



**CITY OF PAWTUCKET
POLICE AND FIREFIGHTERS PENSION PLAN**

Actuarial Valuation Report
July 1, 2016

TABLE OF CONTENTS

	<u>Page</u>
REPORT SUMMARY	
Highlights	1
Introduction	2
Actuarial Experience	3
ACTUARIAL COSTS AND LIABILITIES	
Normal Costs	4
Present Value of Actuarial Accrued Liabilities	5
Present Value of Future Benefits	6
FUNDED STATUS AND APPROPRIATIONS	
Market Value of Plan Assets	7
Actuarial Value of Plan Assets	8
Unfunded Actuarial Accrued Liabilities	9
Appropriations	10
Appropriation Forecast	11
EXHIBITS	
1 Age/Service Distribution with Salary	14
2 Retiree Distribution	15
3 Disabled Retiree Distribution	16
4 Distribution Forecast	17
5 Summary of Plan Provisions	18
6 Actuarial Methods and Assumptions	22
7 Glossary of Terms	26
CERTIFICATION	28
OLD PLAN	29

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Report Summary:**Highlights for the "New Plan"****July 1, 2015****July 1, 2016**Contributions

Funding Schedule FY 2017

\$13,646,297

\$13,646,297

Funding Schedule FY 2018

14,015,801

13,760,338

Funded Ratios

GAS No. 25

42.2%

42.2%

Participants

Actives

286

262

Retirees and Beneficiaries

345

368

Vested

0

0

Inactives

0

0

Disabled

4144

Total

672

674

Payroll

Payroll of Active Members

\$19,427,234

\$18,353,315

Average Payroll

67,927

70,051

Normal Cost

Employer

2,229,882

2,069,160

Employee

1,535,901

1,547,671

Administrative Expenses

45,000105,000

Total

3,810,783

3,721,831

Actuarial Accrued Liabilities

Actives

71,310,321

62,734,496

Retirees, Beneficiaries, Disabilities and Inactives

174,250,864192,847,426

Total

245,561,185

255,581,922

Actuarial Value of Assets103,696,681107,973,720Unfunded Actuarial Accrued Liabilities

\$141,864,504

\$147,608,202

Introduction

The purpose of this report is to present the findings of an actuarial valuation as of July 1, 2016, of City of Pawtucket Police and Firefighters Pension Plan. Results are shown for the “New Plan” as well as the “Old Plan”. Firefighters who were hired prior to July 1, 1972 and police officers who were hired prior to July 1, 1973 are part of the “Old” plan.

The Old Plan has been frozen to new participants since July 1, 1973 and all of the “Old” plan participants are now retirees or beneficiaries. The City has been and will continue to fund the obligation of the Old Plan on a Pay-as-you-go basis. Although 6 of the participants receive COLAs, the expectation is that mortality will continue to decrease the City’s costs from year-to-year.

The actuarial valuation is based on:

- Provisions of Collective Bargaining Agreements with the Police and Firefighters unions.
- Employee data provided by the City
- Asset information reported the City
- Actuarial assumptions approved by the City

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Any subsequent changes in plan provisions

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both 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 system 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 increased to \$147,608,202 from \$141,864,504. The increase is the result of net unfavorable actuarial experience during the preceding years, offset by a change in the actuarial asset method. The sources of actuarial (gains) and losses are as follows:

Assets	9,803,114
Salaries	226,962
New Participants	0
Retirements	3,362,898
Terminations	110,007
Active Mortality	(47,711)
Disabilities	948,774
Inactive - Mortality and data adjustments	(2,327,817)
Benefit Payments	(857,434)
Other	<u>(4,258)</u>
Total Actuarial (Gains) and Losses	11,214,535
Change in actuarial asset method	<u>(4,503,979)</u>
Total	6,710,556

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Actuarial Costs and Liabilities:

"New Plan" Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	<u>July 1, 2015</u>	<u>July 1, 2016</u>
Superannuation*	\$2,993,584	\$2,881,409
Termination	195,269	188,953
Death	152,450	144,006
Disability	424,480	402,463
Administrative Expenses	<u>45,000</u>	<u>105,000</u>
Total Normal Cost	3,810,783	3,721,831
% of Pay	19.6%	20.3%
Employee Contributions	1,535,901	1,547,671
% of Pay	7.9%	8.4%
Employer Normal Cost	\$2,274,882	\$2,174,160
% of Pay	11.7%	11.8%

