

JULY 1, 2020
ACTUARIAL VALUATION OF
THE CITY OF CRANSTON
FIRE AND POLICE DEPARTMENT
PENSION PLANS

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Report Summary:

<u>Highlights</u>	<u>July 1, 2019</u>	<u>July 1, 2020</u>
<u>Contributions</u>		
Funding Schedule FY 2021	\$21,457,078	
Funding Schedule FY 2022		\$21,532,474
<u>Funded Ratios</u>		
Attained Age Method	23.0%	22.9%
<u>Participants</u>		
Actives	19	11
Retirees and Beneficiaries	<u>425</u>	<u>418</u>
Total	444	429
<u>Payroll</u>		
Payroll of Active Members	\$2,259,516	\$1,504,269
Average Payroll	118,922	136,752
<u>Present Value of Future Benefits</u>		
Actives	23,606,204	14,537,972
Retirees, Beneficiaries, Disabilities and Inactives	<u>284,686,729</u>	<u>283,284,044</u>
Total	308,292,933	297,822,016
<u>Actuarial Value of Assets</u>		
Market Value of Assets without receivable	70,690,037	68,092,226
Market Value of Assets with receivable*	92,153,040	89,549,303
<u>Unfunded Actuarial Accrued Liabilities</u>	\$236,015,905	\$228,648,597

* The contribution receivable is the city FYE21 budgeted amount of \$21,457,077.

Introduction

The purpose of this report is to present the findings of an actuarial valuation as of July 1, 2020, of the City of Cranston Fire and Police Department Pension Plans for the purpose of funding the plan. Separate report was prepared for accounting and financial disclosure purposes.

The actuarial valuation is based on:

- Negotiated provisions with the Fire and Police unions as of July 1, 2020.
- Employee data provided by the City
- Asset information reported by the City of Cranston

During the last twelve months, the total unfunded actuarial accrued liability decreased by 3.1% to \$228,648,597. The decrease is greater than expected. There was an actuarial gain of \$4,036,415. Sources of (gains) and losses are as follows:

	<u>(Gain) / Loss</u>
Assets	4,455,011
Active - Retirements	(4,778,402)
Active - Terminations	-
Active - Mortality	3,647
Active - Disabilities	(41,816)
New Entrants	-
Salary	453,451
Inactive - Mortality and data adjustments	(3,782,367)
Benefit Payments	(345,758)
Other	(181)
Total (Gain) / Loss	<u>(4,036,415)</u>

Market Value of Plan Assets

The trust fund composition on a market value basis is shown below.

	<u>July 1, 2019</u>	<u>July 1, 2020</u>
Cash equivalents	\$220,191	\$358,204
PIMCO Bond Account	6	6
JMS Other Investments (REIT)	76,511	3,529
Janney Equities Stock/Options	39,531,754	39,116,094
Janney-Fx Inc Mutual Fund	22,770,309	19,334,312
JMS Taxable Dividends	5,174,837	5,629,867
JMS Account	<u>2,916,429</u>	<u>3,650,214</u>
Total Market Value	70,690,037	68,092,226
Contribution Receivable	<u>21,463,003</u>	<u>21,457,077</u>
Total Actuarial Value	\$92,153,040	\$89,549,303

Results of the Valuation

	<u>Fire</u>	<u>Police</u>	<u>Total</u>
1. Actuarial Liabilities			
(a) PVFB Actives	10,648,498	3,889,474	14,537,972
(b) PVFB Retirees	164,634,892	118,649,152	283,284,044
(c) Total	175,283,390	122,538,626	297,822,016
2. Market Value of Assets	43,081,738	25,010,488	68,092,226
3. Total Future Contributions	132,201,652	97,528,138	229,729,790
4. Unfunded Accrued Liability	131,445,587	97,203,010	228,648,597
5. Present Value of Future Normal Contributions	756,065	325,128	1,081,193
6. Present Value of Future Salary	3,885,756	1,691,003	5,576,759
7. Normal Contribution Rate	19.46%	19.23%	19.39%
8. Valuation Payroll	1,097,490	406,779	1,504,269
9. Normal Cost with Interest			
(a) Employees	142,222	50,204	192,426
(b) City	79,595	31,038	110,633
(c) Total (7. x 8.), plus interest	221,817	81,242	303,059
10. Asset Receivable	12,389,193	9,067,884	21,457,077
11. Adjusted UAL for FYE22	134,001,112	99,164,345	233,165,457
12. City Contribution to Amortize			
(a) Court Approved FYE42	11,687,781	5,992,152	17,679,933
(b) Opt Outs FYE37	617,659	3,124,248	3,741,907
(c) Total	12,305,440	9,116,400	21,421,840
13. Total Contribution	12,527,257	9,197,642	21,724,899
14. City Contribution FYE22	12,385,035	9,147,438	21,532,474

Due to different amortization period for the retirees that opted out of the Court approved agreement, Market Value of Assets were allocated in proportion of each group's accrued liability to the total accrued liability.

