

The City of Cranston Fire and Police Department Pension Plans

Actuarial Valuation Report
as of July 1, 2014

October 2014





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Director, Retirement

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October 28, 2014

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

Dear Mr. Strom:

The City of Cranston retained Buck Consultants, LLC (Buck) to complete this actuarial valuation of the Fire and Police Department Pension Plans. This report presents the results of the valuation of the Pension Plans, prepared as of July 1, 2014 and shows the current funded position of the Pension Plans and the projected contributions needed to fund these pension obligations.

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 limited scope, Buck performed no analysis of the potential range of such future differences. An analysis of the potential range of such future differences is beyond the scope of this valuation.

Plan Provisions

Note the valuation results are based on two separate sets of benefit provisions. The first is the State Superior Court approved provision changes that the City negotiated with the Plan members and the second is for the members who opted out of those Court approved changes. A summary of the plan provisions as used for valuation purposes is presented in Schedule C.

Data Used

Buck performed the calculations using participant data as of July 1, 2014 and financial data supplied by the City as of June 30, 2014. 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 demographic assumptions used in the valuation were recommended by the Plans' actuary as noted in the experience study report dated March 29, 2012 and were adopted by the plan sponsor. The plan sponsor selected the assumptions used for the accounting results and funding policy calculations in the report with our advice.

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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, and that our recommended contributions make adequate provision for the funding of future benefits.

The valuation was prepared under the supervision of Philip Bonanno, a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries, and Andrew Zmich, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who have each 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,

BUCK CONSULTANTS, LLC



Philip Bonanno, FSA, EA, MAAA, FCA
Director, Retirement Actuary



Andrew Zmich, ASA, MAAA
Consultant

PB/AZ:aa

Cranston 2014 Valuation final

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Section 1 – Summary of Principal Results

For convenience of reference, the principal results of the valuation are summarized below:

Valuation Date: July 1, 2014	Fire	Police	Total
Active plan members	27	6	33
Average active age	53.49	50.21	52.90
Average active service	28.61	23.58	27.69
Annual regular pay with holiday/longevity load	\$ 2,455,963	\$ 449,902	\$ 2,905,865
Number of service retirees, disability retirees and beneficiaries*	218	208	426
Average inactive age	67.84	65.92	66.90
Annual retirement allowances	\$ 13,262,049	\$ 10,763,806	\$ 24,025,855
Number of former members entitled to deferred benefits	0	0	0
Valuation assets without receivable	\$ 41,983,157	\$ 24,659,141	\$ 66,642,298
Valuation assets with receivable**	\$ 53,789,847	\$ 34,433,888	\$ 88,223,735
Unfunded actuarial accrued liability without receivable	\$137,081,497	\$109,266,232	\$246,347,729
Total normal contribution rate	29.32%	35.92%	30.67%
Recommended City FYE 2016 contribution assumed payable January 1, 2016	\$ 11,940,641	\$ 9,375,815	\$ 21,316,456

* Includes 17 Fire retirees and 58 Police retirees that opted out of the Court approved plan.

** The contribution receivable is the sum of the City FYE 2015 budgeted amount of \$21,994,344 and the expected State contribution of \$381,765, adjusted for timing. The \$381,765 was split equally between Fire and Police, consistent with the allocation of the State contribution made during the 2013-2014 fiscal year.

Comments on the valuation results as of July 1, 2014 are given in Section 4 and the appropriation payable by the City during the fiscal period beginning July 1, 2015 is set out in Schedule A.

Section 1 – Summary of Principal Results (continued)

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability and withdrawal rates as well as payroll, salary increases and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the plan provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, the total unfunded actuarial accrued liability (UAL) was expected to decrease from \$257,365,761 to \$255,240,920. The actual UAL at the end of the year was \$246,347,729. The chart below reconciles the actual to expected UAL. As can be seen in the table below, the primary sources of changes were gains due to i) the investment return being greater than expected (15.78% vs. 7.50% assumed), ii) decreases in benefits to approximately 80 Police retirees as a result of an audit that corrected previously calculated amounts, and iii) changes in numerous reported dates of birth for spouses of retirees.

