

**JULY 1, 2021**  
**ACTUARIAL VALUATION OF**  
**THE CITY OF CRANSTON**  
**FIRE AND POLICE DEPARTMENT**  
**PENSION PLANS**

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<b><u>Highlights</u></b>	<b><u>July 1, 2020</u></b>	<b><u>July 1, 2020</u></b>
<b><u>Contributions</u></b>		
Funding Schedule FY 2022	\$21,532,474	
Funding Schedule FY 2023		\$20,827,416
<b><u>Funded Ratios</u></b>		
Attained Age Method	22.9%	27.2%
<b><u>Participants</u></b>		
Actives	11	9
Retirees and Beneficiaries	<u>418</u>	<u>412</u>
Total	429	421
<b><u>Payroll</u></b>		
Payroll of Active Members	\$1,504,269	\$1,266,219
Average Payroll	136,752	140,691
<b><u>Present Value of Future Benefits</u></b>		
Actives	14,537,972	12,396,231
Retirees, Beneficiaries, Disabilities and Inactives	<u>283,284,044</u>	<u>287,257,712</u>
Total	297,822,016	299,653,943
<b><u>Actuarial Value of Assets</u></b>		
Market Value of Assets without receivable	68,092,226	81,407,673
Market Value of Assets with receivable*	89,549,303	102,940,146
<b><u>Unfunded Actuarial Accrued Liabilities</u></b>	\$228,648,597	\$217,346,987

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

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## Introduction

The purpose of this report is to present the findings of an actuarial valuation as of July 1, 2021, 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, 2021.
- 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 4.9% to \$217,346,987. The decrease is greater than expected. There was an actuarial gain of \$8,068,679. Sources of (gains) and losses are as follows:

	<u>(Gain) / Loss</u>
Assets	(11,832,341)
Active - Retirements	(3,166,796)
Active - Terminations	-
Active - Mortality	2,374
Active - Disabilities	(29,584)
New Entrants	-
Salary	65,133
Inactive - Mortality and data adjustments	7,038,552
Benefit Payments	(145,823)
Other	(194)
Total (Gain) / Loss	<u>(8,068,679)</u>

**Market Value of Plan Assets**

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

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	<u>July 1, 2020</u>	<u>July 1, 2021</u>
Cash equivalents	\$358,204	\$713,315
PIMCO Bond Account	6	6
JMS Other Investments (REIT)	3,529	0
Janney Equities Stock/Options	39,116,094	54,374,441
Janney-Fx Inc Mutual Fund	19,334,312	21,650,212
JMS Taxable Dividends	5,629,867	2,219,442
JMS Account	<u>3,650,214</u>	<u>2,450,257</u>
Total Market Value	68,092,226	81,407,673
Contribution Receivable	<u>21,457,077</u>	<u>21,532,473</u>
Total Actuarial Value	<u>\$89,549,303</u>	<u>\$102,940,146</u>

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**Results of the Valuation**

	<u>Fire</u>	<u>Police</u>	<u>Total</u>
1. Actuarial Liabilities			
(a)    PVFB Actives	8,348,451	4,047,780	12,396,231
(b)    PVFB Retirees	168,601,823	118,655,889	287,257,712
(c)    Total	176,950,274	122,703,669	299,653,943
2. Market Value of Assets	51,531,714	29,875,959	81,407,673
3. Total Future Contributions	125,418,560	92,827,710	218,246,270
4. Unfunded Accrued Liability	124,842,296	92,504,691	217,346,987
5. Present Value of Future Normal Contributions	576,264	323,019	899,283
6. Present Value of Future Salary	3,016,144	1,679,278	4,695,422
7. Normal Contribution Rate	19.11%	19.24%	19.15%
8. Valuation Payroll	849,902	416,317	1,266,219
9. Normal Cost with Interest			
(a) Employees	110,139	51,381	161,520
(b) City	58,535	31,803	90,338
(c ) Total (7. x 8.), plus interest	168,674	83,184	251,858
10. Asset Receivable	12,385,035	9,147,438	21,532,473
11. Adjusted UAL for FYE23	126,581,851	93,813,134	220,394,985
12. City Contribution to Amortize			
(a) Court Approved FYE42	11,283,856	5,758,779	17,042,636
(b) Opt Outs FYE37	590,028	3,104,414	3,694,442
(c) Total	11,873,884	8,863,194	20,737,078
13. Total Contribution	12,042,558	8,946,378	20,988,936
14. City Contribution FYE23	11,932,420	8,894,996	20,827,416