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"New Plan" Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits earned by the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	<u>July 1, 2015</u>	<u>July 1, 2016</u>
Actives		
Superannuations	\$69,749,203	\$61,091,567
Termination	(14,805)	18,281
Death	990,334	891,139
Disability	<u>585,589</u>	<u>733,509</u>
Subtotal	71,310,321	62,734,496
 Retirees and Inactives		
Retirees and Beneficiaries	150,606,258	168,342,168
Vested	0	0
Terminated (Refund)	0	0
Disabled	<u>23,644,606</u>	<u>24,505,258</u>
Subtotal	174,250,864	192,847,426
 Total	 \$245,561,185	 \$255,581,922

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"New Plan" Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	<u>July 1, 2014</u>	<u>July 1, 2016</u>
Actives		
Superannuation	\$97,200,753	\$88,491,666
Termination	1,778,760	1,818,829
Death	2,379,717	2,248,741
Disability	<u>4,429,476</u>	<u>4,513,148</u>
Subtotal	105,788,706	97,072,384
Retirees and Inactives		
Retirees and Beneficiaries	150,606,258	168,342,168
Vested	0	0
Terminated (Refund)	0	0
Disabled	<u>23,644,606</u>	<u>24,505,258</u>
Subtotal	174,250,864	192,847,426
Total	\$280,039,570	\$289,919,810

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Funded Status and Appropriations:

"New Plan" Market and Actuarial Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	<u>July 1, 2015</u>	<u>July 1, 2016</u>
Cash equivalents	\$4,448,355	\$3,643,362
Short term investments	0	0
Fixed income securities	26,654,450	28,394,915
Equities	73,770,409	71,077,529
International	0	0
Real Estate	0	0
Venture Capital	0	0
Other	0	0
Accounts receivable	439,718	359,935
Accounts payable	(1,616,251)	(6,000)
Accrued income	<u>0</u>	<u>0</u>
Total Market Value	\$103,696,681	\$103,469,741
Total Actuarial Value	\$103,696,681	\$107,973,720

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (7.5%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 10%. The calculation of the actuarial value of assets as of July 1, 2016 is presented in Table V.

Table V

	<u>July 1, 2016</u>
(1) Market value at July 1, 2015	\$103,696,681
(2) 2016 Contributions	\$15,473,397
(3) 2016 Payments	(\$14,412,315)
(4) Net interest adjustment at 7.5% on (1), (2), and (3) to June 30, 2016	\$7,817,042
(5) Expected market value on July 1, 2016	\$112,574,805
(1) + (2) + (3) + (4)	
(6) Actual market value on July 1, 2016	\$103,469,741
(7) 2016 (Gain) / Loss	\$9,105,064
(8) 80% of 2015 (Gain) / Loss	\$7,284,051
(9) 2015 (Gain) / Loss	\$1,371,325
(10) 60% of 2014 (Gain) / Loss	\$822,795
(11) 2014 (Gain) / Loss	(\$7,744,722)
(12) 40% of 2013 (Gain) / Loss	(\$3,097,889)
(13) 2013 (Gain) / Loss	(\$2,524,891)
(14) 20% of 2012 (Gain) / Loss	(\$504,978)
(15) Actuarial value on July 1, 2016, (6) + (8) + (10) + (12) + (14) but not less than 80% nor greater than 120% of (6)	\$107,973,720
(16) Ratio of actuarial value to market value	104.35%
(17) Actuarial Value Return for 2015	13.53%
(18) Actuarial Value Return for 2016	6.97%
(19) Market Value Return for 2015	6.09%
(20) Market Value Return for 2016	-1.24%

"New Plan" Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	<u>July 1, 2015</u>	<u>July 1, 2016</u>
Actuarial Accrued Liability	\$245,561,185	\$255,581,922
Actuarial Assets	<u>103,696,681</u>	<u>107,973,720</u>
Unfunded Actuarial Accrued Liability	\$141,864,504	\$147,608,202
Funded Status	42.2%	42.2%

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"New Plan" Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the desire of the City of Pawtucket. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2035
 \$ 147,608,202 over 19 years with 3.37% increasing payments
- Interest adjustment for payments contributed quarterly over fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	<u>July 1, 2015</u>	<u>July 1, 2016</u>
Normal cost	\$2,274,882	\$2,174,160
Amortization payment of the unfunded liability	<u>10,684,006</u>	<u>10,802,529</u>
Total cost	\$12,958,888	\$12,976,689
% of Pay	66.7%	70.7%
Fiscal 2017 appropriation	\$13,646,297	\$13,646,297
Fiscal 2018 appropriation	\$14,015,801	\$13,760,338

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4% per year. Payments are assumed to be made quarterly.

