Town of Johnston, Rhode Island Firefighters Pension System

Actuarial Valuation and Review as of
July 1, 2015

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February 1, 2016

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Town of Johnston, Rhode Island Firefighters Pension System
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Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2015. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the Fiscal Year ending June 30, 2017 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Pension System. The census information and financial information on which our calculations were based was prepared by the Town of Johnston and the financial information was obtained from the Town of Johnston trial balance and journal entries for the Fiscal Year ended June 30, 2015. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were directed under our supervision. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Town are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: William Connolly 3ch

William Connolly, FCA, MAAA, EA
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SECTION 1

VALUATION SUMMARY

Purpose i

Significant Issues in Valuation Year i

Summary of Key Valuation Results ii

Important Information About Actuarial Valuations iii

SECTION 2

VALUATION RESULTS

A. Participant Data 1

B. Financial Information 4

C. Actuarial Experience 7

D. Recommended Contribution . 12

E. Additional Information 14

SECTION 3

SUPPLEMENTAL INFORMATION

EXHIBIT A
Table of Plan Coverage 15

EXHIBIT B
Participants in Active Service as of June 30, 2015 16

EXHIBIT C
Reconciliation of Participant Data 17

EXHIBIT D
Summary Statement of Income and Expenses on an Actuarial and Market Value Basis 18

EXHIBIT E
Development of the Fund Through June 30, 2015 19

EXHIBIT F
Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2015 20

EXHIBIT G
Definitions of Pension Terms 21

SECTION 4

REPORTING INFORMATION

EXHIBIT I
Summary of Actuarial Valuation Results 23

EXHIBIT II
History of Employer Contributions 25

EXHIBIT III
Schedule of Funding Progress . 26

EXHIBIT IV
Supplementary Information 27

EXHIBIT V
Actuarial Assumptions and Actuarial Cost Method 28

EXHIBIT VI
Summary of Plan Provisions ... 31

Purpose

This report has been prepared by Segal Consulting to present a valuation of the Town of Johnston, Rhode Island Firefighters Pension System as of July 1, 2015. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Town;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of July 1, 2015, provided by the Town;
- The assets of the Plan as of June 30, 2015, provided by the Town;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

1. As developed in this July 1, 2015 actuarial valuation, the actuarially determined employer contribution (ADEC) for the next fiscal year ending June 30, 2017 is $6,954,295.
2. The market value of assets earned a 0.85% rate of return for the plan year ending June 30, 2015. The actuarial value of assets is set equal to market value. This return was less than of the 7.50% investment return assumption, causing an investment loss of $1,564,895.
3. The ADEC increased from $6,607,532 in last year's valuation to $6,954,295 this year. The ADEC as a percentage of payroll increased from 205.02% to 219.06%. The unfunded actuarial liability increased from $58,180,013 to $60,676,233. Since the Plan is closed to new entrants, as the payroll continues to decrease, the contribution as a percent of payroll will grow. The increase in required contributions was mostly due to investment losses, contributions paid less than the recommended amount and salary increases greater than expected.
4. Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 are effective for fiscal years beginning after June 15, 2013 and June 15, 2014, respectively. GASB 67 and 68 information is not included in this report. Segal provided preliminary GASB 67 disclosure information as of June 30, 2015 on November 6, 2015. GASB 68 information for the Fiscal Year ending June 30, 2015 was provided in last year's valuation report. Upon receipt of audited asset information, final GASB 67 disclosure information will be prepared.

Summary of Key Valuation Results

	2015	2014
Contributions for following Fiscal Year beginning July 1:		
Recommended contribution	$6,954,295	$6,607,532
Recommended contribution as a percentage of projected payroll	219.06%	205.02%
Funding elements for plan year beginning July 1:		
Normal cost, including administrative expenses	$1,053,338	$1,068,747
Market value of assets	23,075,101	24,179,398
Actuarial value of assets	23,075,101	24,179,398
Actuarial accrued liability	83,751,334	82,359,411
Unfunded actuarial accrued liability	60,676,233	58,180,013
Funded ratio	27.55%	29.36%
Demographic data for plan year beginning July 1:		
Number of retired participants and beneficiaries	83	83
Number of active participants	30	31
Total payroll	$2,977,948	$3,023,153
Average payroll	99,265	97,521
Projected payroll	3,174,660	3,222,851

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the Town. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** The valuation is based on the market value of assets as of the valuation date, as provided by the Town.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Town. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the Town is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Town should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, retired participants and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the participant population has changed over the past ten valuations can be seen in this chart.

