

**JULY 1, 2020**  
**ACTUARIAL VALUATION OF**  
**THE POST RETIREMENT BENEFITS PLAN**  
**OF**  
**THE CITY OF CRANSTON FIRE AND POLICE**

**August, 2020**

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## SECTION I - OVERVIEW

The City of Cranston Fire and Police has engaged Sherman Actuarial Services, LLC (SAS) to prepare an actuarial valuation of their post-retirement benefits program as of July 1, 2020. This valuation was performed using employee census data, enrollment data, premiums, participant contributions and plan provision information provided by personnel of the City of Cranston Fire and Police. SAS did not audit these data, although they were reviewed for reasonability. The results of the valuation are dependent on the accuracy of the data.

The purposes of the valuation are to analyze the current funded position of the City's post-retirement benefits program and determine the level of contributions necessary to assure sound funding of the program.

Section II provides a summary of the principal valuation results. Section IV provides a projection of expense and funding amounts.

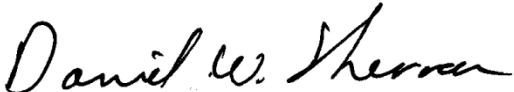
While the actuary believes that the assumptions are reasonable for financial reporting purposes, it should be understood that there is a range of assumptions that could be deemed reasonable that would yield different results. Moreover, while the actuary considers the assumption set to be reasonable based on prior plan experience, it should be understood that future plan experience may differ considerably from what has been assumed.

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 twenty years of performing FAS 106 valuations of similar complexity, Mr. Sherman is qualified by experience in retiree medical valuation. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The costs and actuarial exhibits presented in this report have been prepared in accordance with American Academy of Actuaries Standard of Practice. I am available to answer questions about this report.

Respectfully Submitted,

SHERMAN ACTUARIAL SERVICES, LLC



August, 2020

\_\_\_\_\_  
Daniel Sherman, ASA, MAAA

\_\_\_\_\_  
Date

## SECTION II - SUMMARY

	Full Prefunding 7.9%	Full Prefunding 7.9%
a) Actuarial valuation date	July 1, 2019	July 1, 2020
b) Actuarial Value of Assets	\$ 8,622,937	\$ 9,120,601
c) Actuarial Accrued Liability		
Active participants	\$ 13,993,969	\$ 13,883,095
Retired participants	<u>29,340,705</u>	<u>33,071,438</u>
Total AAL	\$ 43,334,674	\$ 46,954,533
d) Unfunded Actuarial Liability "UAL" [ c - b ]	\$ 34,711,737	\$ 37,833,932
e) Funded ratio [ b / c ]	19.9%	19.4%
f) Annual covered payroll	\$ 24,825,724	\$ 24,825,724
g) UAL as percentage of covered payroll	139.8%	152.4%
h) Normal Cost for fiscal year	\$ 880,068	\$ 910,189
i) Amortization of UAL for fiscal year	2,864,386	3,271,948
j) Interest to the end of the fiscal year	295,812	330,389
k) Annual Required Contribution "ARC" for fiscal year 2021 & 2022 [ h + i + j ]	\$ 4,040,266	\$ 4,512,526
l) Estimated claims cost	4,049,893	4,799,473

\* 15-year amortization, increasing 3.75% per year for FYE20

**SECTION III - MEDICAL PREMIUMS****Monthly Premiums effective July 1, 2020**

Health benefits are available to employees and retirees through several plans. The following are gross monthly rates per subscriber for plans in which most current City employees and/or retirees are enrolled:

Health Mate Fire - Individual	873.43
Health Mate Fire - Family	2,103.07
Health Mate Police - Individual	853.15
Health Mate Police - Family	2,052.86
Blue Cross Classic Police and Fire - Individual	879.76
Blue Cross Classic Police and Fire - Family	2,246.52
United Health Care Police and Fire – Individual	921.90
United Health Care Police and Fire - Family	2,524.15

The city pays a portion of the medical premium for retiree only until the retiree reaches age 65. The retiree pays the full premium for Medicare coverage. Costs for dependent coverage are paid for by the retiree after age 65.

## **SECTION IV – SCHEDULE OF EMPLOYER CONTRIBUTIONS**

Amortization of the unfunded actuarial liability is to be based on a schedule that extends no longer than 30 years. The contribution towards the amortization of the unfunded actuarial liability may be made in level payments or in payments increasing at the same rate as salary increases. There is no requirement to actually fund the Annual Required Contribution, however.