The employer total cost is expected to increase during the next 19 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents about 74% of payroll, decreasing to 68% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 11.6%, thereafter.

"New Plan" Appropriation Forecast

Fiscal Year	Employee Payroll	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2017	\$18,353,315	\$1,547,671	\$2,233,474	\$11,412,823	\$13,646,297	74.4	42.2
2018	\$19,087,448	\$1,617,313	\$2,314,867	\$11,445,471	\$13,760,338	72.1	44.2
2019	\$19,850,946	\$1,690,050	\$2,399,198	\$11,831,200	\$14,230,398	71.7	46.3
2020	\$20,644,983	\$1,766,018	\$2,486,571	\$12,229,929	\$14,716,500	71.3	48.5
2021	\$21,470,783	\$1,845,360	\$2,577,095	\$12,642,095	\$15,219,190	70.9	50.7
2022	\$22,329,614	\$1,928,224	\$2,670,883	\$13,068,152	\$15,739,035	70.5	53.1
2023	\$23,222,799	\$2,014,764	\$2,768,051	\$13,508,568	\$16,276,619	70.1	55.5
2024	\$24,151,710	\$2,105,142	\$2,868,718	\$13,963,826	\$16,832,544	69.7	58.1
2025	\$25,117,779	\$2,199,526	\$2,973,010	\$14,434,428	\$17,407,438	69.3	60.8
2026	\$26,122,490	\$2,298,094	\$3,081,056	\$14,920,889	\$18,001,945	68.9	63.6
2027	\$27,167,390	\$2,401,027	\$3,192,988	\$15,423,745	\$18,616,733	68.5	66.6
2028	\$28,254,085	\$2,508,518	\$3,308,945	\$15,943,547	\$19,252,492	68.1	69.6
2029	\$29,384,249	\$2,620,766	\$3,429,070	\$16,480,868	\$19,909,938	67.8	72.9
2030	\$30,559,619	\$2,737,981	\$3,553,511	\$17,036,297	\$20,589,808	67.4	76.2
2031	\$31,782,003	\$2,860,380	\$3,682,421	\$17,610,445	\$21,292,866	67.0	79.7
2032	\$33,053,283	\$2,974,796	\$3,829,717	\$18,203,943	\$22,033,660	66.7	83.4
2033	\$34,375,415	\$3,093,787	\$3,982,906	\$18,817,442	\$22,800,348	66.3	87.3
2034	\$35,750,431	\$3,217,539	\$4,142,222	\$19,451,617	\$23,593,839	66.0	91.3
2035	\$37,180,449	\$3,346,240	\$4,307,911	\$20,107,165	\$24,415,076	65.7	95.5
2036	\$38,667,667	\$3,480,090	\$4,480,228	\$0	\$4,480,228	11.6	100.0
2037	\$40,214,373	\$3,619,294	\$4,659,437	\$0	\$4,659,437	11.6	100.0
2038	\$41,822,948	\$3,764,065	\$4,845,814	\$0	\$4,845,814	11.6	100.0
2039	\$43,495,866	\$3,914,628	\$5,039,647	\$0	\$5,039,647	11.6	100.0
2040	\$45,235,701	\$4,071,213	\$5,241,233	\$0	\$5,241,233	11.6	100.0
2041	\$47,045,129	\$4,234,062	\$5,450,882	\$0	\$5,450,882	11.6	100.0
2042	\$48,926,934	\$4,403,424	\$5,668,917	\$0	\$5,668,917	11.6	100.0
2043	\$50,884,011	\$4,579,561	\$5,895,674	\$0	\$5,895,674	11.6	100.0
2044	\$52,919,372	\$4,762,743	\$6,131,501	\$0	\$6,131,501	11.6	100.0
2045	\$55,036,147	\$4,953,253	\$6,376,761	\$0	\$6,376,761	11.6	100.0
2046	\$57,237,592	\$5,151,383	\$6,631,832	\$0	\$6,631,832	11.6	100.0
2047	\$59,527,096	\$5,357,439	\$6,897,105	\$0	\$6,897,105	11.6	100.0
2048	\$61,908,180	\$5,571,736	\$7,172,989	\$0	\$7,172,989	11.6	100.0

