

# The City of Cranston Fire and Police Department Pension Plans

## GASB 67 Information

For Fiscal Year Ending June 30, 2016

December 2016



**Christopher Kozlow**

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December 22, 2016

Mr. Robert F. Strom  
Finance Director  
City of Cranston  
869 Park Avenue  
Cranston, Rhode Island 02910

Buck Consultants, LLC.  
595 Summer Street, Suite 3 S  
Stamford, CT 06901

Dear Mr. Strom:

Buck Consultants, LLC (Buck) was retained to issue a report presenting the disclosure requirements under Statement No. 67 of the Governmental Accounting Standards Board Statement No. 67 (GASB 67). This report presents the results for the City of Cranston Fire Department and Police Department Pension Plans for the fiscal year ending June 30, 2016.

**Purpose of this Report**

The plan sponsor may use this report to prepare the plan's and the plan sponsor's audited financial statements.

Unless otherwise noted in this report, the benefit provisions, actuarial assumptions and methods used for the calculations are the same as those summarized in the valuation report issued on December 7, 2016.

Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Buck to review any statement you wish to make on the results contained in this report. Buck will accept no liability for any such statement made without prior review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and 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. An analysis of the potential range of such future differences is beyond the scope of this valuation.

**Data Used**

Buck performed the calculations using participant and financial data supplied by the City as of June 30, 2016. Buck did not audit the data, although they were reviewed for reasonableness and consistency with the prior year data. The results of the valuation are dependent on the accuracy of the data.

**Actuarial Certification**

The plan sponsor selected the assumptions used for the accounting results and funding policy calculations in the report with our advice. We believe that these assumptions are reasonable and comply with the requirements of GASB 67. We prepared this report's accounting exhibits in accordance with the requirements of these standards.

Mr. Robert F. Strom  
City of Cranston

December 22, 2016  
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Based on the individually reasonable assumptions used in the preparation of this report, and on the data furnished us, we certify that projection of the costs under this plan has been made using generally accepted actuarial principles and practices.

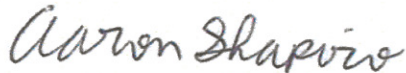
The valuation was prepared under the supervision of Christopher Kozlow, a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries and Aaron Shapiro, a Fellow of the Society of Actuaries and Member of the American Academy of Actuaries. We have met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about it.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,



Christopher Kozlow, FSA, EA, MAAA  
Director, Consulting Actuary



Aaron Shapiro, FSA, EA, MAAA,  
Principal, Retirement Actuary

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## Section 1 – GASB 67 Information

### A. Summary of Significant Accounting Policies

#### Method used to value investments

Investments are reported at fair value.

### B. Plan Description

#### Plan administration

The City of Cranston (City) administers the City of Cranston Fire Department and Police Department Pension Plans (Plan), a defined benefit pension plan that provides pensions for all full-time firefighters and policemen of the City. Employees hired after July 1, 1995 become members of the State plan and do not participate in this plan.

#### Plan membership

As of June 30, 2016, pension plan membership consisted of the following:

Membership Status	Fire	Police	Total
Inactive plan members or beneficiaries currently receiving	217	207	424
Inactive plan members entitled to but not yet receiving	0	0	0
Active plan members	<u>23</u>	<u>5</u>	<u>28</u>
Total	240	212	452

#### Benefits provided

Please see Section 4 of the report for a summary of plan provisions.

#### Contributions

The City establishes contributions based on an actuarially determined contribution recommended by an independent actuary. The actuarially determined contribution is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. For the year ended June 30, 2016, the City contributed \$21,316,456 to the Plan, including \$0 from the state.

### C. Investments

#### Rate of return

For the year ended June 30, 2016, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was -3.35%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

## Section 1 – GASB 67 Information (continued)

### D. Net Pension Liability

The components of the net pension liability at June 30, 2016 were as follows:

Components of Net Pension Liability	
Total pension liability	\$309,848,047
Plan fiduciary net position	<u>(62,717,376)</u>
Net pension liability	\$247,130,671
Plan fiduciary net position as a percentage of the total pension liability	20.24%

### E. Actuarial assumptions

The June 30, 2016 total pension liability was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial Assumptions	
Inflation	3.00%
Salary increases	3.00%
Investment rate of return	7.90%, comprised on average inflation rate of 3.00% and a real rate of return of 4.90%.