The normal cost is expected to increase at the same rate as the assumed ultimate health care trend rate. The contributions were computed assuming that the contribution is paid at the end of the fiscal year. Projected benefit payments/employer contributions reflect only the benefit for those individuals now employed or retired, not any future entrants.

## SECTION IV – SCHEDULE OF EMPLOYER CONTRIBUTIONS

## Prefunding Basis – 7.9%

Fiscal Year <u>Ending In</u>	<u>Normal Cost</u>	Amortization <u>of UAL</u>	<u>ADC*</u>	Estimated <u>Premium Cost</u>
2021	982,094	3,530,432	4,512,526	4,049,893
2022	982,094	3,530,432	4,512,526	4,799,473
2023	1,026,288	3,662,823	4,689,111	4,950,035
2024	1,072,471	3,800,179	4,872,650	5,122,948
2025	1,120,732	3,942,686	5,063,418	5,247,573
2026	1,171,165	4,090,537	5,261,702	5,065,622
2027	1,223,867	4,243,932	5,467,799	5,293,575
2028	1,278,941	4,403,079	5,682,020	5,531,786
2029	1,336,493	4,568,194	5,904,687	5,780,717
2030	1,396,635	4,739,501	6,136,136	6,040,849
2031	1,459,484	4,917,232	6,376,716	6,312,687
2032	1,525,161	5,101,628	6,626,789	6,596,758
2033	1,593,793	5,292,939	6,886,732	6,893,612
2034	1,665,514	5,491,424	7,156,938	7,203,825
2035	1,740,462	5,697,352	7,437,814	7,527,997
2036	1,818,783	-	1,818,783	7,866,757
2037	1,900,628	-	1,900,628	8,220,761
2038	1,986,156	-	1,986,156	8,590,695
2039	2,075,533	-	2,075,533	8,977,276
2040	2,168,932	-	2,168,932	9,381,254
2041	2,266,534	-	2,266,534	9,803,410
2042	2,368,528	-	2,368,528	10,244,564
2043	2,475,112	-	2,475,112	10,705,569
2044	2,586,492	-	2,586,492	11,187,320
2045	2,702,884	-	2,702,884	11,690,749
2046	2,824,514	-	2,824,514	12,216,833
2047	2,951,617	-	2,951,617	12,766,590
2048	3,084,440	-	3,084,440	13,341,087
2049	3,223,240	-	3,223,240	13,941,436
2050	3,368,286	-	3,368,286	14,568,800
2051	3,519,859	-	3,519,859	15,224,396

\* Actuarially Determined Contribution



## SCHEDULE A – ACTIVE DISTRIBUTION

Age/Service Distribution as of July 1, 2020

Attained Age	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
< 20	0	0	0	0	0	0	0	0	0
20-24	7	0	0	0	0	0	0	0	7
25-29	21	3	0	0	0	0	0	0	24
30-34	24	33	5	0	0	0	0	0	62
35-39	10	14	21	5	0	0	0	0	50
40-44	4	4	8	22	1	0	0	0	39
45-49	1	4	6	24	25	0	0	0	60
50-54	0	2	1	11	25	12	0	0	51
55-59	0	1	1	5	5	16	5	0	33
60-64	0	0	0	2	1	6	1	1	11
65-69	0	0	0	0	1	1	0	0	2
70+	0	0	0	0	0	0	0	0	0
<b>Total Employees</b>	<b>67</b>	<b>61</b>	<b>42</b>	<b>69</b>	<b>58</b>	<b>35</b>	<b>6</b>	<b>1</b>	<b>339</b>

## SCHEDULE B – RETIREE DISTRIBUTION

Retiree Distribution as of July 1, 2020

Number of Employees			
Attained Age	Female	Male	Total
< 20	0	0	0
20-24	0	0	0
25-29	0	0	0
30-34	2	1	3
35-39	3	1	4
40-44	4	2	6
45-49	12	10	22
50-54	31	18	49
55-59	52	69	121
60-64	32	75	107
65-69	4	7	11
70-74	0	8	8
75-79	1	2	3
80-84	1	3	4
85-89	0	1	1
90-94	0	1	1
95+	0	0	0
<b>Total</b>	<b>142</b>	<b>198</b>	<b>340</b>

## SCHEDULE C - ACTUARIAL ASSUMPTIONS AND METHODS

### *Interest:*

Full Prefunding: 7.90% per year, net of investment expenses

### *Actuarial Cost Method:*

Projected Unit Credit. Benefits are attributed ratably to service from date of hire until full eligibility date. Full eligibility date is assumed to be first eligibility for retiree medical benefits.