The sources of the (Gain)/Loss are as follows:

	Demographic (Gain)/Loss	Other (Gain)/Loss	UAL
Expected UAL			\$255,240,920
Salary increases	\$(341,461)		
Retiree mortality	(1,295,142)		
Active retirement decrement	1,839,191		
Active mortality decrement	(4,094)		
Active disability decrement	172,993		
Other	<u>(243,945)</u>		
Subtotal	127,542		
Investment (Gain)/Loss		\$(4,961,808)	
Police retiree benefits audit*		(1,126,703)	
Spouse date of birth updates		(3,443,779)	
Assumption revision to reflect additional year of mortality improvement		<u>511,557</u>	
Subtotal		(9,020,733)	
Total change in UAL			<u>(8,893,191)</u>
Actual UAL			\$246,347,729

* City confirmed that as many as 80 Police retirees' benefits decreased upon an outside audit.

Section 1 – Summary of Principal Results (continued)

Schedule A of this report presents the results of the valuation and shows the present and prospective assets and liabilities of the Pension Plans as of July 1, 2014.

Schedule B of this report outlines the actuarial assumptions and methods used in the preparation of the valuation. All methods and assumptions have been selected in accordance with the applicable Actuarial Standards of Practice (ASOPs) and we have determined that the assumptions are reasonable individually and in the aggregate.

Schedule C of this report presents a summary of the main provisions of the Pension Plans used in the valuations.

Schedule D details the age and service breakdown of the active participants and the salary used in the valuation.

Schedule E provides a forecast of the appropriation payments over the amortization period through FYE 2043 assuming payments are made mid-fiscal year. The appropriation for FYE 2015 will remain as budgeted, while results of this report will officially go into effect for the FYE 2016 appropriation.

Schedule F illustrates the development of the Net Pension Obligation as of June 30, 2014.

Section 2 – Employee Data

Employee and inactive participant data was furnished by the City. Buck did not audit the data although they were reviewed for reasonableness and consistency with the prior year's information. The validity of the actuarial computations presented in this report is dependent upon the accuracy of the data provided.

Schedule D shows the number and annual salaries of active members.

The number and annual retirement allowances of retired and disabled lives and beneficiaries as of July 1, 2014 that are subject to the Court approved negotiated benefit changes are as follows:

	Number	Average Age	Annual Allowances
Retired Lives	209	66.32	\$13,630,534
Disabled Lives	56	65.39	\$ 3,163,206
Beneficiaries	86	75.47	\$ 3,099,384
Total	351	68.41	\$19,893,124

The number and annual retirement allowances of retired and disabled lives and beneficiaries as of July 1, 2014 that opted out of the Court approved negotiated benefit changes are as follows:

	Number	Average Age	Annual Allowances
Retired Lives	54	60.49	\$ 2,982,787
Disabled Lives	21	58.07	\$ 1,149,943
Beneficiaries	0	0	\$ 0
Total	75	59.81	\$ 4,132,730

Section 3 – Assets

The amount of the assets taken into account in the valuation was obtained from information submitted by the City and the validity of the results presented in this report is dependent upon the accuracy of the financial information provided.

The value of the assets of the system as of July 1, 2014 was as follows:

Fund	Fire	Police	Total
Cash	\$882,617	\$561,611	\$1,444,228
PIMCO Bond Account	3	3	6
JMS Other Investments (REIT)	2,378,445	1,337,876	3,716,321
JMS-Non-Performing Annuity	3,728,722	2,097,406	5,826,128
JMS Account	4,894,746	2,248,925	7,143,671
Janney-Equities Stock/Options	21,390,417	13,279,759	34,670,176
Janney-Fx Inc Mut Fnd/ETF/UIT	8,708,207	5,133,561	13,841,768
Due From State of RI	0	0	0
Total Market Value of Assets	\$ 41,983,157	\$ 24,659,141	\$ 66,642,298
Contribution Receivable	<u>11,806,690</u>	<u>9,774,747</u>	<u>21,581,437</u>
Valuation Value of Assets with Receivable	\$ 53,789,847	\$ 34,433,888	\$ 88,223,735

Section 4 – Comments on Valuation

Schedule A of this report presents the results of the valuation and shows the present and prospective assets and liabilities of the Pension Plans as of July 1, 2014. Total aggregate actuarial liabilities equal (a) \$290,079,337, which equals the present value of obligations to retired members and their beneficiaries, plus (b) \$26,348,841, which equals the value of prospective benefits of active members, for a total of \$316,428,178. Against these prospective liabilities, the Plans have present assets of \$66,642,298. This leaves \$249,785,880 to be met by future contributions.