For pre-retirement mortality, the RP-2000 Combined with Blue Collar Adjustment and mortality improvements projected to 2026 with Scale AA. For post-retirement mortality: For males, reflect 115% of the RP-2000 Combined Healthy for Males mortality table with White Collar adjustments, projected generationally with Scale AA from 2000 for healthy retirees and beneficiaries. For females, reflect 95% of the RP-2000 Combined Healthy for Females mortality table with White Collar adjustments, projected generationally with Scale AA from 2000 for healthy retirees and beneficiaries. The same tables were used for disabled lives but set forward three years.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return and by adding expected inflation. Best estimates of rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2016 are summarized in the following table (note that the rates shown below include the inflation component):

Asset Class	Long-Term Expected Nominal Arithmetic Rate of Return*	Targeted Allocation
Domestic equity (large cap)	11.13%	35.00%
Domestic equity (mid cap)	13.16%	5.00%
Domestic equity (small cap)	13.22%	5.00%
International equity	9.86%	15.00%
Fixed income	4.16%	35.00%
Real Estate	8.35%	5.00%

Portfolio Nominal Arithmetic Mean Return.\* - 8.57%

Portfolio Nominal Geometric Mean Return.\* - 8.02%

\*Based on 20 year expected rates of return.

## Section 1 – GASB 67 Information (continued)

### Discount rate

The assumed discount rate used to measure liabilities for valuation purposes is 7.90%. The projection of cash flows used to determine the discount rate for GASB 67 purposes assumed that future City contributions will follow the contribution pattern of the most recent five years (see table below), which results in an assumption that the City will contribute approximately 95.3% of the actuarially determined contributions. Based on these assumptions, the pension plan's fiduciary net position is projected to fall short of meeting all future benefit obligations to current plan members in 2097. From the point where assets are projected to be depleted, a municipal bond rate of 2.71%, based on the S&P Municipal Bond 20 Year High Grade Rate Index, was used in the development of the blended GASB discount rate. The resulting blended rate of 7.90% was used to measure the Plan's total pension liability.

Fiscal Year Ending June 30	Annual Required Contribution (ARC)	Actual Contribution	Percentage of ARC Contributed
2012	\$24,154,120	\$20,369,456	84.33%
2013	25,705,110	21,994,344	85.56%
2014	21,006,057	22,376,109	106.52%
2015	22,353,591	22,376,110	100.10%
2016	21,316,456	21,316,456	100.00%

### Sensitivity of the net pension liability to changes in the discount rate

The following presents the net pension liability, calculated using the discount rate of 7.90%, as well as what the City's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.90%) or 1-percentage-point higher (8.90%) than the current rate:

	1% Decrease (6.90%)	Current Discount Rate (7.90%)	1% Increase (8.90%)
Net Pension Liability	\$279,612,967	\$247,130,671	\$219,797,054

## Section 1 – GASB 67 Information (continued)

### Schedules of Required Supplementary Information

#### Schedule of Changes in Net Pension Liability and Related Ratios

2016

##### Total pension liability

Service cost	\$550,317
Interest	23,368,984
Changes of benefit terms	0
Differences between expected and actual experience	1,233,114
Changes of assumptions	(4,978,421)
Benefit payments, including refund of employee contributions*	<u>(24,053,360)</u>
Net change in total pension liability	\$(3,879,366)
Total pension liability-beginning	\$313,727,413
Total pension liability-ending (a)	\$309,848,047

##### Plan fiduciary net position

Contributions-employer	\$21,316,456
Contributions-employee	257,734
Net investment income	(2,072,781)
Benefit payments, including refunds of employee contributions*	(24,053,360)
Expenses	(598,630)
Other	<u>0</u>
Net change in plan fiduciary net position	(\$5,150,581)
Plan fiduciary net position-beginning	\$67,867,957
Plan fiduciary net position-ending (b)	\$62,717,376
Net pension liability-ending (a)-(b)	\$247,130,671

Plan fiduciary net position as a percentage of the total pension liability 20.24%

Covered-employee payroll \$2,663,974  
 Net pension liability as a percentage of covered-employee payroll 9,276.77%

\*Benefit payments offset by \$52,275 for reimbursement to the trust fund for overpayment of disability benefits.

##### Notes to Schedule:

##### A. Benefit changes

None.



## Section 1 – GASB 67 Information (continued)

### Schedules of Required Supplementary Information (continued)

#### B. Changes of assumptions

The assumptions used in the valuation were based upon the assumptions outlined in the July 1, 2016 valuation report. The assumption changes from the July 1, 2015 valuation are summarized below:

- For pre-retirement mortality, the RP-2000 Combined with Blue Collar adjustment and mortality improvement projected to 2026 with Scale AA. The prior year valuation assumed the same mortality table with mortality improvements projected to 2025 with Scale AA.
- The Discount Rate was changed from 7.74% at June 30, 2015 to 7.90% as demonstrated on Tables 1 and 2 of Section 1.