** Beginning of Fiscal Year

EXHIBITS

Exhibit 1 - Age/Service Distribution with Average Salary as of July 1, 2016

Attained Age	Service									Total
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	16	0	0	0	0	0	0	0	0	16
	58,379	0	0	0	0	0	0	0	0	58,379
25-29	22	6	0	0	0	0	0	0	0	28
	56,410	67,425	0	0	0	0	0	0	0	58,770
30-34	15	19	15	0	0	0	0	0	0	49
	62,053	65,924	67,031	0	0	0	0	0	0	65,078
35-39	5	15	14	0	0	0	0	0	0	34
	62,928	66,804	68,796	0	0	0	0	0	0	67,054
40-44	4	4	20	18	5	0	0	0	0	51
	62,052	66,964	69,157	74,304	76,097	0	0	0	0	70,925
45-49	2	3	10	10	13	3	0	0	0	41
	61,457	67,322	69,371	71,559	76,466	83,573	0	0	0	72,658
50-54	0	0	6	4	11	1	4	0	0	26
	0	0	68,147	69,502	77,891	66,071	77,409	0	0	73,823
55-59	0	0	0	1	1	6	5	0	0	13
	0	0	0	75,149	65,085	76,674	79,031	0	0	76,572
60-64	0	0	0	0	0	2	1	1	0	4
	0	0	0	0	0	72,027	85,615	69,250	0	74,730
65-69	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Total Employees	64	47	65	33	30	12	10	1	0	262
Average Salary	59,244	66,574	68,528	72,916	76,548	76,741	79,040	69,250	0	68,161

Exhibit 2 - Retiree Distribution as of July 1, 2016

Attained Age	Number of Retirees			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	1	0	1	1,830	0	1,830
40-44	0	2	2	0	4,925	4,925
45-49	3	13	16	3,926	49,308	53,234
50-54	5	36	41	7,547	138,149	145,696
55-59	4	53	57	6,555	204,330	210,885
60-64	13	39	52	24,689	132,176	156,865
65-69	9	55	64	12,507	182,396	194,904
70-74	11	48	59	15,498	146,074	161,572
75-79	8	21	29	8,814	48,518	57,331
80-84	10	16	26	12,689	34,885	47,574
85-89	2	13	15	3,589	30,127	33,715
90-94	5	0	5	5,174	0	5,174
95+	1	0	1	717	0	717
Total	72	296	368	103,536	970,887	1,074,423
Average (Age/Payment)	74.31	66.88	68.69	1,438	3,280	2,920
Frequency Percent	19.6	80.4	100	9.6	90.4	100

Exhibit 3 - Disabled Retiree Distribution as of July 1, 2016

Attained Age	Number of Retirees			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	1	1	0	4,141	4,141
35-39	1	3	4	4,274	11,943	16,217
40-44	0	3	3	0	11,009	11,009
45-49	0	6	6	0	18,689	18,689
50-54	1	8	9	2,715	26,532	29,246
55-59	0	3	3	0	9,601	9,601
60-64	0	11	11	0	34,226	34,226
65-69	0	6	6	0	20,146	20,146
70-74	0	0	0	0	0	0
75-79	0	1	1	0	4,209	4,209
80-84	0	0	0	0	0	0
85-89	0	0	0	0	0	0
90-94	0	0	0	0	0	0
95-99	0	0	0	0	0	0
Total	2	42	44	6,988	140,495	147,484
Average (Age/Payment)	44.45	54.82	54.35	3,494	3,345	3,352
Frequency Percent	4.5	95.5	100	4.7	95.3	100

EXHIBIT 4 - "NEW PLAN" CASHFLOW FORECAST

The following is a 30 year forecast of benefit payments, Contribution Income and Investment Returns.