The unadjusted unfunded accrued liability amounts to \$246,347,729, leaving \$3,438,151 to be met by future normal contributions. We recommend normal contribution rates of 29.32% for Fire and 35.92% for Police. Applying these rates to the compensation of active members and assuming payment in FYE 2016 would produce a total normal contribution of \$941,585. Estimated employee contributions are \$323,439, leaving \$618,146 as the City's normal contribution.

Before amortizing the unfunded liability for the past service contribution payment, adjustments were made under the assumption that payment begins in FYE 2016. After adjusting for interest, an asset receivable of \$21,581,437 and mid-year payments, the new adjusted unfunded accrued liability amounts to \$251,161,759. The asset receivable is comprised of the FYE 2015 budgeted contribution payment of \$21,994,344 and a \$381,765 state allocation, discounted to July 1, 2014.

The adjusted unfunded accrued liability for the members who opted out of the Court approved benefit design will be amortized through FYE 2037, resulting in a past service contribution of \$3,856,406, commencing in FYE 2016.

The adjusted unfunded accrued liability for the members subject to the Court approved benefit design will be amortized through FYE 2042, resulting in a past service contribution of \$16,841,905, commencing in FYE 2016.

Section 5 – Accounting Information

On June 25, 2012 GASB released Statement Nos. 67 and 68, which supersede the requirements of Statement Nos. 25 and 27, respectively. The effective date for the financial reporting for pension plans under Statement No. 67 is for the financial reporting year commencing after June 15, 2013, i.e. the July 1, 2013 – June 30, 2014 fiscal year for the pension plan.

The disclosure requirements under GASB 67 were presented in a separate report dated October 21, 2014. Please refer to that document for all of the relevant accounting information.

Statement No. 68 pertains to governments sponsoring pension plans and its effective date is for the financial reporting year commencing after June 15, 2014, i.e. the July 1, 2014 – June 30, 2015 fiscal year for the City. Required GASB 68 information will be disclosed at that time. Since GASB 27 is in effect until that time, please see Schedule F for the appropriate GASB 27 disclosures.

Schedule A – Results of the Valuation as of July 1, 2014

	Fire	Police	Total
1. Actuarial Liabilities			
(a) Present Value of Benefits to be Paid on Account of Active Members	\$ 22,571,575	\$ 3,777,266	\$ 26,348,841
(b) Present Value of Benefits Payable to Retired Member and Beneficiaries	159,106,815	130,972,522	290,079,337
(c) Total Actuarial Liabilities	\$ 181,678,390	\$ 134,749,788	\$ 316,428,178
2. Market Value of Assets*	\$ 41,983,157	\$ 24,659,141	\$ 66,642,298
3. Total Prospective Contributions by the City (1(c) - 2.)	\$ 139,695,233	\$ 110,090,647	\$ 249,785,880
4. Unfunded Accrued Liability	\$ 137,081,497	\$ 109,266,232	\$ 246,347,729
5. Present Value of Future Normal Contributions	\$ 2,613,736	\$ 824,415	\$ 3,438,151
6. Present Value of Future Salaries of Present Active Members	\$ 8,915,000	\$ 2,295,000	\$ 11,210,000
7. Normal Contribution Rate (5. / 6.)	29.32%	35.92%	30.67%
8. Valuation Payroll Used for Contribution Purposes	\$ 2,455,963	\$ 449,902	\$ 2,905,865
9. Normal Cost Including Interest			
(a) Employees	\$ 275,393	\$ 48,046	\$ 323,439
(b) City	\$ 493,610	\$ 124,536	\$ 618,146
(c) Total (7. x 8., plus interest)	\$ 769,003	\$ 172,582	\$ 941,585
10. Asset Receivable as of July 1, 2014	\$ 11,806,690	\$ 9,774,747	\$ 21,581,437
11. Adjusted UAL for FYE 2016 payment	\$ 140,141,047	\$ 111,020,712	\$ 251,161,759
12. City Contribution to Amortize UAL			
(a) Court Approved Members through FYE 2042	\$ 10,711,666	\$ 6,130,238	\$ 16,841,905
(b) Opt Outs through FYE 2037	\$ 735,365	\$ 3,121,041	\$ 3,856,406
(c) Total	\$ 11,447,031	\$ 9,251,279	\$ 20,698,311
13. Total Contribution (Employees plus City) (9(c) + 12(c))	\$ 12,216,034	\$ 9,423,861	\$ 21,639,895
14. Recommended City Contribution for FYE 2016 payment (13. – 9(a))	\$ 11,940,641	\$ 9,375,815	\$ 21,316,456