### Schedule of City Contributions

	FYE 2016
Actuarially determined contribution	\$21,316,456
Contributions related to the actuarially determined contribution	<u>(21,316,456)</u>
Contribution deficiency (excess)	\$ (0)

The contributions noted above include both the City contribution as well as the State allocation.

#### Notes to Schedule:

##### A. Valuation date

Actuarially determined contribution rates are calculated as of July 1, in the following fiscal year in which contributions are reported. That is, the contribution calculated as of July 1, 2016 will be made during the fiscal year ending June 30, 2018.

##### B. Methods and assumptions used to determine contribution rates:

###### Actuarial cost method:

Entry Age Normal, Level Percent of Payroll

###### Amortization method

Level dollar

###### Amortization period

For members in Court approved Plan:

Closed 28-year period beginning with the July 1, 2013 valuation.

For members that opted out of Court approved Plan:

Closed 23-year period beginning with the July 1, 2013 valuation.

For amortization of any unfunded accrued liability (UAL) developed after the closed periods described above, it is assumed the City will pay of the UAL immediately.

###### Asset valuation method

Market Value of Assets

###### Cost-of-living increases after retirement

For members in Court approved Plan:

Every other year COLA freeze for a ten year period effective July 1, 2013. In years 11 and 12 a 1.50% COLA would apply and then a 3.00% COLA for each year thereafter, effective each July 1. Current and future widows will continue to receive 3.00% annual COLAs.

## Section 1 – GASB 67 Information (continued)

For members that opted out of Court approved Plan:

COLAs are frozen for a ten year period effective July 1, 2013. Upon the expiration of the ten year period, the COLA is capped at 3.00%.

### Definition of pay

Regular pay plus an 18.81% holiday/longevity load (7.04% for holiday and 11% for longevity). The holiday load was decreased from 8.14% to 7.04%.

### Salary increases

3.00%

### Investment rate of return

7.90%, based on an average inflation rate of 3.00% and a real rate of return of 4.90%.

### Retirement age

Assumptions related to age, service, and department are used for participants not yet receiving payments.

### Healthy Mortality

For pre-retirement mortality, the RP-2000 Combined with Blue Collar Adjustment and mortality improvements projected to 2026 with Scale AA. The prior valuation assumed the same table but mortality improvements were projected to 2025.

For post-retirement mortality: For males, reflect 115% of the RP-2000 Combined Healthy for Males mortality table with White Collar adjustments, projected generationally with Scale AA from 2000 for healthy retirees and beneficiaries. For females, reflect 95% of the RP-2000 Combined Healthy for Females mortality table with White Collar adjustments, projected generationally with Scale AA from 2000 for healthy retirees and beneficiaries.

For pre-retirement mortality, it was also assumed that 92.5% of deaths are service related.

### Disabled Mortality

Pre-retirement mortality, set forward 3 years.

### Other information

Please see Section 3 of the report.

## Schedule of Investment Returns

	<u>2016</u>	<u>2015</u>
Annual money-weighted rate of return, net of investment expenses	(3.35%)	4.00%

## Section 1 – GASB 67 Information (continued)

**Table 1 – Projection of Fiduciary Net Position (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Inv E
2016	62,717	288	21,440	24,796	599	
2017	63,849	228	21,466	24,910	599	
2018	64,919	183	21,567	25,427	599	
2019	65,596	146	21,648	25,388	599	
2020	66,413	107	21,742	25,749	599	
2021	66,979	84	21,863	25,498	599	
2022	67,952	69	22,000	25,706	599	
2023	68,915	56	22,143	25,762	599	
2024	70,030	42	22,283	25,796	599	
2025	71,330	27	22,431	26,015	599	
2026	72,644	18	22,598	26,203	599	
2027	74,032	10	22,774	26,306	599	
2028	75,595	8	22,968	26,387	599	
2029	77,398	5	23,170	26,421	599	
2030	79,515	2	23,388	26,402	599	
2031	82,043	2	23,626	26,332	599	
2032	85,091	1	23,887	26,219	599	
2033	88,768	0	24,177	26,045	599	
2034	93,217	-	24,517	25,811	599	
2035	98,613	-	24,935	25,515	599	
2036	105,178	-	25,549	25,156	599	
2037	113,273	-	21,014	24,729	599	
2038	117,737	-	21,178	24,235	599	
2039	123,238	-	21,698	23,672	599	
2040	130,299	-	22,480	23,041	599	
2041	139,386	-	24,028	22,342	599	

