

Valuation Date:	January 1, 2022	January 1, 2021
Membership		
• Number of		
- Active Members	0	0
- Retirees and Disableds	3	4
- Beneficiaries	4	4
- Terminated Vested	0	0
- Total	7	8
• Annualized Pay Rate	$0	$0
Assets		
• Market value	$1,255,398	$1,249,127
• Actuarial value	$1,255,398	$1,249,127
• Return on market value, prior year	11.80%	16.10%
• Contributions, prior year	$23,174	$33,413
• Contributions, prior year - 1	$33,413	$24,168
Actuarial Information		
• Actuarial accrued liability	$1,072,994	$1,158,075
• Unfunded actuarial accrued liability (UAAL)/(surplus)	($182,404)	($91,052)
• Actuarially determined city contribution	($26,165)	($13,061)
• Funded ratio	117.00%	107.90%
Gains/(Losses)		
• Asset experience	$55,048	$96,829
• Liability experience	57,054	116,441
• Assumption changes	0	0
• Provision changes	(51,095)	0
• Total	$61,007	$213,270

DEVELOPMENT OF EMPLOYER COST

		January 1, 2022 (1)	January 1, 2021 (2)
1.	Payroll	$0	$0
2.	Present value of future benefits		
	a. Retired and Disabled	$721,682	$847,727
	b. Beneficiaries	351,312	310,348
	c. Terminated Vested Members	0	0
	d. Active members	0	0
	e. Total	$1,072,994	$1,158,075
3.	Actuarial value of assets	$1,255,398	$1,249,127
4.	Unfunded actuarial accrued liability (UAAL) (Item 2e - Item 3)/(surplus)	($182,404)	($91,052)
5.	Normal Cost	$0	$0
6.	Amortization of UAAL[1]	($26,165)	($13,061)
7.	Actuarially determined City contribution for Fiscal Years Ending December 31, 2022 and 2021 (Item 5 + Item 6, not less than 0)	$0	$0

[1] Effective January 1, 2009, the amortization period was changed to the average life expectancy of the remaining group. As of January 1, 2021, the amortization period used is 9 years. As of January 1, 2022, the amortization period used is 9 years.

TOTAL EXPERIENCE GAIN OR LOSS

Item	Valuation as of January 1, 2022	January 1, 2021
-1	-2	-3
A. Calculation of actuarial liability gain or loss		
1. Actuarial Accrued Liability at beginning of period	$1,158,075	$1,367,389
2. Interest at 7.00% to Valuation Date	81,065	102,554
3. Benefit Payments with Interest to Valuation Date	(160,187)	(195,427)
4. Increase due to Benefit Enhancements at Valuation Date	51,095	0
5. Expected Accrued Liability (1. + 2. + 3. + 4.)	$1,130,048	$1,274,516
6. Actual Accrued Liability at Valuation Date	$1,072,994	$1,158,075
7. Liability Gain/(Loss) (5. - 6.)	**$57,054**	**$116,441**
B. Calculation of asset gain or loss		
1. Actuarial Value of Assets at beginning of period	$1,249,127	$1,221,472
2. Interest at 7.00% to Valuation Date	87,439	91,610
3. Contributions with Interest to Valuation Date	23,971	34,643
4. Benefit Payments with Interest to Valuation Date	(160,187)	(195,427)
5. Expected Actuarial Value of Assets (1. + 2. + 3. + 4.)	$1,200,350	$1,152,298
6. Actuarial Value of Assets at Valuation Date	$1,255,398	$1,249,127
7. Actuarial Asset Gain/(Loss) (6. - 5.)	**$55,048**	**$96,829**
C. Total Actuarial Gain/(Loss) (A.7. + B.7.)	**$112,102**	**$213,270**

PROJECTED CASH FLOWS

As of January 1, 2022

Plan Year Ending	Projected Benefit Payments		
	Actives	Retirees & Beneficiaries	Total
12/31/2022	$0	$148,113	$148,113
12/31/2023	0	142,124	142,124
12/31/2024	0	135,748	135,748
12/31/2025	0	129,007	129,007
12/31/2026	0	121,925	121,925
12/31/2027	0	114,535	114,535
12/31/2028	0	106,875	106,875
12/31/2029	0	98,992	98,992
12/31/2030	0	90,959	90,959
12/31/2031	0	82,875	82,875
12/31/2032	0	74,849	74,849
12/31/2033	0	66,985	66,985
12/31/2034	0	59,386	59,386
12/31/2035	0	52,139	52,139
12/31/2036	0	45,310	45,310
12/31/2037	0	38,954	38,954
12/31/2038	0	33,111	33,111
12/31/2039	0	27,809	27,809
12/31/2040	0	23,069	23,069
12/31/2041	0	18,895	18,895