CHART 1

Participant Population: 2001 – 2015

Year Ended June 30	Active Participants	Retired Participants and Beneficiaries*	Ratio of Non-Actives to Actives
2001	72	43	0.60
2003	69	47	0.68
2005	63	53	0.84
2007	58	59	1.02
2009	42	74	1.76
2011	39	75	1.92
2012	40	76	1.90
2013	35	80	2.29
2014	31	83	2.68
2015	30	83	2.77

**Includes disabled retirees*

Active Participants
Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 30 active participants with an average age of 47.2, average years of service of 20.2 years and average payroll of $99,265. The 31 active participants in the prior valuation had an average age of 46.3, average service of 19.2 years and average payroll of $97,521.

The Plan has been closed to new hires since July 1, 1999.

Inactive Participants
In this year's valuation, there were no participants with a vested right to a deferred or immediate vested benefit.

These graphs show a distribution of active participants by age and by years of service.

CHART 2

Distribution of Active Participants by Age as of June 30, 2015

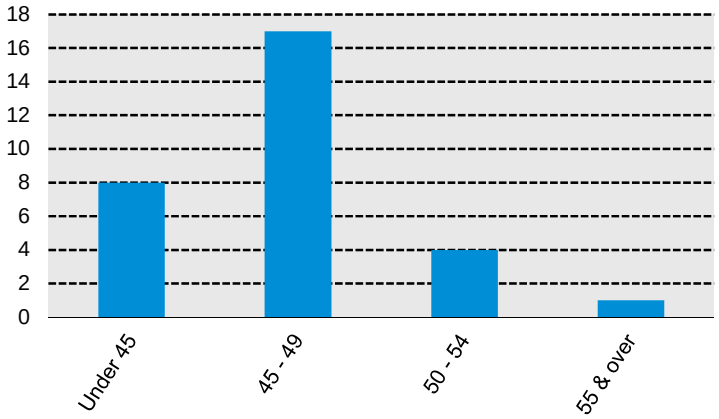
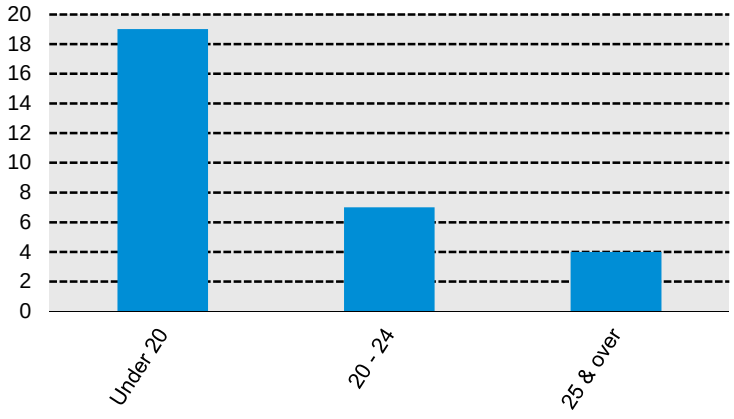


CHART 3

Distribution of Active Participants by Years of Service as of June 30, 2015



Retired Participants and Beneficiaries

As of June 30, 2015, 81 retired participants and two beneficiaries were receiving total monthly benefits of $364,427. For comparison, in the previous valuation, there were 81 retired participants and two beneficiaries receiving monthly benefits of $358,041.

These graphs show a distribution of the current retired participants based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Participants by Type and by Monthly Amount as of June 30, 2015