## Section 1 – GASB 67 Information (continued)

**Table 1 – Projection of Fiduciary Net Position (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Inv E
2042	151,528	-	1,717	21,577	599	
2043	142,231	-	604	20,750	599	
2044	131,903	-	550	19,861	599	
2045	121,627	-	550	18,918	599	
2046	111,519	-	553	17,924	599	
2047	101,649	-	556	16,884	599	
2048	92,083	-	559	15,807	599	
2049	82,884	-	563	14,702	599	
2050	74,112	-	567	13,577	599	
2051	65,820	-	571	12,442	599	
2052	58,057	-	575	11,311	599	
2053	50,862	-	580	10,200	599	
2054	44,257	-	585	9,122	599	
2055	38,256	-	590	8,090	599	
2056	32,860	-	595	7,116	599	
2057	28,055	-	601	6,210	599	
2058	23,818	-	606	5,377	599	
2059	20,117	-	611	4,621	599	
2060	16,915	-	615	3,944	599	
2061	14,169	-	620	3,345	599	
2062	11,833	-	624	2,821	599	
2063	9,861	-	627	2,368	599	
2064	8,208	-	631	1,979	599	
2065	6,832	-	633	1,651	599	
2066	5,691	-	636	1,375	599	
2067	4,749	-	638	1,146	599	

## Section 1 – GASB 67 Information (continued)

**Table 1 – Projection of Fiduciary Net Position (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Inv E
2068	3,974	-	640	956	599	
2069	3,337	-	641	801	599	
2070	2,812	-	643	676	599	
2071	2,377	-	644	575	599	
2072	2,014	-	645	495	599	
2073	1,706	-	645	431	593	
2074	1,447	-	640	380	544	
2075	1,266	-	589	339	544	
2076	1,061	-	587	304	525	
2077	893	-	568	275	522	
2078	726	-	564	249	510	
2079	581	-	551	225	510	
2080	436	-	551	203	436	
2081	378	-	475	183	377	
2082	320	-	411	163	320	
2083	270	-	349	144	270	
2084	224	-	294	126	224	
2085	184	-	244	109	184	
2086	149	-	201	92	149	
2087	119	-	162	76	119	
2088	94	-	130	63	94	
2089	73	-	103	52	73	
2090	56	-	80	42	56	
2091	42	-	61	33	42	
2092	31	-	46	25	31	
2093	23	-	34	19	23	

## Section 1 – GASB 67 Information (continued)

**Table 1 – Projection of Fiduciary Net Position (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Inv E
2094	16	-	25	15	16	
2095	12	-	18	11	12	
2096	8	-	13	8	8	
2097	5	-	9	6	5	
2098	4	-	6	4	4	
2099	2	-	4	3	2	
2100	2	-	3	2	2	
2101	1	-	2	1	1	
2102	1	-	1	1	1	

## Section 1 – GASB 67 Information (continued)

**Table 2 – Actuarial Present Values of Projected Benefit Payments (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments as		Us
			Funded Portion	Unfunded Portion	Funded Portion at 7.90%	Unfunded Portion at 2.71%	
2016	62,717	24,796	24,796	-	23,871	-	
2017	63,849	24,910	24,910	-	22,225	-	
2018	64,919	25,427	25,427	-	21,025	-	
2019	65,596	25,388	25,388	-	19,456	-	
2020	66,413	25,749	25,749	-	18,288	-	
2021	66,979	25,498	25,498	-	16,784	-	
2022	67,952	25,706	25,706	-	15,682	-	
2023	68,915	25,762	25,762	-	14,565	-	
2024	70,030	25,796	25,796	-	13,517	-	
2025	71,330	26,015	26,015	-	12,633	-	
2026	72,644	26,203	26,203	-	11,793	-	
2027	74,032	26,306	26,306	-	10,973	-	
2028	75,595	26,387	26,387	-	10,201	-	
2029	77,398	26,421	26,421	-	9,466	-	
2030	79,515	26,402	26,402	-	8,766	-	
2031	82,043	26,332	26,332	-	8,103	-	
2032	85,091	26,219	26,219	-	7,478	-	
2033	88,768	26,045	26,045	-	6,884	-	
2034	93,217	25,811	25,811	-	6,323	-	
2035	98,613	25,515	25,515	-	5,793	-	
2036	105,178	25,156	25,156	-	5,293	-	
2037	113,273	24,729	24,729	-	4,822	-	
2038	117,737	24,235	24,235	-	4,380	-	
2039	123,238	23,672	23,672	-	3,965	-	