SECTION B

HISTORICAL INFORMATION

SCHEDULE OF FUNDING PROGRESS

Valuation Date (1)	Actuarial Value of Assets (AVA) (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded Actuarial Accrued Liability/(Surplus) (UAAL) (3) - (2) (4)	Funded Ratio (2)/(3) (5)	Annual Covered Payroll (6)	UAAL as % of Payroll (4)/(6) (7)
January 1, 1994	$1,742,653	$2,862,688	$1,120,035	60.90%	$47,316	2367.10%
January 1, 1996	1,769,847	2,738,207	968,360	64.60%	N/A	N/A
January 1, 1998	2,171,618	2,616,424	444,806	83.00%	N/A	N/A
January 1, 2000	2,295,842	2,434,102	138,260	94.30%	N/A	N/A
January 1, 2002	2,273,272	2,342,332	69,060	97.10%	N/A	N/A
January 1, 2004	2,090,886	2,193,800	102,914	95.30%	N/A	N/A
January 1, 2006	2,157,079	1,877,805	(279,274)	114.90%	N/A	N/A
January 1, 2008	2,279,368	1,686,238	(593,130)	135.20%	N/A	N/A
January 1, 2010	1,918,903	1,601,285	(317,618)	119.80%	N/A	N/A
January 1, 2011	1,989,054	1,557,932	(431,122)	127.70%	N/A	N/A
January 1, 2012	1,786,561	1,518,107	(268,454)	117.70%	N/A	N/A
January 1, 2013	1,837,854	1,474,766	(363,088)	124.60%	N/A	N/A
January 1, 2014	1,946,775	1,789,672	(157,103)	108.80%	N/A	N/A
January 1, 2015	1,825,613	1,725,074	(100,539)	105.80%	N/A	N/A
January 1, 2016	1,568,021	1,669,921	101,900	93.90%	N/A	N/A
January 1, 2017	1,448,391	1,614,117	165,726	89.70%	N/A	N/A
January 1, 2018	1,463,253	1,472,002	8,749	99.40%	N/A	N/A
January 1, 2019	1,190,539	1,419,661	229,122	83.90%	N/A	N/A
January 1, 2020	1,221,472	1,367,389	145,917	89.30%	N/A	N/A
January 1, 2021	1,249,127	1,158,075	(91,052)	107.90%	N/A	N/A
January 1, 2022	1,255,398	1,072,994	(182,404)	117.00%	N/A	N/A

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ended (1)	Actual Employer Contribution (2)	Actuarially Determined Contribution (3)	Percentage Contributed (4)
December 31, 1994	N/A	$122,732	98.30%
December 31, 1996	N/A	116,453	105.40%
December 31, 1998	N/A	60,281	211.30%
December 31, 2000	N/A	21,958	664.60%
December 31, 2002	N/A	13,686	613.80%
December 31, 2004	N/A	28,583	293.90%
December 31, 2006	$62,000	0	N/A
December 31, 2008	64,000	0	N/A
December 31, 2010	34,508	0	N/A
December 31, 2011	24,080	0	N/A
December 31, 2012	20,000	0	N/A
December 31, 2013	27,418	0	N/A
December 31, 2014	50,000	0	N/A
December 31, 2015	0	0	N/A
December 31, 2016	0	13,810	0.00%
December 31, 2017	13,810	24,168	57.10%
December 31, 2018	24,168	1,276	1894.00%
December 31, 2019	24,168	33,413	72.30%
December 31, 2020	33,413	23,174	144.20%
December 31, 2021	23,174	0	N/A
December 31, 2022	N/A	0	N/A

NOTES TO HISTORICAL INFORMATION

The information presented in the historical schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	January 1, 2022
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar, open
Amortization period (expected future lifetime of remaining members)	9 Years
Asset valuation method	Market Value
Actuarial assumptions:	
Investment rate of return	7.00%
Payroll growth rate	0.00%
Cost-of-living adjustments	0.00%

SECTION C

MARKET VALUE OF ASSETS

FUND ASSETS

Item	Year Ending December 31, 2021	Year Ending December 31, 2020
(1)	(2)	(3)
1. Cash and cash equivalents	$ 139,382.00	$ 49,351.00
2. Receivables	$0	$0
3. Investments		
a. Short-term cash	$ 5,069.00	$ 11,543.00
b. Equities	193,884.00	203,638.00
c. Mutual funds	917,672.00	985,620.00
d. Total investments	$ 1,116,625.00	$ 1,200,801.00
4. Total assets	$ 1,256,007.00	$ 1,250,152.00
5. Liabilities		
a. Accounts payable	$ 609.00	$ 1,025.00
b. Securities purchased	0	0
c. Benefits payable	0	0
d. Total liabilities	$ 609.00	$ 1,025.00
6. Total market value of assets available for benefits (Item 4 - Item 5)	$ 1,255,398.00	$ 1,249,127.00