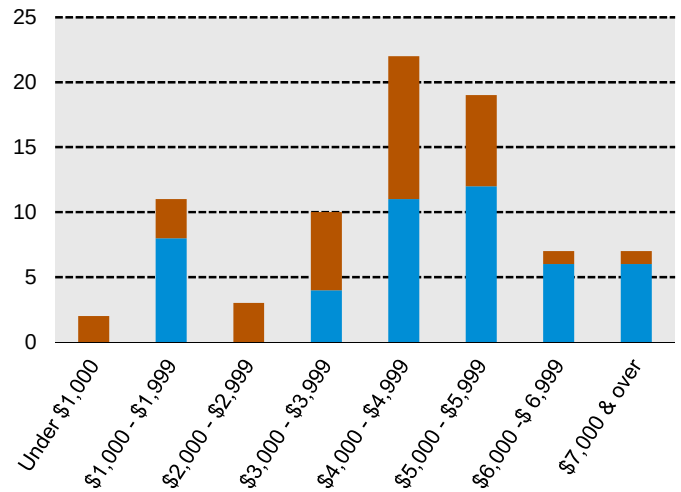
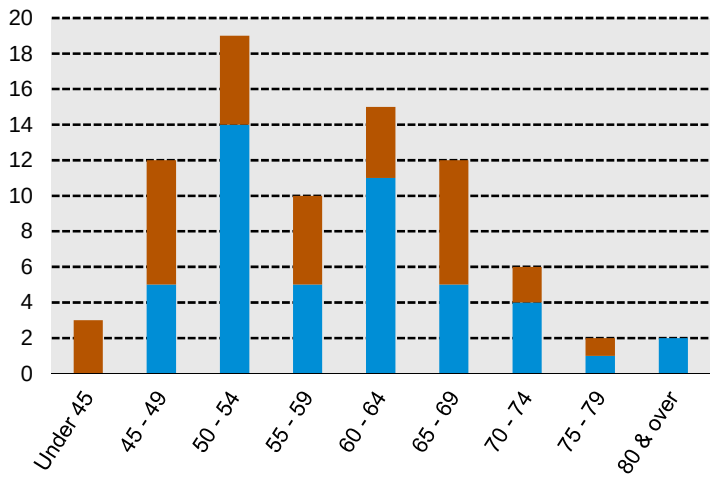


CHART 5

Distribution of Retired Participants by Type and by Age as of June 30, 2015



B. FINANCIAL INFORMATION

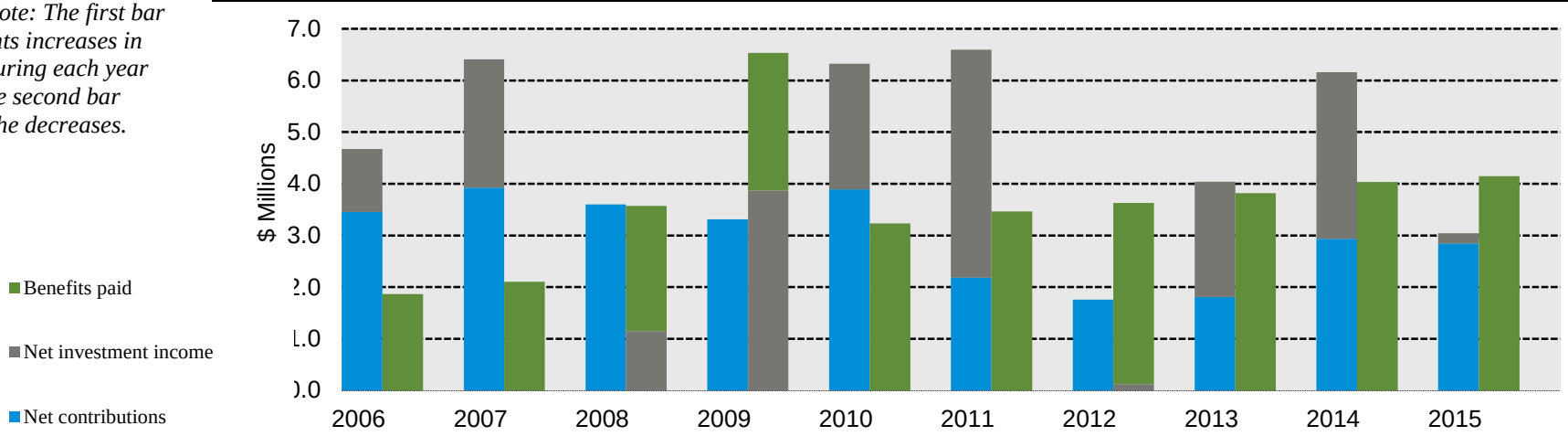
Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2006 – 2015



It is desirable to have level and predictable plan costs from one year to the next. However, the Town has approved an asset valuation method that uses market value. Under this valuation method, the full value of market fluctuation is recognized in a single year and, as a result, the asset value and the plan costs are relatively volatile.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2015