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, 2021

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	0	2	0	0	2
	0	95,223	0	0	95,223
55-59	1	0	3	2	6
	94,582	0	115,686	140,611	120,477
60-64	0	0	1	0	1
	0	0	121,365	0	121,365
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	1	2	4	2	9
Average Salary	94,582	95,223	117,105	140,611	114,964

## Exhibit 2 - Retiree Distribution as of July 1, 2021

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	3	4	7	4,791	12,402	17,193
55-59	7	47	54	19,823	200,157	219,980
60-64	11	80	91	27,326	370,532	397,859
65-69	10	52	62	31,943	248,758	280,701
70-74	12	69	81	36,768	329,397	366,165
75-79	17	33	50	61,381	141,563	202,944
80-84	10	19	29	42,481	90,933	133,414
85-89	14	10	24	39,227	42,845	82,072
90-94	7	5	12	20,640	24,858	45,498
95+	2	0	2	4,231	0	4,231
Total	93	319	412	288,611	1,461,447	1,750,057
Average (Age/Payment)	75.33	68.80	70.27	3,103	4,581	4,248
Frequency Percent	22.6	77.4	100	16.5	83.5	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
2022	\$24,960,536	\$161,520	\$21,532,473	\$14,829,958	\$81,407,673
2023	24,981,737	136,397	20,799,271	6,274,424	83,636,027
2024	24,939,739	114,033	20,842,509	6,452,900	86,105,731
2025	25,316,019	96,140	20,891,112	6,634,616	88,411,580
2026	25,635,015	73,240	20,947,909	6,805,731	90,603,445
2027	25,860,491	54,036	21,002,209	6,971,511	92,770,710
2028	26,059,423	44,635	21,054,767	7,136,689	94,947,378
2029	26,233,965	33,464	21,133,276	7,304,492	97,184,645
2030	26,343,213	19,805	21,221,970	7,479,910	99,563,117
2031	26,388,434	10,146	21,304,601	7,668,885	102,158,314
2032	26,350,146	3,624	21,405,885	7,879,061	105,096,738
2033	26,272,828	2,922	21,415,915	8,114,554	108,357,301
2034	26,122,947	0	21,636,210	8,386,369	112,256,933
2035	25,913,783	0	21,728,081	8,706,105	116,777,336
2036	25,641,898	0	21,821,790	9,077,383	122,034,612
2037	25,305,065	0	21,917,373	9,509,464	128,156,384
2038	24,899,979	0	17,042,636	9,819,888	130,118,929
2039	24,425,864	0	17,042,636	9,993,301	132,729,002
2040	23,881,730	0	17,042,636	10,220,581	136,110,489
2041	23,265,950	0	17,042,636	10,511,580	140,398,754
2042	22,579,993	0	17,042,636	10,876,933	145,738,330

## **EXHIBIT 4 - SUMMARY OF PLAN PROVISIONS:**

This summary is prepared in accordance with Fire and Police union contracts as of July 1, 2021, 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:

	<b><u>Member Contribution Rate</u></b>
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, 2021.

### **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:

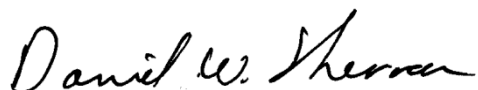
This report fairly represents the actuarial position of the City of Cranston Fire and Police Department Pension Plans contributing as of July 1, 2021, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions 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

July, 2021