Fiscal Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns 7.5%	Net change in plan assets
2017	\$14,941,161	\$1,547,671	\$13,646,297	\$8,404,872	\$8,657,680
2018	15,358,137	1,617,313	13,760,338	9,417,405	9,436,919
2019	16,047,760	1,690,050	14,230,398	10,148,676	10,021,365
2020	16,624,028	1,766,018	14,716,500	10,924,612	10,783,102
2021	17,243,577	1,845,360	15,219,190	11,758,539	11,579,512
2022	17,832,058	1,928,224	15,739,035	12,653,086	12,488,287
2023	18,428,729	2,014,764	16,276,619	13,616,713	13,479,366
2024	19,016,684	2,105,142	16,832,544	14,655,627	14,576,629
2025	19,666,949	2,199,526	17,407,438	15,777,824	15,717,839
2026	20,312,864	2,298,094	18,001,945	16,986,636	16,973,811
2027	21,076,295	2,401,027	18,616,733	18,290,708	18,232,173
2028	21,808,242	2,508,518	19,252,492	19,690,256	19,643,024
2029	22,680,572	2,620,766	19,909,938	21,196,756	21,046,888
2030	23,587,795	2,737,981	20,589,808	22,809,723	22,549,718
2031	24,531,307	2,860,380	21,292,866	24,536,624	24,158,563
2032	25,512,559	2,974,796	22,033,660	26,385,088	25,880,985
2033	26,533,061	3,093,787	22,800,348	28,364,013	27,725,087
2034	27,594,384	3,217,539	23,593,839	30,482,572	29,699,567
2035	28,698,159	3,346,240	24,415,076	32,750,589	31,813,746
2036	29,846,085	3,480,090	4,480,228	34,164,157	12,278,389
2037	31,039,929	3,619,294	4,659,437	35,094,288	12,333,091
2038	32,281,526	3,764,065	4,845,814	36,028,893	12,357,246
2039	33,572,787	3,914,628	5,039,647	36,965,694	12,347,182
2040	34,915,698	4,071,213	5,241,233	37,902,140	12,298,887
2041	36,312,326	4,234,062	5,450,882	38,835,380	12,207,998
2042	37,764,819	4,403,424	5,668,917	39,762,237	12,069,759
2043	39,275,412	4,579,561	5,895,674	40,679,176	11,878,999
2044	40,846,429	4,762,743	6,131,501	41,582,277	11,630,092
2045	42,480,286	4,953,253	6,376,761	42,467,196	11,316,924
2046	43,748,426	5,151,383	6,631,832	43,329,134	11,363,922

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Collective Bargaining Agreements as of July 1, 2016, and does not take into account any subsequent changes.

1. Administration

The City of Pawtucket administers the plan.

2. Participation

Participation is mandatory for employees of the City of Pawtucket who are covered under a collective bargaining agreement between the City of Pawtucket and the Pawtucket Fire Fighters Independent Union and the City of Pawtucket and the Pawtucket Lodge No. 4, Fraternal Order of Police.

3. Salary

Salary is defined as gross regular salary to include the base salary, holiday pay, longevity, out of grade pay and shift differential (if applicable).

4. Member Contributions

Employees hired after May 1, 2013 contribute 9%. Members contribute 8.5%, increasing to 9% commencing July 1, 2016.

5. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the pension plan.

6. Service Retirement

a. Eligibility:

Completion of 20 years of service

b. Benefit Amount:

Police: 50% of final average compensation plus an additional 2% of final average compensation for each year of service over 20 years, not to exceed 10 years. Final average compensation is defined as the highest 3 year average salary rate over the last 10 years.

Fire: 50% of final average compensation plus an additional 2% of final average compensation for each year of service over 20 years, not to exceed 10 years. Final average compensation is defined as the latest 3 year average salary rate.

7. **Accidental Disability**

a. **Eligibility:**

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. **Benefit Amount:**

The accidental disability amount is 66 2/3% of compensation at date of disability plus an additional 10% of compensation for each dependent child (until the child attains age 21), not to exceed 80% of compensation, payable to normal retirement date. If the date of disability is after 20 years of service, the disability benefit is payable until the member would have completed 25 years of employment. A normal retirement benefit is payable after the disability benefit is no longer payable.

8. **Termination Vested**

a. **Eligibility:**

Ten years of service

b. **Benefit Amount:**

Annual annuity payable at what would have been the 20th anniversary of employment.

9. Termination Non-Vested

c. Eligibility:

None

d. Benefit Amount:

Refund of employee contributions, plus interest (noncompounded).