## Section 1 – GASB 67 Information (continued)

**Table 2 – Actuarial Present Values of Projected Benefit Payments (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments as		
			Funded Portion	Unfunded Portion	Funded Portion at 7.90%	Unfunded Portion at 2.71%	Us
2040	130,299	23,041	23,041	-	3,577	-	
2041	139,386	22,342	22,342	-	3,214	-	
2042	151,528	21,577	21,577	-	2,877	-	
2043	142,231	20,750	20,750	-	2,564	-	
2044	131,903	19,861	19,861	-	2,275	-	
2045	121,627	18,918	18,918	-	2,008	-	
2046	111,519	17,924	17,924	-	1,763	-	
2047	101,649	16,884	16,884	-	1,539	-	
2048	92,083	15,807	15,807	-	1,336	-	
2049	82,884	14,702	14,702	-	1,151	-	
2050	74,112	13,577	13,577	-	985	-	
2051	65,820	12,442	12,442	-	837	-	
2052	58,057	11,311	11,311	-	705	-	
2053	50,862	10,200	10,200	-	589	-	
2054	44,257	9,122	9,122	-	488	-	
2055	38,256	8,090	8,090	-	401	-	
2056	32,860	7,116	7,116	-	327	-	
2057	28,055	6,210	6,210	-	265	-	
2058	23,818	5,377	5,377	-	212	-	
2059	20,117	4,621	4,621	-	169	-	
2060	16,915	3,944	3,944	-	134	-	
2061	14,169	3,345	3,345	-	105	-	
2062	11,833	2,821	2,821	-	82	-	
2063	9,861	2,368	2,368	-	64	-	
2064	8,208	1,979	1,979	-	50	-	



## Section 1 – GASB 67 Information (continued)

**Table 2 – Actuarial Present Values of Projected Benefit Payments (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments as		Us
			Funded Portion	Unfunded Portion	Funded Portion at 7.90%	Unfunded Portion at 2.71%	
2065	6,832	1,651	1,651	-	38	-	
2066	5,691	1,375	1,375	-	30	-	
2067	4,749	1,146	1,146	-	23	-	
2068	3,974	956	956	-	18	-	
2069	3,337	801	801	-	14	-	
2070	2,812	676	676	-	11	-	
2071	2,377	575	575	-	8	-	
2072	2,014	495	495	-	7	-	
2073	1,706	431	431	-	5	-	
2074	1,447	380	380	-	4	-	
2075	1,266	339	339	-	4	-	
2076	1,061	304	304	-	3	-	
2077	893	275	275	-	3	-	
2078	726	249	249	-	2	-	
2079	581	225	225	-	2	-	
2080	436	203	203	-	2	-	
2081	378	183	183	-	1	-	
2082	320	163	163	-	1	-	
2083	270	144	144	-	1	-	
2084	224	126	126	-	1	-	
2085	184	109	109	-	1	-	
2086	149	92	92	-	-	-	
2087	119	76	76	-	-	-	
2088	94	63	63	-	-	-	
2089	73	52	52	-	-	-	

## Section 1 – GASB 67 Information (continued)

**Table 2 – Actuarial Present Values of Projected Benefit Payments (000's omitted)**

Fiscal Year Beginning July 1	Beginning Fiduciary Net Position	Benefit Payments	Benefit Payments		Present Value of Benefit Payments as		Us
			Funded Portion	Unfunded Portion	Funded Portion at 7.90%	Unfunded Portion at 2.71%	
2090	56	42	42	-	-	-	
2091	42	33	33	-	-	-	
2092	31	25	25	-	-	-	
2093	23	19	19	-	-	-	
2094	16	15	15	-	-	-	
2095	12	11	11	-	-	-	
2096	8	8	8	-	-	-	
2097	5	6	-	6	-	1	
2098	4	4	-	4	-	-	
2099	2	3	-	3	-	-	
2100	2	2	-	2	-	-	
2101	1	1	-	1	-	-	
2102	1	1	-	1	-	-	

## Section 2 – Plan Participant Data

### Reconciliation of Participant Data - Fire

	Actives	Terminated Vesteds	Retirees and Beneficiaries	Disabled Participants	Total
Participants as of July 1, 2015	26	0	182	37	245
Disabilities	0	0	0	0	0
Retirements	(3)	0	3	0	0
Deaths	0	0	(5)	(2)	(7)
New beneficiaries	0	0	1	0	1
Layoff/Leave/Termination	0	0	0	0	0
Data corrections	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>
Participants as of June 30, 2016	23	0	182	35	240