* 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.

Schedule B – Summary of Assumptions

Actuarial Funding Assumptions

Funding valuation interest rate

7.50% per annum

Healthy Mortality

For pre- and post-retirement mortality, the RP-2000 Combined with Blue Collar Adjustment and mortality improvements projected to 2024 with Scale AA. The prior valuation assumed the same table but mortality improvements were projected to 2023.

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

Disabled Mortality

Healthy mortality, set forward 3 years.

Disability Incidence

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

Retirement age

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.

Schedule B – Summary of Assumptions (continued)

Cost-of-Living Increases (Court Approved Plan Provisions)

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, effective each July 1.

Cost-of-Living Increases (Opt Out Members)

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 1.

Actuarial Funding 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.

Actuarial Value of Assets

Equal to Market Value of Assets

Expenses

Paid by the city

Definition of Pay

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

Marriage Assumption

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

Schedule C – Summary of Main Provisions of Pension Systems

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 $66\frac{2}{3}\%$ 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 $33\frac{1}{3}\%$ 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.

Benefit upon Death after Retirement

Upon death of a retired member, $67\frac{1}{2}\%$ 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.

Schedule C – Summary of Main Provisions of Pension Systems

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 1.5% COLA would apply and then a 3.0% COLA for each year thereafter.

For members that opted out of Court approved Plan:

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 1.

Contributions by Members

Firefighters 10.5% of base compensation plus longevity and holiday pay

Police 10.0% of base compensation plus longevity and holiday pay

Section D – Employee Data – Active Participant Count and Regular Pay Scatter

Age	Service						Total Regular Pay
	Less than 10 Regular Pay	10 to 14 Regular Pay	15 to 19 Regular Pay	20 to 24 Regular Pay	25 to 29 Regular Pay	30 and Over Regular Pay	
35 to 39	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0
45 to 49	0	0	2	2	2	0	6
50 to 54	0	0	0	2	16	3	21 1,544,182
55 to 59	0	0	0	0	4	1	5
60 to 64	0	0	0	0	1	0	1
65 and Over	0	0	0	0	0	0	0
Total	0	0	2	4	23 1,682,193	4	33 2,420,747

Notes:

1. Regular Pay not shown in cells with fewer than 20 participants.
2. Total Regular Pay shown is before the holiday/longevity load.



Section E – Appropriation Forecast

City of Cranston - Fire & Police Pension Plans

Members of Plan that Opted Out of Court Approved Negotiated Benefits

Funding Policy = 100% of Scenario ARC plus additional contribution for State allocation