EXHIBITS

Exhibit 1 - Age/Service Distribution with Salary as of July 1, 2020

Attained Age	Service				Total
	25-29	30-34	35-39	40+	
< 20	0	0	0	0	0
	0	0	0	0	0
20-24	0	0	0	0	0
	0	0	0	0	0
25-29	0	0	0	0	0
	0	0	0	0	0
30-34	0	0	0	0	0
	0	0	0	0	0
35-39	0	0	0	0	0
	0	0	0	0	0
40-44	0	0	0	0	0
	0	0	0	0	0
45-49	0	0	0	0	0
	0	0	0	0	0
50-54	2	2	0	0	4
	92,624	93,705	0	0	93,164
55-59	0	0	5	0	5
	0	0	120,405	0	120,405
60-64	0	0	1	1	2
	0	0	117,399	137,108	127,254
65-69	0	0	0	0	0
	0	0	0	0	0
70+	0	0	0	0	0
	0	0	0	0	0
Total Employees	2	2	6	1	11
Average Salary	92,624	93,705	119,904	137,108	111,745

Exhibit 2 - Retiree Distribution as of July 1, 2020

Attained Age	Number of Employees			Total Monthly Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	0	0	0	0	0	0
50-54	5	7	12	8,639	16,129	24,769
55-59	7	56	63	24,012	228,727	252,739
60-64	10	73	83	26,426	329,694	356,120
65-69	11	61	72	34,304	281,874	316,178
70-74	12	59	71	41,549	274,704	316,253
75-79	14	36	50	52,365	156,454	208,819
80-84	9	19	28	32,504	84,107	116,611
85-89	13	13	26	38,964	60,379	99,343
90-94	7	5	12	20,214	22,157	42,371
95+	2	0	2	5,766	0	5,766
Total	90	329	419	284,744	1,454,225	1,738,969
Average (Age/Payment)	74.63	68.4	69.74	3,164	4,420	4,150
Frequency Percent	21.5	78.5	100	16.4	83.6	100

Exhibit 3 - Cash Flow

The following is a forecast of benefit payments, contribution income and investment returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Plan Assets - BOY
2021	\$24,834,736	\$192,426	\$21,457,077	\$1,433,201	\$68,092,226
2022	24,852,042	156,688	21,495,702	5,255,302	70,147,875
2023	24,815,667	132,594	21,529,909	5,419,499	72,414,210
2024	24,775,947	111,702	21,577,013	5,601,095	74,928,072
2025	25,083,566	85,824	21,631,220	5,788,868	77,350,418
2026	25,346,292	67,271	21,680,312	5,971,236	79,722,945
2027	25,549,077	51,038	21,742,099	6,152,573	82,119,578
2028	25,711,267	39,618	21,804,675	6,337,604	84,590,208
2029	25,846,104	29,529	21,880,655	6,530,113	87,184,401
2030	25,923,306	18,151	21,974,727	6,735,267	89,989,240
2031	25,942,390	10,148	22,060,397	6,959,119	93,076,514
2032	25,898,950	4,904	22,156,052	7,208,200	96,546,720
2033	25,806,899	2,489	22,332,525	7,492,658	100,567,492
2034	25,647,615	0	22,425,576	7,819,980	105,165,434
2035	25,431,512	0	22,520,489	8,195,269	110,449,680
2036	25,154,926	0	22,617,300	8,627,194	116,539,248
2037	24,815,436	0	22,716,048	9,125,251	123,565,111
2038	24,409,564	0	17,679,933	9,500,876	126,336,356
2039	23,936,330	0	17,679,933	9,738,141	129,818,100
2040	23,394,930	0	17,679,933	10,034,178	134,137,281
2041	22,784,053	0	17,679,933	10,399,064	139,432,226

EXHIBIT 4 - SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Fire and Police union contracts as of July 1, 2020, and does not take into account any subsequent changes.

1. Administration

The Pension Plan is administered by the City of Cranston.

2. Participation

Participation is mandatory for all full-time employees whose employment began prior to July 1, 1995.

3. Salary

Salary is defined as regular compensation plus Holiday Pay and Longevity. Salary does not include bonuses, overtime, severance pay, unused sick leave credit or other similar compensation.

4. Member Contributions

Member contributions vary depending upon their employment as follows:

	<u>Member Contribution Rate</u>
Firefighters	10.5% of Salary
Police	10.0% of Salary

5. Average Salary

Final salary is used to determine a participant's benefit.