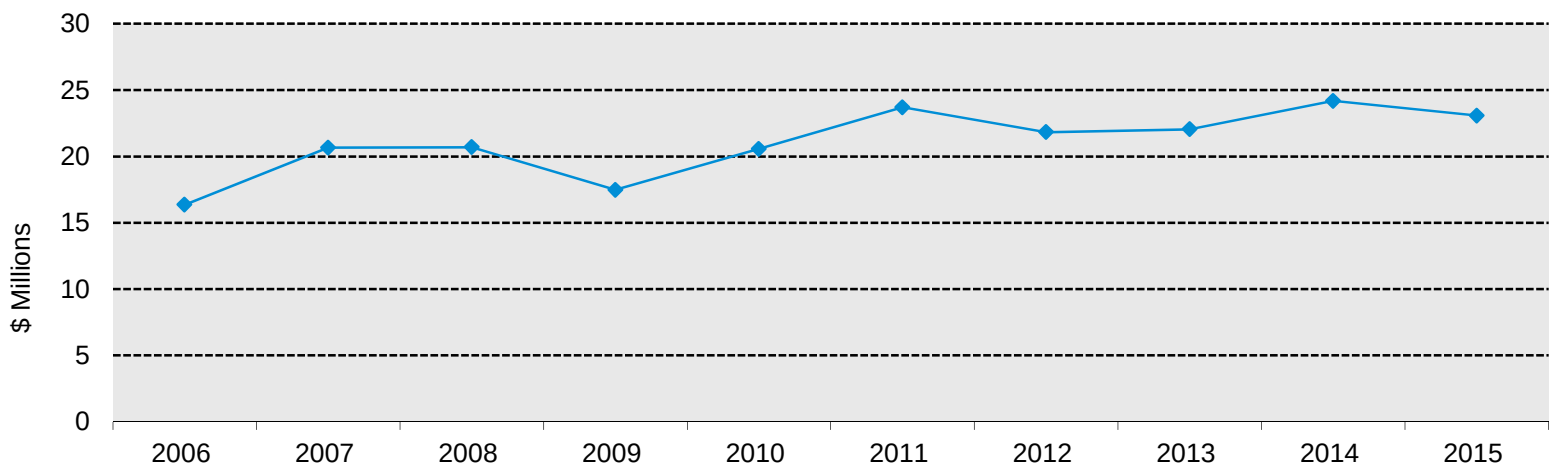
1. Actuarial value of assets at beginning of year (equal to market value)	$24,179,398
2. Employer contributions	2,620,273
3. Employee contributions	260,422
4. Purchase of service	35,117
5. Net Investment income	199,661
6. Benefit payments	-4,148,770
7. Administrative expenses	-71,000
8. Actuarial value of assets at end of year (equal to market value)	$23,075,101

The actuarial value (equal to the market value of assets) is a representation of the Firefighters Pension System's financial status. The actuarial asset value is significant because the Pension System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows how the actuarial value of assets (equal to the market value of assets) has changed over the past ten years.

CHART 8

Actuarial Value of Assets (equal to Market Value of Assets) as of June 30, 2006 – 2015



C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is $8,971, $1,564,895 from investment losses offset by $1,555,924 in gains from all other sources. The net experience variation from individual sources other than investments was 1.9% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9

Actuarial Experience for Year Ended June 30, 2015

1.	Net gain/(loss) from investments*	-$1,564,895
2.	Net gain/(loss) from administrative expenses	12,191
3.	Net gain/(loss) from other experience**	1,543,733
4.	Net experience gain/(loss): (1) + (2) + (3)	-$8,971

** Details in Chart 10*

*** Details in Chart 13*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Town of Johnston 's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.50%. The actual rate of return on an actuarial basis for the 2015 plan year was 0.85%.

Since the actual return for the year was less than the assumed return, the Firefighters Pension System experienced an actuarial loss during the year ended June 30, 2015 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Actuarial Value Investment Experience for Year Ended June 30, 2015

1.	Actual return	$199,661
2.	Average value of assets	23,527,419
3.	Actual rate of return: (1) ÷ (2)	0.85%
4.	Assumed rate of return	7.50%
5.	Expected return: (2) x (4)	$1,764,556
6.	Actuarial gain/(loss): (1) – (5)	-$1,564,895

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis for the last ten years, including five-year and ten-year averages.