Amortization Period Extended Through FYE 2037

Fiscal Year Ending	Employer Normal Cost	UAL Amortization	ARC	Employer Contribution	Funded Ratio	Benefit Payments
6/30/2015	\$0	\$4,139,584	\$4,139,584	\$3,983,445	20.7%	\$4,134,138
6/30/2016	0	3,856,406	3,856,406	3,856,406	21.8%	4,130,757
6/30/2017	0	3,856,406	3,856,406	3,856,406	23.1%	4,120,460
6/30/2018	0	3,856,406	3,856,406	3,856,406	24.4%	4,114,758
6/30/2019	0	3,856,406	3,856,406	3,856,406	25.9%	4,086,500
6/30/2020	0	3,856,406	3,856,406	3,856,406	27.6%	4,051,218
6/30/2021	0	3,856,406	3,856,406	3,856,406	29.5%	4,017,163
6/30/2022	0	3,856,406	3,856,406	3,856,406	31.7%	3,974,569
6/30/2023	0	3,856,406	3,856,406	3,856,406	34.0%	3,931,806
6/30/2024	0	3,856,406	3,856,406	3,856,406	36.5%	3,998,600
6/30/2025	0	3,856,406	3,856,406	3,856,406	39.1%	4,062,182
6/30/2026	0	3,856,406	3,856,406	3,856,406	41.9%	4,122,075
6/30/2027	0	3,856,406	3,856,406	3,856,406	44.8%	4,177,727
6/30/2028	0	3,856,406	3,856,406	3,856,406	48.1%	4,228,602
6/30/2029	0	3,856,406	3,856,406	3,856,406	51.6%	4,273,864
6/30/2030	0	3,856,406	3,856,406	3,856,406	55.4%	4,312,592
6/30/2031	0	3,856,406	3,856,406	3,856,406	59.7%	4,344,145
6/30/2032	0	3,856,406	3,856,406	3,856,406	64.5%	4,367,812
6/30/2033	0	3,856,406	3,856,406	3,856,406	69.8%	4,382,909
6/30/2034	0	3,856,406	3,856,406	3,856,406	75.9%	4,388,989
6/30/2035	0	3,856,406	3,856,406	3,856,406	82.9%	4,385,507
6/30/2036	0	3,856,406	3,856,406	3,856,406	90.8%	4,371,767
6/30/2037	0	3,856,406	3,856,406	3,856,406	100.0%	4,347,256
6/30/2038	0	0	0	0	100.0%	4,311,244
6/30/2039	0	0	0	0	100.0%	4,262,994
6/30/2040	0	0	0	0	100.0%	4,201,693
6/30/2041	0	0	0	0	100.0%	4,126,290
6/30/2042	0	0	0	0	100.0%	4,035,993
6/30/2043	0	0	0	0	100.0%	3,930,235

Section E – Appropriation Forecast

City of Cranston - Fire & Police Pension Plans

Only Members that Agreed to Court Approved Negotiated Benefits

Funding Policy = 100% of Scenario ARC plus additional contribution for State allocation

Amortization Period Extended Through FYE 2042

Fiscal Year Ending	Employer Normal Cost	UAL Amortization	ARC	Employer Contribution	Funded Ratio	Benefit Payments
6/30/2015	\$882,628	\$17,331,370	\$18,213,998	\$18,392,664	22.8%	\$19,994,248
6/30/2016	618,145	16,841,905	17,460,050	17,460,050	23.6%	20,130,438
6/30/2017	515,455	16,841,905	17,357,360	17,357,360	24.3%	20,681,728
6/30/2018	421,336	16,841,905	17,263,241	17,263,241	25.0%	20,701,916
6/30/2019	338,794	16,841,905	17,180,699	17,180,699	25.5%	21,164,221
6/30/2020	266,996	16,841,905	17,108,901	17,108,901	26.1%	21,077,721
6/30/2021	197,272	16,841,905	17,039,177	17,039,177	26.6%	21,398,571
6/30/2022	154,362	16,841,905	16,996,267	16,996,267	27.3%	21,137,119
6/30/2023	127,106	16,841,905	16,969,011	16,969,011	27.9%	21,337,304
6/30/2024	102,735	16,841,905	16,944,640	16,944,640	28.6%	21,256,068
6/30/2025	80,838	16,841,905	16,922,743	16,922,743	29.4%	21,162,704
6/30/2026	53,132	16,841,905	16,895,037	16,895,037	30.3%	21,262,192
6/30/2027	34,291	16,841,905	16,876,196	16,876,196	31.2%	21,326,483
6/30/2028	19,904	16,841,905	16,861,809	16,861,809	32.3%	21,322,682
6/30/2029	16,025	16,841,905	16,857,930	16,857,930	33.5%	21,294,171
6/30/2030	9,566	16,841,905	16,851,471	16,851,471	34.8%	21,224,504
6/30/2031	5,076	16,841,905	16,846,981	16,846,981	36.4%	21,107,204
6/30/2032	3,378	16,841,905	16,845,283	16,845,283	38.3%	20,944,048
6/30/2033	2,714	16,841,905	16,844,619	16,844,619	40.5%	20,740,857
6/30/2034	425	16,841,905	16,842,330	16,842,330	43.2%	20,483,838
6/30/2035	0	16,841,905	16,841,905	16,841,905	46.5%	20,173,483
6/30/2036	0	16,841,905	16,841,905	16,841,905	50.4%	19,808,887
6/30/2037	0	16,841,905	16,841,905	16,841,905	55.1%	19,389,244
6/30/2038	0	16,841,905	16,841,905	16,841,905	60.9%	18,913,036
6/30/2039	0	16,841,905	16,841,905	16,841,905	68.0%	18,381,090
6/30/2040	0	16,841,905	16,841,905	16,841,905	76.6%	17,795,487
6/30/2041	0	16,841,905	16,841,905	16,841,905	87.1%	17,158,579
6/30/2042	0	16,841,905	16,841,905	16,841,905	100.0%	16,473,565
6/30/2043	0	0	0	0	100.0%	15,744,591