### Reconciliation of Participant Data - Police

	Actives	Terminated Vesteds	Retirees and Beneficiaries	Disabled Participants	Total
Participants as of July 1, 2015	6	0	168	39	213
Disabilities	0	0	0	0	0
Retirements	(1)	0	1	0	0
Deaths	0	0	(5)	0	(5)
New beneficiaries	0	0	4	0	4
Layoff/Leave/Termination	0	0	0	0	0
Data corrections	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Participants as of June 30, 2016	5	0	168	39	212

### Inactive Participant Statistics – Average Annual Benefits

	July 1, 2015	July 1, 2016
Retirees	\$ 63,564	\$ 65,440
Beneficiaries	\$ 37,164	\$ 38,093
Disabled Participants	\$ 55,944	\$ 57,008

## Section 3 – Actuarial Assumptions and Methods

### Actuarial Funding Assumptions

#### Funding valuation interest rate

7.90% per annum

#### Interest rate for accounting

7.90% per year, compounded annually. Projected benefit payments that are expected to be paid from available plan assets are discounted at the valuation interest rate of 7.90%. After the point where plan assets are not available to pay benefits, projected benefit payments are discounted at the municipal bond rate of 2.71%.

#### Municipal bond rate

2.71%, based on the S&P Municipal Bond 20 Year High Grade Rate Index as of June 30, 2016.

#### Compensation increase rate

3.00% per annum

#### Retirement age:

Police and Fire Department

Rates according to the following table:

Years of Service	Percent Retiring
Less than 20	0%
20	20%
21 – 24	4%
25	15%
26 – 29	10%
30	50%
31 and greater	20%

100% upon the attainment of age 65 regardless of service.

#### Healthy Mortality

For pre-retirement mortality, the RP-2000 Combined with Blue Collar Adjustment and mortality improvements projected to 2026 with Scale AA. The prior valuation assumed the same table but mortality improvements were projected to 2025.

For post-retirement mortality: For males, reflect 115% of the RP-2000 Combined Healthy for Males mortality table with White Collar adjustments, projected generationally with Scale AA from 2000 for healthy retirees and beneficiaries. For females, reflect 95% of the RP-2000 Combined Healthy for Females mortality table with White Collar adjustments, projected generationally with Scale AA from 2000 for healthy retirees and beneficiaries.

For pre-retirement mortality, it was also assumed that 92.5% of deaths are service related.

#### Disabled Mortality

Pre-retirement mortality, set forward 3 years.

#### Disability Incidence

## Section 3 – Actuarial Assumptions and Methods (continued)

Age	Rate
20	0.12%
25	0.17%
30	0.22%
35	0.29%
40	0.44%
45	0.72%
50	1.21%
55	1.21%

92.5% assumed to be accidental disabilities and 7.5% assumed to be ordinary disabilities

### Turnover

Death and disability

### Marriage Assumption

80% of active employees are assumed to be married with the husband assumed to be 3 years older than the wife.

### Expenses

Paid by the city.

### Participant Data

Census data was supplied by the City.

The experience study report dated August 25, 2015 outlines the most recent comprehensive review of the actuarial assumptions noted above.

## Section 3 – Actuarial Assumptions and Methods (continued)

### Funding Methods

#### Actuarial Cost Method

For funding, Attained Age Normal method with the UAAL funded on a level dollar basis over a closed period.

For accounting, Entry Age Normal. The actuarial present value of projected benefits of each individual is allocated on a level basis over the covered salary of the individual between date of hire and assumed date they cease active employment. The portion of this actuarial present value not provided for at the valuation date by the actuarial present value of future entry age normal cost is called the accrued liability.

### Assets

#### Funding

Market value of assets

#### Accounting

Market value of assets

#### Amortization Period

For members in Court approved Plan:

Closed 28-year period beginning with the July 1, 2013 valuation.

For members that opted out of Court approved Plan:

Closed 23-year period beginning with the July 1, 2013 valuation.

After the end of the closed period as indicated above, it is assumed any unfunded accrued liability that arises will be paid off with interest by the City immediately.

### Changes Since the Prior Valuation

- For pre-retirement mortality, the RP-2000 Combined with Blue Collar Adjustment and mortality improvements projected by Scale AA to 2026. The prior valuation assumed the same table but mortality improvement was projected by Scale AA to 2025.
- The Holiday load assumption with regards to pay was decreased from 8.14% to 7.04% of regular pay to reflect updated experience.

## Section 4 – Summary of Plan Provisions



The plan is closed to employees hired on or after July 1, 1995.

Final compensation is the member's base compensation rate, including longevity and holiday pay at retirement.