RECONCILIATION OF PLAN NET ASSETS

Item	Year Ending December 31, 2021	Year Ending December 31, 2020
(1)	(2)	(3)
1. Market value of assets at beginning of period	$ 1,249,127	$ 1,221,472
2. Revenue for the period		
a. Contributions paid into trust	$ 23,174	$ 33,413
b. Income		
i. Interest, dividends, and other income	$ 245,930	$ 191,432
ii. Net realized and unrealized gains (losses)	(103,981)	(4,585)
iii. Investment expenses	(2,868)	(3,032)
iv. Net income	$ 139,081	$ 183,815
c. Total revenue	$ 162,255	$ 217,228
3. Expenditures for the period		
a. Refunds and lump sum distributions	$ -	$ -
b. Benefit payments	154,859	188,487
c. Administrative and miscellaneous expenses	1,125	1,086
d. Total expenditures	$ 155,984	$ 189,573
4. Increase in net assets (Item 2c - Item 3d)	$ 6,271	$ 27,655
5. Market value of assets at end of period (Item 1 + Item 4)	$ 1,255,398	$ 1,249,127

SECTION D

MEMBERSHIP DATA

MEMBERSHIP DATA

	January 1, 2022	January 1, 2021
1. Active members		
a. Number	0	0
b. Total payroll	$0	$0
c. Average salary	$0	$0
d. Average age	0	0
e. Average service	0	0
2. Terminated vested members		
a. Number	0	0
b. Total annual deferred benefits	$0	$0
c. Average annual deferred benefit	$0	$0
d. Average age	0	0
3. Retirees & Beneficiaries		
a. Number	7	8
b. Total annual benefits	$150,681	$161,406
c. Average annual benefit	$21,526	$20,176
d. Average age	81.7	80.9

SECTION E

ACTUARIAL ASSUMPTIONS AND METHODS

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

1. Investment Return Rate — 7.00% per annum, compounded annually

2. Mortality Rates

   Healthy Lives (Retired and Surviving Spouses)

   Pub-2010, Amount-Weighted, Safety, Healthy Annuitant Mortality Table projected with Scale MP-2020.

	Deaths per 1,000 Lives (rates as of 2022)	
Age	Male Participants	Female Participants
50	1.884	1.461
55	2.974	2.511
60	4.856	4.27
65	8.202	7.177
70	14.102	12.004
75	28.26	22.95
80	51.03	39.62

   These mortality tables have a provision for future mortality improvement in the current assumption.

3. Marriage Assumption — 100% of participants are assumed to be married. Males are assumed to be three years older than females.

4. Assumed Expenses — None

5. Asset Valuation — Market Value

Actuarial Cost Method

1. The Entry Age Normal Method is used to determine Normal Cost, Accrued Actuarial Liability of the Plan and thereby the contribution. Under this method, the present value of each participant's expected benefits is determined, based on his age, service, and gender. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service or survivor's benefit. The present value of the expected future payments to retired participants and beneficiaries is the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.

2. The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of an accrued liability contribution.

3. The unfunded accrued liability contributions are determined by subtracting the current assets held from the present value of expected benefits to be paid from the Plan.

SECTION F

BENEFIT PROVISIONS

SUMMARY OF BENEFIT PROVISIONS

Current Plan

All current participants are either retired police officers or their beneficiaries.

Post-Retirement Death Benefits

If a retired Police officer dies, the surviving spouse shall receive, until death or remarriage, a monthly pension equal to one-half of the pension the Police officer was entitled to receive prior to death.

Escalation Benefits

None.

Eligibility

Participants in this plan are those whose employment commenced prior to April 8, 1978.

Increase to Retirees and Beneficiaries Effective January 1, 2022

Effective January 1, 2022, benefits in pay status to retirees and surviving spouses or dependent parents shall be increased. The increase shall be equal to 5% of the benefit amount in effect on January 1, 2021.

SECTION G

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY

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:

1. Investment risk – actual investment returns may differ from the expected returns;
2. 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;
3. 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, covered payroll, or other relevant contribution base;
4. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
5. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

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.

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY

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 members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	January 1, 2022	January 1, 2020
Ratio of net cash flows to market value of assets	-11%	-13%
Duration of the actuarial accrued liability	5.6	5.7

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.

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.