CHART 11

Investment Return – Actuarial Value of Assets (equal to Market Value of Assets): 2006 - 2015

Year Ended June 30	Actuarial Value Investment Return	
	Amount	Percent
2006	$1,219,012	8.50%
2007	2,478,794	14.35
2008	-1,144,522	-5.39
2009	-3,871,296	-18.42
2010	2,434,222	13.68
2011	4,414,857	22.16
2012	-125,235	-0.55
2013	2,230,398	10.71
2014	3,228,280	15.01
2015	199,661	0.85
Total	$11,064,171	
	Five-year average return	9.16%
	Ten-year average return	5.52%

Note: Each year's yield is weighted by the average asset value in that year.

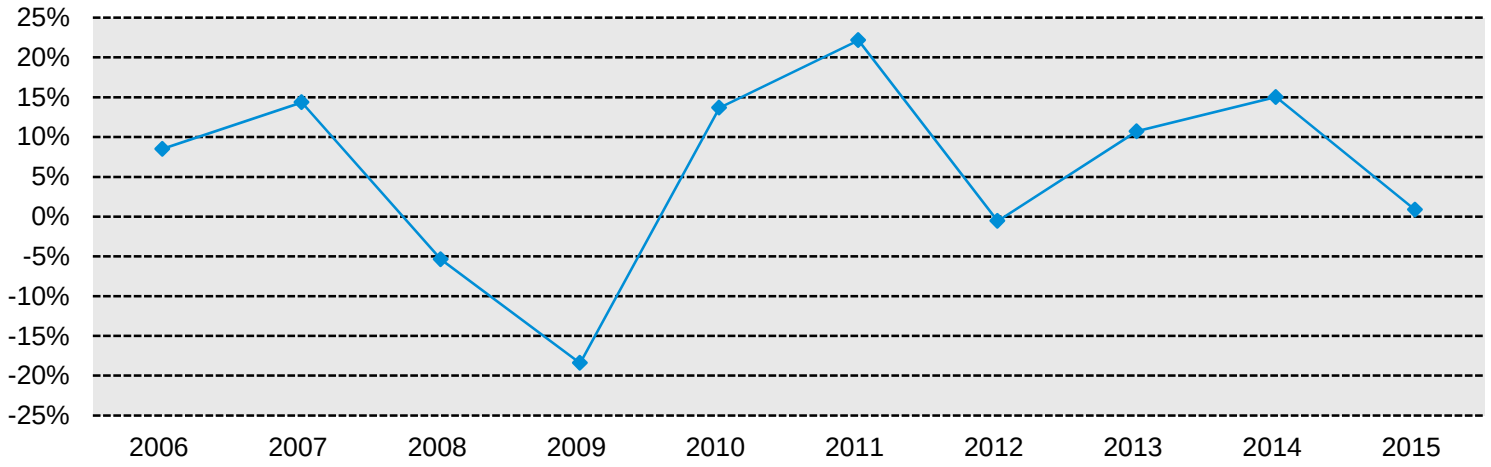
The actuarial value of assets has been equal to market value for the last ten years. This has resulted in relatively volatile actuarial rates of return and pension plan cost.

Administrative Expenses
Administrative expenses for the year ended June 30, 2015 totaled $71,000 compared to the assumption of $75,000. This resulted in a gain of $12,191 for the year. Because it is expected that these expenses will remain level, we have maintained the assumption of $75,000 payable as of the beginning of the year, for the current year.

This chart illustrates the rates of return.

CHART 12

Actuarial Rates of Return (equal to Market Value Rates of Return) for Years Ended June 30, 2006 - 2015



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

.

The net gain from this other experience for the year ended June 30, 2015 amounted to $1,543,733, which is 1.8% of the actuarial accrued liability.

A brief summary of the demographic gain/(loss) experience of the Firefighters Pension System for the year ended June 30, 2015 is shown in the chart below.

The chart shows elements of the experience gain/(loss) for the most recent year.

CHART 13

Experience Due to Changes in Demographics for Year Ended June 30, 2015

1.	Pay status experience	$760,615
2.	Salary increases less than expected	238,236
3.	Actual benefit payments less than expected	180,320
4.	Retirement experience different than expected	-135,974
5.	Disability retirement experience different than expected	121,073
6.	Deaths among retired members and beneficiaries	96,499
7.	Pre-Retirement Mortality	3,817
8.	Miscellaneous	279,147
9.	Total	$1,543,733

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the funding rate of 219.06% of payroll.

Effective July 1, 2012, the recommended contribution is based on a 24-year amortization of the unfunded actuarial accrued liability. As of July 1, 2015, there are 21 years remaining on this schedule.