Section E – Appropriation Forecast

City of Cranston - Fire & Police Pension Plans

Appropriation Forecast for ALL MEMBERS After Approved Pension Reform

Fiscal Year Ending	Employer Normal Cost**	UAL Amortization	ARC	Employer Contribution	Funded Ratio	Benefit Payments
6/30/2015*	\$882,638	\$21,470,953	\$22,353,591	\$22,376,109	22.5%	\$24,128,386
6/30/2016	618,145	20,698,311	21,316,456	21,316,456	23.3%	24,261,195
6/30/2017	515,455	20,698,311	21,213,766	21,213,766	24.1%	24,802,188
6/30/2018	421,336	20,698,311	21,119,647	21,119,647	24.9%	24,816,674
6/30/2019	338,794	20,698,311	21,037,105	21,037,105	25.6%	25,250,720
6/30/2020	266,996	20,698,311	20,965,307	20,965,307	26.4%	25,128,939
6/30/2021	197,272	20,698,311	20,895,583	20,895,583	27.1%	25,415,735
6/30/2022	154,362	20,698,311	20,852,673	20,852,673	28.0%	25,111,687
6/30/2023	127,106	20,698,311	20,825,417	20,825,417	29.0%	25,269,110
6/30/2024	102,735	20,698,311	20,801,046	20,801,046	30.0%	25,254,668
6/30/2025	80,838	20,698,311	20,779,149	20,779,149	31.2%	25,224,885
6/30/2026	53,132	20,698,311	20,751,443	20,751,443	32.4%	25,384,267
6/30/2027	34,291	20,698,311	20,732,602	20,732,602	33.7%	25,504,210
6/30/2028	19,904	20,698,311	20,718,215	20,718,215	35.2%	25,551,284
6/30/2029	16,025	20,698,311	20,714,336	20,714,336	36.8%	25,568,035
6/30/2030	9,566	20,698,311	20,707,877	20,707,877	38.7%	25,537,097
6/30/2031	5,076	20,698,311	20,703,387	20,703,387	40.8%	25,451,349
6/30/2032	3,378	20,698,311	20,701,689	20,701,689	43.3%	25,311,860
6/30/2033	2,714	20,698,311	20,701,025	20,701,025	46.2%	25,123,767
6/30/2034	425	20,698,311	20,698,736	20,698,736	49.5%	24,872,827
6/30/2035	0	20,698,311	20,698,311	20,698,311	53.6%	24,558,990
6/30/2036	0	20,698,311	20,698,311	20,698,311	58.3%	24,180,654
6/30/2037	0	20,698,311	20,698,311	20,698,311	64.0%	23,736,500
6/30/2038	0	16,841,905	16,841,905	16,841,905	68.7%	23,224,280
6/30/2039	0	16,841,905	16,841,905	16,841,905	74.4%	22,644,083
6/30/2040	0	16,841,905	16,841,905	16,841,905	81.4%	21,997,180
6/30/2041	0	16,841,905	16,841,905	16,841,905	89.8%	21,284,869
6/30/2042	0	16,841,905	16,841,905	16,841,905	100.0%	20,509,558
6/30/2043	0	0	0	0	100.0%	19,674,825

* The appropriation for FYE 2015 remains as previously budgeted and includes \$381,765 in expected State incentive aid.