### *Healthcare Cost Trend Rate:*

<u>Year</u>	<u>Inflation Rate</u>
2020 & after	5.0%

### *Amortization Period:*

16-year level percent of pay assuming 3.75% aggregate annual payroll growth, closed basis.

### *Participation:*

85% of future police retirees are assumed to participate in the retiree medical plan and dental plan. 15% are assumed to elect coverage elsewhere and receive a buyback from the City.

### *Marital Status:*

85% of male employees and 65% of female employees are assumed to have a covered spouse at retirement. Wives are assumed to be three years younger than their husbands.

### *Pre-Age 65 Retirees*

Current retirees who are under age 65 are assumed to remain in their current medical plan until age 65. Current active employees who are assumed to retire prior to age 65 are valued with a weighted-average premium. This weighted-average premium is based on the medical plan coverage of current retirees under age 65.

***Post-Age 65 Retirees***

Current retirees over age 65 remain in their current medical plan until death for purposes of measuring their contributions. It is assumed that future retirees are Medicare eligible. It is furthermore assumed that all current retirees over 65 will participate in the Medicare Supplement plan in the same proportion as current retirees over 65. Per capita costs were developed from the City developed monthly costs. Post-65 costs are borne by the retiree. Amounts to be received in the future for the Medicare Part D Retiree Drug Subsidy are not reflected in the valuation.

***Termination Benefit:***

No benefits will payable for terminations prior to retirement eligibility.

***Medical Plan Costs:***

The estimated gross per capita incurred claim costs for all retirees and beneficiaries for 2020 are based on current costs and age-weighted adjustments. Sample costs are shown in the following table.

<u>Age</u>	
50	\$11,843
55	\$13,863
60	\$16,386
64	\$18,949

It is assumed that future retirees participate in the same manner as current retirees. Employee cost sharing is based on current rates. Future cost sharing is based on the weighted average of the current cost sharing of retirees and beneficiaries.

***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 set forward of 3 years.

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

None.

***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

***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.

***Age-based Morbidity:***

Medical costs are adjusted to reflect expected cost increases related to age.  
The increase in the net costs assumed to be:

<u>Age</u>	<u>Annual Increase Retiree</u>
49 and below	2.6%
50-54	3.2%
55-59	3.4%
60-64	3.7%
65-69	3.2%
70-74	2.4%
75-79	1.8%
80 and over	0.0%

## SCHEDULE D - SUMMARY OF PROGRAM PROVISIONS

***Retirement Medical Insurance:*** Retirees may choose from Healthmate, Blue Cross Classic, or United Health. Retirees pay a share of their post-retirement medical costs. The portion of costs paid by the retirees varies from 0% to 20%. All retirees, beneficiaries and active employees are eligible for participation until age 65.

***Retirement Life Insurance:*** Police retirees are entitled to a City paid life insurance benefit of \$17,000 if they retired after July 1, 1982. Firemen retiring after July 1, 1981 are eligible for the \$17,000 benefit. Fire retirees retired between July 1, 2002 and June 30, 2007 are entitled to a City paid life insurance benefit of \$20,000 and if a fireman retires after July 1 2007, a \$25,000 life insurance benefit is payable.

In addition to the above, firefighters who retire with an occupational injury or illness receive a City paid life insurance benefit of \$50,000 if death occurs within 3 years of his/her retirement date.

***Retirement Dental Insurance:*** Retirees may choose Delta Dental. Retirees pay the cost of their post-retirement dental costs.

***Spousal Coverage:*** Current and future retirees may elect to include their spouses as part of their post-retirement benefits. The City subsidizes the cost through to age 65.

***Administrative Costs:*** The City pays administrative costs for each member of the plan as part of the monthly premium.

***Retirement Eligibility:*** 20 years of service.

***Disability Eligibility:*** Firefighters: 5 years of service for individual, 10 years for family.

Police: No service requirement

***Active Contributions:*** Active Police contribute at an annual rate of \$500, \$550, and \$600 for the years beginning July 1, 2020, 2021 and 2022, respectively. Active Fire contribute at an annual rate of \$550 and \$600 for the years beginning July 1, 2020 and 2021, respectively.