Prior to July 1, 2012, the amortization period was 30 years with 18 years remaining as of July 1, 2011.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 14

Recommended Contribution

	Year Beginning July 1			
	2015		2014	
	Amount	% of Payroll	Amount	% of Payroll
1. Total benefit normal cost*	$978,338	32.85%	$993,747	32.87%
2. Administrative expenses*	75,000	2.52%	75,000	2.48%
3. Expected employee contributions*	-238,236	-8.00%	-241,852	-8.00%
4. Employer normal cost: (1) + (2) + (3)*	$815,102	27.37%	$826,895	27.35%
5. Actuarial accrued liability	83,751,334		82,359,411	
6. Actuarial value of assets	23,075,101		24,179,398	
7. Unfunded actuarial accrued liability: (5) - (6)	$60,676,233		$58,180,013	
8. Payment on unfunded/(overfunded) actuarial accrued liability*	5,420,187	182.01%	5,097,482	168.61%
9. Total recommended contribution: (4) + (8), adjusted for timing**	$6,954,295	219.06%	$6,607,532	205.02%
10. Projected payroll	$3,174,660		$3,222,851	

**As a percent of reported payroll.*

***Recommended contributions are assumed to be paid at the middle of the next fiscal year.*

The recommended contribution as of July 1, 2015 is based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Contribution

The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation.

The chart reconciles the contribution from the prior valuation to the amount determined in this valuation.

CHART 15

Reconciliation of Recommended Contribution

Recommended Mid-Year Contribution for Fiscal Year Ending June 30, 2016	$6,607,532
Effect of contributions less than recommended contribution	362,652
Effect of other gains and losses on accrued liability	-158,647
Effect of investment loss	155,911
Effect of net other changes	-13,153
Total change	$346,763
Recommended Mid-Year Contribution for Fiscal Year Ending June 30, 2017	$6,954,295

E. ADDITIONAL INFORMATION

Chart 16 shows a comparison of recommended and actual contributions. As shown on the chart, contributions for the last five years are significantly below the recommended amounts.

Chart 17 shows the funded ratio over the last ten years. The funded ratio is the ratio of the actuarial value of assets (set equal to market value) to the actuarial accrued liability. As shown on the chart, the funded ratio has been below 30% for the last four years.

These graphs show recommended vs. actual contributions and the funded ratio over the last ten years.