** Normal cost was trended according to projected salary.

Section F – Development of NPO for Fiscal Year Ending June 30, 2014



(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Fiscal Year	Val Int. Rate	Amortization Years	Amortization Factor	ARC City Cont.	Actual City Cont.	Beginning of year NPO	Annual Pension Cost [(5)+(7)*(2)-(7)/(4)]	Increase in NPO [(8)-(6)]	End of Year NPO [(7)+(9)]
1989-1990	8.00%	40	11.9246	\$6,791,992	\$3,703,000	\$ -	\$6,791,992	\$3,088,992	\$3,088,992
1990-1991	8.00%	40	11.9246	6,791,992	4,267,434	3,088,992	6,780,068	2,512,634	5,601,626
1991-1992	8.00%	40	11.9246	10,940,483	3,950,320	5,601,626	10,918,859	6,968,539	12,570,165
1992-1993	8.00%	40	11.9246	10,940,483	5,041,249	12,570,165	10,891,959	5,850,710	18,420,875
1993-1994	8.00%	40	11.9246	10,940,483	5,671,320	18,420,875	10,869,374	5,198,054	23,618,929
1994-1995	8.00%	40	11.9246	13,733,262	6,133,800	23,618,929	13,642,087	7,508,287	31,127,216
1995-1996	8.00%	40	11.9246	13,733,262	7,343,643	31,127,216	13,613,103	6,269,460	37,396,676
1996-1997	8.00%	40	11.9246	16,940,010	7,182,962	37,396,676	16,795,649	9,612,687	47,009,363
1997-1998	8.00%	40	11.9246	16,940,010	8,124,186	47,009,363	16,758,542	8,634,356	55,643,719
1998-1999	8.00%	40	11.9246	16,029,156	8,241,549	55,643,719	15,814,357	7,572,808	63,216,527
1999-2000	8.00%	39	11.8786	16,012,994	10,149,365	63,216,527	15,748,433	5,599,068	68,815,595
2000-2001	8.00%	38	11.8288	16,012,994	12,610,513	68,815,595	15,700,610	3,090,097	71,905,692
2001-2002	8.00%	37	11.7752	18,996,537	9,482,990	71,905,692	18,642,456	9,159,466	81,065,158
2002-2003	8.00%	36	11.7172	24,945,408	14,949,999	81,065,158	24,512,145	9,562,146	90,627,304
2003-2004	8.00%	30	11.2578	21,877,449	23,876,569	90,627,304	21,077,454	(2,799,115)	87,828,189
2004-2005	8.00%	29	11.1584	22,147,958	20,024,158	87,828,189	21,303,175	1,279,017	89,107,206
2005-2006	8.00%	28	11.0511	21,723,021	21,339,876	89,107,206	20,788,384	(551,492)	88,555,714
2006-2007	8.00%	27	10.9352	21,723,021	21,723,021	88,555,714	20,709,227	(1,013,794)	87,541,920
2007-2008	8.00%	26	11.6748	20,785,343	19,889,000	87,541,920	20,290,331	401,331	87,943,251
2008-2009	8.00%	25	11.5288	20,062,219	19,087,000	87,943,251	19,469,516	382,516	88,325,767
2009-2010	8.00%	24	11.3711	22,209,224	19,396,892	88,325,767	21,507,692	2,110,800	90,436,567
2010-2011	8.00%	23	11.2007	23,947,728	19,947,728	90,436,567	23,108,496	3,160,768	93,597,335
2011-2012	8.00%	22	11.0168	24,154,120	20,369,456	93,957,335	23,146,036	2,776,580	96,373,915
2012-2013	8.00%	21	10.8181	25,705,110	21,994,344	96,373,915	24,506,482	2,512,138	98,886,053
2013-2014*	7.50%	25	11.9830	21,006,057	22,376,109	98,886,053	20,170,293	(2,205,816)	96,680,237

* Fiscal year 2013-2014 results are based on the June 30, 2012 valuation of the Option #1 benefit provisions of the Funding Improvement Plan and the actual contribution shown includes \$381,765 in State aid.