**SCHEDULE E - CONSIDERATIONS OF HEALTH CARE REFORM**

**Early Retiree Reinsurance Program ("ERRP") - Effective June 1, 2011:** Due to the short-term nature of the payments expected to be received under this program, we do not reflect this program in long-term liabilities.

**Removal of Lifetime Maximum:** The elimination of the lifetime maximums would have no impact on the retiree health plan obligations since, as far as we are aware, the plan has no lifetime maximums.

**Medicare Advantage Plans - Effective January 1, 2011:** The law provides for reductions to the amounts that would be provided to Medicare Advantage plans starting in 2011. Since the City does not offer these plans, the reductions would have no impact.

**Expansion of Child Coverage to Age 26:** Since few retirees cover children on retiree health plans, this provision will likely have a relatively small effect on the gross benefit cost. We have reflected an estimate of the amount of additional cost by assuming a higher healthcare trend rate.

**Medicare Part D Subsidy - Shrinking Medicare Prescription Drug "Donut Hole"- Starting January 1, 2011:** RDS payments are not reflected as an ongoing offsetting item in valuations, and so no direct impact is reflected. RDS actuarial equivalence testing does not reflect the new donut hole shrinking Part D benefits. Thus, the changes to Medicare Part D have no impact on the calculations.

**Excise Tax on High-Cost Employer Health Plans (aka Cadillac Tax) - Effective January 1, 2022:** No impact.

**Other:** We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.



## SCHEDULE F - GLOSSARY OF TERMS

### **Actuarial Accrued Liability**

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of OPEB benefits and expenses which is not provided for by future Normal Costs and therefore is the value of benefits already earned.

### **Actuarial assumptions**

Assumptions as to the occurrence of future events affecting OPEB costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided OPEB benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

### **Actuarial cost method**

A procedure for determining the Actuarial Present Value of OPEB benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

### **Actuarial experience gain or loss**

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

### **Amortization (of unfunded actuarial accrued liability)**

That portion of the OPEB plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability.

### **Annual OPEB cost**

An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan.

### **Annual required contributions of the employer (ARC)**

The employer's periodic expense to a defined benefit OPEB plan, calculated in accordance with the parameters. It is the value of the cash contributions for a funded plan and the value of the expense entry in the profit and loss section of the financial statements.

### **Closed amortization period (closed basis)**

A specific number of years that is counted from one date and, therefore, declines to zero with the passage of time. For example, if the amortization period initially is thirty years on a closed basis, twenty-nine years remain after the first year, twenty-eight years after the second year, and so forth. In contrast, an open amortization period (open basis) is one that begins again or is recalculated at each actuarial valuation date. Within a maximum number of years specified by law or policy (for example, thirty years), the period may increase, decrease, or remain stable.

### **Covered payroll**

Annual compensation paid to active employees covered by an OPEB plan. If employees also are covered by a pension plan, the covered payroll should include all elements included in compensation on which contributions to the pension plan are based. For example, if pension contributions are calculated on base pay including overtime, covered payroll includes overtime compensation.

### **Defined benefit OPEB plan**

An OPEB plan having terms that specify the benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

### **Funded ratio**

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

## SCHEDULE F - GLOSSARY OF TERMS

### **Funding policy**

The program for the amounts and timing of contributions to be made by plan members, employer(s), and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by an OPEB plan.

### **Healthcare cost trend rate**

The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

### **Investment return assumption (discount rate)**

The rate used to adjust a series of future payments to reflect the time value of money.

### **Level dollar amortization method**

The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.

### **Level percentage of projected payroll amortization method**

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level.

### **Net OPEB Obligation**

The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt. It will be included as a balance sheet entry on the financial statements.

### **Normal cost**

That portion of the Actuarial Present Value of OPEB benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. It is the value of benefits to be accrued in the valuation year by active employees.

### **OPEB-related debt**

All long-term liabilities of an employer to an OPEB plan, the payment of which is not included in the annual required contributions of a sole or agent employer (ARC) or the actuarially determined required contributions of a cost-sharing employer. Payments generally are made in accordance with installment contracts that usually include interest. Examples include contractually deferred contributions and amounts assessed to an employer upon joining a multiple-employer plan.

### **Other postemployment benefits**

Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

### **Pay-as-You-Go**

A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

### **Required supplementary information (RSI)**

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.