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

Completion of 20 years of service

b. Benefit Amount:

A pension of 2½% of the member’s final salary for each year of service up to 20 years plus 2% of final salary for each year of service, up to 10 years, in excess of 20 years. An additional 5% of final compensation is added to the pension at age 55.

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed 10 or more years of creditable service is eligible for a deferred vested retirement benefit.

b. Benefit Amount:

The participant's accrued benefit is based on 2.5% per year of credited service up to 20 years, plus 2% per year (up to 10 years).

b. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions with credited interest.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 66 2/3rd% of annual salary.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related.

b. Benefit Amount:

The ordinary disability amount is 50% of the final salary.

11. Survivor Benefits

a. Eligibility:

Death in active service after 1 year of service or after termination with a deferred pension. (No service requirement if death is work related).

b. Benefit Amount:

A pension of 33 $\frac{1}{3}$ % of the member's final compensation is paid to his widow until she dies or remarries. The benefit increases to 67 $\frac{1}{2}$ % of final compensation if the member has 20 years of service. (The pension is 50% if death is work related). In the event of death after termination with a deferred pension, the widow receives 67 $\frac{1}{2}$ % of the deferred pension starting when the member would have been age 55.

12. Cost-of-Living Increases

For Court approved members, every other year COLA freeze for a ten year period, effective July 1, 2013. In years 11 and 12 a 1.5% COLA would apply and then a 3.0% COLA for each year thereafter. For others, No COLAs will be paid for a ten year period effective July 1, 2013. Upon the expiration of the ten year period, 3.0% annually thereafter, effective each July 1st.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the 66.5% Joint and Survivor Annuity form of benefit.

EXHIBIT 5 - ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

July 1, 2020.

3. Actuarial Cost Method

Attained Age Normal method with the UAAL funded on a closed period. For the Court approved plan provisions, the closed period is through FYE 2042. For the Opt Out plan the closed period is through FYE 2037. Amortization of the approved plan provisions is level dollar. The amortization of the Opt Out liability is increasing payments at 2% per year.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 7.9% per annum, net of investment management fees.

5. Cost-of-Living Increases

For Court approved members, every other year COLA freeze for a ten year period, effective July 1, 2013. In years 11 and 12 a 1.5% COLA would apply and then a 3.0% COLA for each year thereafter. For others, No COLAs will be paid for a ten year period effective July 1, 2013. Upon the expiration of the ten year period, 3.0% annually thereafter, effective each July 1st.

6. Salary Scale

The assumed annual rates for salary increases including longevity and holiday pay is 3%.

7. **Value of Investments**

Assets held by the fund are valued at market value as reported by the City. The actuarial value of assets is equal to the market value.

8. **Annual Rate of Withdrawal Prior to Retirement**

None

9. **Annual Rate of Mortality**

It is assumed that pre-retirement mortality is represented by the RP-2000 Blue Collar mortality table with Scale AA improvement to 2026. Post retirement mortality is represented by the RP-2000 White Collar Mortality Table, adjusted 115% for males, 95% for females, with Scale AA improvements on a generational basis. Mortality for disabled members is represented by the RP-2000 Blue Collar Mortality Table with Scale AA adjustment to 2026 and a setforward of 3 years.

10. Service Retirement

Based on expected experience, the assumed annual retirement rates are illustrated at the following ages and years of service. It is assumed that retirement will take place at age 65, regardless of service.

<u>Service</u>	<u>Rate</u>
20	0.20
21	0.04
22	0.04
23	0.04
24	0.04
25	0.15
26	0.10
27	0.10
28	0.10
29	0.05
30	0.20

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following rates at the following ages:

<u>Attained Age</u>	
20	0.0012
30	0.0022
40	0.0044
50	0.0121

In addition, it is assumed for the 7.5% of all disabilities are assumed to be ordinary and 92.5% are service connected.

12. Family Composition

It is assumed that 80% of all male members and 80% of all female members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

No provisions are made for administrative expenses.

14. Definition of Salary

Regular pay plus a 20.04% holiday/longevity load (8.14% for holiday and 11% for longevity).

EXHIBIT 6 - GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Pension Plan such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

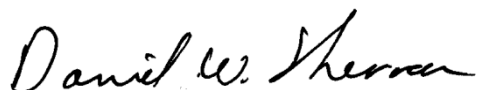
This report fairly represents the actuarial position of the City of Cranston Fire and Police Department Pension Plans contributing as of July 1, 2020, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded status measure is appropriate for assessing the need for or the amount of future contributions. The funded status measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the pension area. Based on over thirty years of performing valuations of similar complexity, Mr. Sherman is qualified by experience. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein

Sherman Actuarial Services, LLC



Daniel W. Sherman, ASA, MAAA

August, 2020