



**THE CITY OF CRANSTON
FIRE AND POLICE DEPARTMENT
PENSION PLANS**

Actuarial Valuation Report
2017 GASB 67 & 68

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Introduction

This report presents the Governmental Accounting Standards Statements 67 & 68 based on the findings of an actuarial valuation as of July 1, 2017, of the Cranston Fire and Police Pension Plans Contributory Retirement System.

The actuarial valuation is based on:

- Negotiated provisions with the Fire and Police unions as of July 1, 2017.
- Employee data provided by the City
- Asset information reported by the City of Cranston

GASB Statements No. 67 and No. 68

Effective for periods beginning after June 15, 2013, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 67 and 68. These statements, which amend GASB Statements No. 25 and No. 27, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

The statement requires the system to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the following items as of the end of the plan's reporting period, as applicable:

- Assets
 - Deferred outflows of resources (consumption of net assets by the employers that is applicable to a future reporting period)
- Liabilities
 - Deferred inflows of resources (acquisition of net assets by the employers that is applicable to a future reporting period)
- Fiduciary net position (Assets + Deferred outflows – Liabilities – Deferred inflows)

The system is considered a cost-sharing multiple-employer pension plan since pension obligations exist for employees of more than one employer and plan assets can be used to pay the benefits of the employees of any employer.

This report does not include all items required under GASB Statements No. 67 and No. 68. Rather, it provides all items required that are not readily available from other sources such as the Annual Statement of the Financial Condition prepared by the Board, Chapter 32 of the Massachusetts General Laws and investment reports prepared by the plan's investment consultant.

Discount Rate

The discount rate, and all other actuarial assumptions, are the as those described in Exhibit 5. The discount rate was selected based on a projection of employer and employee contributions, benefit payments, expenses and the long term expected rate of return on trust assets. Based on the law, past practice and assumptions, the pensions plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The Board selected 7.9% as the long term expectation of investment returns.

Net Position Restricted for Pensions

The Net Position Restricted for Pensions as of June 30, 2017 is \$66,333,847. The 2016 Annual Statement of the Financial Condition contains the values for previous years and the changes in Net Position Restricted for Pensions. Investments are reported at fair value.

| | |
|----------------------------|------------------|
| June 30, 2016 Net Position | 62,717,376 |
| Employer Contributions | 21,403,849 |
| Employee Contributions | 279,548 |
| Other Payments | 0 |
| Benefit Payments | (23,804,824) |
| Expenses | (65,569) |
| Investment Income | <u>5,803,466</u> |
| June 30, 2017 Net Position | 66,333,847 |

Pension Liability as of June 30, 2017

The following presents the changes in the pension liability during 2017.

| | |
|--|--------------|
| June 30, 2016 Liability | 309,848,047 |
| Service Cost | 561,127 |
| Interest on Liability and Service Cost | 23,599,906 |
| Change in Plan Provisions | 0 |
| Experience (Gain) and Loss | (5,783,927) |
| Change in Assumptions | (1,790,318) |
| Benefit Payments | (23,804,824) |
| Interest on Benefit Payments | <u>0</u> |
| June 30, 2017 Liability | 302,630,011 |

Net Pension Liability as of June 30, 2017

The following presents the net pension liability of the system calculated using the discount rate of 7.9%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.9%) or 1-percentage-point higher (8.9%) than the current rate:

| | 1% Decrease (6.9%) | Current Discount Rate (7.9%) | 1% Increase (8.9%) |
|-----------------------------|-------------------------------|---|-------------------------------|
| Total Pension Liability | \$ 333,487,848 | \$ 302,630,011 | \$ 276,565,681 |
| Plan Fiduciary Net Position | <u>\$ 66,333,847</u> | <u>\$ 66,333,847</u> | <u>\$ 66,333,847</u> |
| Net Pension Liability | \$ 267,154,001 | \$ 236,296,164 | \$ 210,231,834 |

The Plan Fiduciary Net Position as a percentage of the Total Pension Liability is 21.9%.

Pension Expense for 2017

Since the average future service of the participants is less than 1 year, changes in the liability due to changes in the Actuarial Assumptions and changes due to Experience are fully amortized in 2017.

| | |
|---|----------------|
| Service Cost | 561,127 |
| Interest | 23,599,906 |
| Difference in Experience - Amortization | (5,783,927) |
| Change in Assumptions - Amortization | (1,790,318) |
| Changes in Plan Provisions | 0 |
| Employee Contributions | (279,548) |
| Projected Earnings | (4,869,928) |
| Administration Expense | 65,569 |
| Other Changes in Fiduciary Net Position | 0 |
| Asset (Gain) / Loss Amortization | <u>191,274</u> |
| Total Expense | 11,694,154 |

Schedules of Required Supplementary Information

| | |
|---|-------------|
| | <u>2016</u> |
| Total Pension Liability – Beginning | 309,848,047 |
| Total Pension Liability – Ending (a) | 302,630,011 |
| Plan Fiduciary Net Position – Beginning | 62,717,376 |
| Plan Fiduciary Net Position – Ending (b) | 66,333,847 |
| Net Pension Liability – Ending (a) – (b) | 236,296,164 |
| Plan Fiduciary Net Positions as a percentage of the Total Pension Liability | 21.9% |
| Covered-employee payroll | 2,697,374 |
| Net Pension Liability as a percentage of Covered-employee Payroll | 8760.2% |

Schedule of Net Position Restricted for Pensions Amortization Recognition

Below is the schedule of amortization adjustments to the Pension Expense for the coming years. A positive number indicates that the actual return was less than the expected return and will be added to the Pension Expense.