Service is total employment by the City plus any purchased service.

### Service Pension

Eligibility	20 years of service.
Amount	A pension equal to 2½% of the member's final compensation for each year of service up to 20 years plus 2% of final compensation 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.

### Deferred Pension

Eligibility	10 years of service.
Amount	A deferred pension commencing at age 55, equal to 2½% of final compensation for each year of total service.

### Ordinary Disability Pension

Eligibility	Total and permanent disability at any age.
Amount	A pension equal to 50% of final compensation.

### Work Related Disability Pension

Eligibility	Work related total and permanent disability at any age. Impairment due to heart condition or hypertension presumed to be work related.
Amount	A pension of 66- <sup>2</sup> / <sub>3</sub> % of final compensation, but not less than the service pension.

### Death Benefit

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).
Amount	A pension of 33 <sup>1</sup> / <sub>3</sub> % of the member's final compensation is paid to his widow until she dies or remarries. The benefit increases to 67½% 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 67½% of the deferred pension starting when the member would have been age 55.

### Benefit upon Death after Retirement

Upon death of a retired member, 67½% of his pension is paid to his widow. No benefits are payable upon the death of unmarried members. Note that there is no actuarial reduction for the spouse coverage.

## Section 4 – Summary of Plan Provisions



### Cost of Living Adjustment

For members in Court approved Plan:

Every other year COLA freeze for a ten year period effective July 1, 2013. In years 11 and 12 a 1.50% COLA would apply and then a 3.00% COLA for each year thereafter, effective each July 1. Current and future widows will continue to receive 3.00% annual COLAs.

For members that opted out of Court approved Plan:

COLAs are frozen for a ten year period effective July 1, 2013. Upon the expiration of the ten year period, the COLA is capped at 3.00%.

### Contributions by Members

Firefighters	10.50% of base compensation plus longevity and holiday pay
Police	10.00% of base compensation plus longevity and holiday pay





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December 22, 2016

Mr. Robert F. Strom  
Finance Director  
City of Cranston  
869 Park Avenue  
Cranston, Rhode Island 02910

**Re: GASB 68 Disclosures for Fiscal Year Ending June 30, 2016  
Based on Valuation Date of June 30, 2015**

Dear Mr. Strom:

We have prepared the required accounting information for Governmental Accounting Standards Board (GASB) Statement No. 68 for the City of Cranston Fire Department and Police Department Pension Plans for fiscal year ending June 30, 2016 based on a valuation date of June 30, 2015. Under GASB Statement No. 68, accounting information prepared under GASB Statement No. 67 as of June 30, 2015 (as previously provided) serves as the basis for these disclosures, which may be used for financial reporting for the fiscal year ending June 30, 2016. Please refer to the GASB No. 67 report for any supplemental information or documentation.

Please note that GASB Statement No. 27 (*Accounting for Pensions by State and Local Governmental Employers*) was previously applicable for fiscal years ending prior to 2015 and has been replaced by GASB Statement No. 68 (*Accounting and Financial Reporting for Pensions*) for fiscal years ending 2015 and later.

**GASB Statement No. 68**

GASB Statement No. 68 sets forth certain items of information to be disclosed in the financial statements of the employers of the Plan in addition to the information disclosed for the Plan in GASB Statement No. 67. Please reference our GASB Statement No. 67 report from February 2016 for information previously disclosed.

1. One such item is a calculation of the average expected remaining service lives of all employees, as follows:

Remaining Service Lives at Beginning of Period - Fire			
<u>Group</u>	<u>Number</u>	<u>Service</u>	<u>Average</u>
Inactive plan members or beneficiaries currently receiving	219		
Inactive plan members entitled to but not yet receiving	0		
Active plan members	26	88	
Total	245	88	0.35

Remaining Service Lives at Beginning of Period – Police			
<u>Group</u>	<u>Number</u>	<u>Service</u>	<u>Average</u>
Inactive plan members or beneficiaries currently receiving	207		
Inactive plan members entitled to but not yet receiving	0		
Active plan members	<u>6</u>	<u>26</u>	
Total	213	26	0.12

Remaining Service Lives at Beginning of Period – Total			
<u>Group</u>	<u>Number</u>	<u>Service</u>	<u>Average</u>
Inactive plan members or beneficiaries currently receiving	426		
Inactive plan members entitled to but not yet receiving	0		
Active plan members	<u>32</u>	<u>115</u>	
Total	458	115	0.25