10. Survivor Benefits

a. Eligibility:

None

b. Benefit Amount:

50% of compensation at date of death plus an additional 10% of compensation for each dependent child (until the child attains age 21), not to exceed 70% of compensation, payable for the lifetime of the surviving spouse or until the spouse remarries

12. Cost-of-Living Increases

Fire

<u>Effective Date</u>	<u>Increase</u>	<u>Compounded</u>
April 1, 1984	3.00%	Every 3 Years
July 1, 1986	1.50%	Annually
July 1, 1994	1.75%	Annually
July 1, 1995	2.00%	Annually
July 1, 1999	3.00%	Annually
July 1, 2004	3.00%	Annually

Police

<u>Effective Date</u>	<u>Increase</u>	<u>Compounded</u>
July 1, 1988	1.00%	Annually
July 1, 1989	1.50%	Annually
July 1, 1994	1.75%	Annually

July 1, 1996	2.00%	Annually
July 1, 1998	3.00%	Annually
July 1, 2004	3.00%	Annually

The cost-of-living adjustment is made on the service retirement benefit and the continuation of the service retirement benefit during the 10-year certain period. It is not applicable to a disability benefit or to a survivor benefit except as noted above.

Under the new plan provisions for active Members the COLA begin at the earlier of age 55 and 10 years following retirement. For the period FYE14 through FYE16, no COLAs will be made to the benefits for current retirees.

13. Postretirement Death Benefits

Benefit payable for the remainder of the 10-year certain period. Then a benefit of 67½% of the participant's pension benefit is payable to the surviving spouse. In addition, a \$15,000 funeral allowance is payable for Firefighters who die in the line of duty.

EXHIBIT 6 – 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, 2016.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 7.5% per annum, net of investment expenses.

5. Salary Scale

It is assumed that salaries including longevity will increase according to the following rates:

<u>Years of Service</u>	<u>Salary Increase</u>
0-1	8.50%
2-4	3.25%
5	11.00%
6-9	3.50%
10	4.25%
11-14	3.75%
15	4.50%
16-19	3.75%
20	4.75%
21-24	3.25%
25+	2.00%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% per year.

7. Value of Investments

Assets held by the fund are valued at market value. The actuarial value of assets is determined using a five-year smoothing of asset returns greater than or less than the assumed rate of return.

8. Annual Rate of Withdrawal Prior to Retirement

According to the following table.

<u>Service</u>	<u>Rate</u>
0	0.06000
1	0.03168
2	0.02886
3	0.02616
4	0.02364
5	0.02124
6	0.01896
7	0.01686
8	0.01494
9	0.01314
10	0.01146
11	0.00996
12	0.00858
13	0.00738
14	0.00630
15	0.00540
16	0.00462
17	0.00402
18	0.00354
19+	0.00000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 combined mortality table adjusted to Blue Collar (male tables) with 1 year setback, and Scale AA improvement through 2011. Disabled mortality is assumed to follow The RP-2000 combined mortality table adjusted to blue Collar (male tables) set forward 1 year for males and 2 years for females, and Scale AA improvement through 2011.

10. Service Retirement

Based on an analysis of experience and anticipated changes in behavior, the assumed annual retirement rates are illustrated as follows for Police:

<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>
20	0.20	30	0.25
21	0.20	31	0.20
22	0.20	32	0.20
23	0.05	33	0.35
24	0.05	34	0.35
25	0.05	35	0.50
26	0.05	36	0.50
27	0.05	37	0.50
28	0.05	38	0.50
29	0.05	39+	1.00

Based on an analysis of experience and anticipated changes in behavior, the assumed annual retirement rates are illustrated as follows for Firefighters:

<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>
20	0.10	28	0.10
21	0.15	29	0.10
22	0.15	30	0.25
23	0.15	31	0.20
24	0.10	32	0.20
25	0.10	33	0.35
26	0.10	34	0.35
27	0.10	35+	0.60

At 65 the rate is 100%, regardless of the number of years of service.

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:

Attained	
<u>Age</u>	<u>Rate</u>
25	.0020
30	.0020
35	.0020
40	.0020
45	.0050
50	.0063
55	.0060
60	.0043

12. Family Composition

It is assumed that 90% of male members and 75% of female members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2016 is \$105,000 and is anticipated to increase at 4% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of projected plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of projected pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Actuarial Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

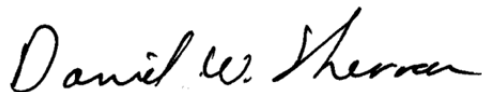
That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Pawtucket Police and Firefighters Pension Plan contributing as of July 1, 2016, 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 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

April, 2017

“OLD PLAN”

	July 1, 2015	July 1, 2016
Pensioners:		
Number	13	13
Average Age	90.15	91.15
Average Monthly benefit	\$1,624	\$1,633
Beneficiaries:		
Number	25	23
Average Age	86.12	86.13
Average Monthly benefit	\$796	\$797
Actuarial Accrued Liability	\$2,599,239	\$2,462,092