Investment Return

| <u>Year</u> | <u>(Gain) / Loss</u> | <u>Period</u> | <u>Increase (Decrease) arising from (Gains) or Losses</u> | | | | |
|-------------|----------------------|---------------|---|-------------|-------------|-------------|-------------|
| | | | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2021</u> |
| 2014 | -6,163,218 | 5 | -1,232,644 | -1,232,642 | | | |
| 2015 | 1,121,739 | 5 | 224,348 | 224,348 | 224,347 | | |
| 2016 | 6,931,388 | 5 | 1,386,278 | 1,386,278 | 1,386,278 | 1,386,276 | |
| 2017 | -933,538 | 5 | -186,708 | -186,708 | -186,708 | -186,708 | -186,706 |

Reconciliation of Net Pension Liability for 2017

| | <u>Total</u> |
|---------------------------------|--------------|
| Net Pension Liability Beginning | 247,130,671 |
| Expense | 11,694,154 |
| Contribution | (21,403,849) |
| Deferred Outflows | (1,610,626) |
| Deferred Inflows | 485,814 |
| Revenue | <u>0</u> |
| Net Pension Liability Ending | 236,296,164 |

EXHIBITS

EXHIBIT 1 – ACTIVE PARTICIPANTS:

Exhibit 1 - Age/Service Distribution with Salary as of July 1, 2017

| Attained Age | Average Salary | | | | 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 | 1 | 1 | 0 | 0 | 2 |
| | 63,515 | 76,870 | 0 | 0 | 70,192 |
| 50-54 | 3 | 5 | 4 | 0 | 12 |
| | 72,600 | 71,528 | 84,665 | 0 | 76,175 |
| 55-59 | 0 | 3 | 7 | 1 | 11 |
| | 0 | 76,870 | 90,725 | 96,498 | 87,471 |
| 60-64 | 0 | 0 | 1 | 1 | 2 |
| | 0 | 0 | 76,870 | 110,587 | 93,728 |
| 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 | 4 | 9 | 12 | 2 | 27 |
| Average Salary | 70,329 | 73,902 | 87,550 | 103,543 | 81,634 |

EXHIBIT 2 – RETIRED PARTICIPANTS:

Exhibit 2 - Retiree Distribution as of July 1, 2017

| 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 | 1 | 2 | 3 | 2,637 | 6,000 | 8,636 |
| 50-54 | 4 | 39 | 43 | 12,896 | 152,907 | 165,803 |
| 55-59 | 4 | 67 | 71 | 12,228 | 291,756 | 303,984 |
| 60-64 | 6 | 54 | 60 | 21,118 | 244,212 | 265,331 |
| 65-69 | 11 | 72 | 83 | 38,072 | 331,625 | 369,697 |
| 70-74 | 13 | 40 | 53 | 42,667 | 178,994 | 221,661 |
| 75-79 | 12 | 21 | 33 | 43,712 | 96,480 | 140,192 |
| 80-84 | 19 | 15 | 34 | 54,928 | 72,591 | 127,519 |
| 85-89 | 15 | 14 | 29 | 48,478 | 60,867 | 109,345 |
| 90-94 | 7 | 3 | 10 | 20,813 | 10,492 | 31,305 |
| 95+ | 2 | 1 | 3 | 4,975 | 4,742 | 9,716 |
| Total | 94 | 328 | 422 | 302,524 | 1,450,665 | 1,753,189 |
| Average (Age/Payment) | 76.57 | 66.02 | 68.37 | 3,218 | 4,423 | 4,154 |
| Frequency Percent | 22.3 | 77.7 | 100 | 17.3 | 82.7 | 100 |

EXHIBIT 3 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Fire and Police union contracts as of July 1, 2017, 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 Retirementa. 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 Retirementa. 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 Disabilitya. 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 Disabilitya. 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 Benefitsa. 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

EXHIBIT 4 – 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, 2017.

3. Actuarial Cost Method

Attained Age Normal method with the UAAL funded on a level dollar basis over 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.

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).

CERTIFICATION:

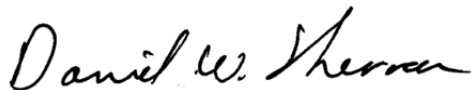
This report fairly represents the actuarial position of the Cranston Fire and Police Pension Plans as of June 30, 2017, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued 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

September, 2017