2. Another such item is the calculation of pension expense as shown below.

Pension Expense Reported for the Fiscal Year Ended June 30, 2016 (with Measurement Date of June 30, 2015)	
<b>Total Pension Expense</b>	
Service Cost	\$ 696,010
Interest Cost on Total Pension Liability	22,826,090
Differences Between Expected and Actual Experience	(2,386,467)
Changes of Assumptions	(8,277,796)
Plan Changes	0
Contributions – Member	(336,937)
Projected Earnings on Plan Investments	(4,105,025)
Current Period Recognition of difference Between Projected and Actual Earnings	224,348
Current Year Recognition of prior year's deferred inflows	(1,232,644)
Administrative Expense	451,177
Other*	<u>(429,963)</u>
Total Pension Expense	\$ 7,428,793

\* State allocation of \$381,766 and return of disability overpayments of \$48,197.

3. The schedule of changes in Net Pension Liability:

Change in Net Pension Liability	Fiscal Year Ending June 30, 2015
<b>Net Pension Liability at June 30, 2014</b>	\$ 258,294,972
Changes for the year:	
Service Cost	696,010
Interest Cost of Total Pension Liability	22,826,090
Projected Earnings on Plan Investments	(4,105,025)
Contributions – Employer	(21,994,344)
Contributions – Member	(336,937)
Plan Changes	0
Administrative Expense	451,177
Other*	(429,963)
Interest Expense	0
<u>Deferred (Inflows)/Outflows</u>	
Changes in Assumptions	(8,277,796)
Differences between Expected and Actual Liability Experience	(2,386,467)
Difference between Projected and Actual Earnings	1,121,739
Other	0)
Net Change in net Pension Liability	\$ (12,435,516)
Net Pension Liability at June 30, 2015	\$ 245,859,456

\* State allocation of \$381,766 and return of disability overpayments of \$48,197.

4. Following is a schedule illustrating the recognition in pension expense of differences between projected and actual earnings on pension plan investments.

Schedule of Differences Between Expected and Actual Experience			
Measurement Date	June 30, 2014	June 30, 2015	Total
Amount Established	\$ (6,163,218)	\$ 1,121,739	\$ (5,041,479)
Recognition Period	5.00	5.00	5.00
Annual Recognition	\$ (1,232,644)	\$ 224,348	\$ (1,008,296)
Deferred	Inflow	Outflow	Net Inflow
Amount to be Recognized			
2014	\$ (1,232,644)		\$ (1,232,644)
2015	(1,232,644)	\$ 224,348	(1,008,296)
2016	(1,232,644)	224,348	(1,008,296)
2017	(1,232,644)	224,348	(1,008,296)
2018	(1,232,642)	224,348	(1,008,296)
2019	0	224,347	224,347
2020	0	0	
Deferred Balance			
2014	\$ (4,930,574)		\$ (4,930,574)
2015	(3,697,930)	\$ 897,391	(2,800,539)
2016	(2,465,286)	673,043	(1,792,243)
2017	(1,232,642)	448,695	(783,947)
2018	0	224,347	224,347
2019	0	0	0

The Plan sponsor selected the assumptions used for the accounting results in this letter. We believe that these assumptions are reasonable and comply with the requirements of GASB Statement No. 68. The economic assumptions with respect to investment yield, salary increase and inflation have been based upon a review of the existing portfolio structure as well as recent and anticipated experience. We prepared this letter in accordance with the requirements of these standards.

Asset information and member data for retired, active, and inactive members were supplied by the City. We have not subjected this data to any auditing procedures, but have examined it for reasonableness and consistency with the prior year's data. The accuracy of the results of this valuation is dependent on the accuracy of the data.

Full summaries of the census data, assumptions, methods and plan provisions used in the preparation of this required accounting information were in the June 30, 2015 funding and June 30, 2015 GASB 67 reports.

The primary purpose of this letter is to provide accounting and financial reporting information to assist the sponsor of the System with the requirements of GASB

Mr. Robert F. Strom  
December 22, 2016



Statement No. 68. Use of this letter for any other purposes or by anyone other than the employers and their auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the letter for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' written consent.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and 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. Because of the scope of this project, Buck performed no analysis of the potential range of such future differences other than the sensitivity to changes in the discount rate required by GASB Statement Nos. 67 and 68.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about it.

We are Enrolled Actuaries, Fellows of the Society of Actuaries and Members of the American Academy of Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Sincerely,

A handwritten signature in black ink that reads "Christopher Kozlow".

Christopher Kozlow, FSA, EA, MAAA  
Director, Consulting Actuary

A handwritten signature in black ink that reads "Aaron Shapiro".

Aaron Shapiro, FSA, EA, MAAA  
Principal, Consulting Actuary