CHART 16

Recommended Versus Actual Contributions

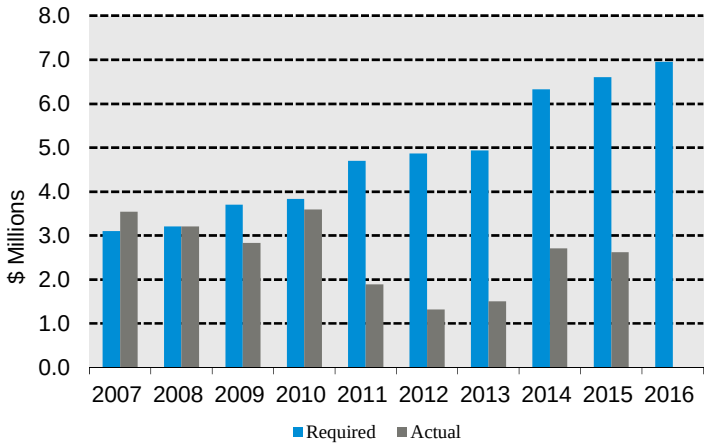


CHART 17

Funded Ratio

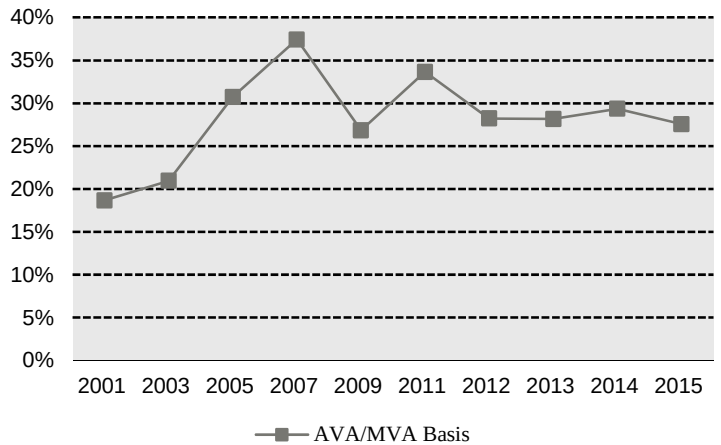


EXHIBIT A

Table of Plan Coverage

Category	Year Ended June 30 2015	2014	Change From Prior Year
Active participants in valuation:			
Number	30	31	-3.2%
Average age	47.2	46.3	N/A
Average years of service	20.2	19.2	N/A
Total payroll	$2,977,948	$3,023,153	-1.5%
Average payroll	99,265	97,521	1.8%
Total active vested participants	30	31	-3.2%
Retired participants:			
Number in pay status	47	47	0.0%
Average age	60.0	59.4	N/A
Average monthly benefit	$4,746	$4,658	1.9%
Disabled participants:			
Number in pay status	34	34	0.0%
Average age	57.0	56.0	N/A
Average monthly benefit	$4,011	$3,948	1.6%
Beneficiaries in pay status:			
Number in pay status	2	2	0.0%
Average age	63.4	62.4	N/A
Average monthly benefit	$2,494	2,445	2.0%

EXHIBIT B

Participants in Active Service as of June 30, 2015
By Age, Years of Service, and Average Payroll

	Years of Service			
Age	**Total**	**15 - 19**	**20 - 24**	**25 - 29**
40 - 44	8	8	- -	- -
	$95,758	$95,758	- -	- -
45 - 49	17	9	5	3
	100,325	91,471	$102,550	$123,177
50 - 54	4	1	2	1
	102,821	113,115	92,277	113,614
55 - 59	1	1	- -	- -
	95,081	95,081	- -	- -
Total	30	19	7	4
	$99,265	$94,605	$99,614	$120,786

EXHIBIT C

Reconciliation of Participant Data

	Active Participants	Disableds	Retired Participants	Beneficiaries	Total
Number as of July 1, 2014	31	34	47	2	114
Retirements	-1	N/A	1	N/A	0
Deceased	0	0	-1	0	-1
Number as of July 1, 2015	30	34	47	2	113

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial and Market Value Basis

	Year Ended June 30, 2015		Year Ended June 30, 2014	
Net assets at actuarial value at the beginning of the year		$24,179,398		$22,051,272
Contribution income:				
Employer contributions	$2,620,273		$2,706,157	
Employee contributions	260,422		277,539	
Purchase of service contributions	35,117		79,045	
Less administrative expenses	-71,000		-127,318	
Net contribution income		2,844,812		2,935,423
Investment income		199,661		3,228,280
Total income available for benefits		$3,044,473		$6,163,703
Less benefit payments		-$4,148,770		-$4,035,577
Change in reserve for future benefits		-$1,104,297		$2,128,126
Net assets at actuarial value at the end of the year		$23,075,101		$24,179,398

EXHIBIT E

Development of the Fund Through June 30, 2015

Year Ended June 30	Employer Contributions	Employee Contributions*	Net Investment Return**	Administrative Expenses***	Benefit Payments	Actuarial Value of Assets at End of Year
2006	$3,084,995	$371,015	$1,219,012	$0	$1,866,816	$16,357,471
2007	3,544,672	383,637	2,478,794	0	2,101,578	20,662,996
2008	3,209,813	390,201	-1,144,522	0	2,428,198	20,690,290
2009	2,833,053	479,991	-3,871,296	0	2,659,161	17,472,877
2010	3,596,440	295,826	2,434,222	0	3,237,396	20,561,969
2011	1,886,017	296,478	4,414,857	0	3,463,917	23,695,404
2012	1,316,296	444,235	-125,235	0	3,501,916	21,828,784
2013	1,504,172	306,620	2,230,398	0	3,818,702	22,051,272
2014	2,706,157	356,584	3,228,280	127,318	4,035,577	24,179,398
2015	2,620,273	295,539	199,661	71,000	4,148,770	23,075,101

**Includes purchase of service*

***Net of investment fees*

****Shown separately beginning in 2014; prior to that included in net investment return*

EXHIBIT F

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2015

1. Unfunded actuarial accrued liability at beginning of year		$58,180,013
2. Total normal cost at beginning of year		1,068,747
3. Total contributions		-2,915,812
4. Interest		
(a) For whole year on (1) + (2)	$4,443,657	
(b) For half year on (3)	-109,343	
(c) Total interest		4,334,314
5. Expected unfunded actuarial accrued liability		$60,667,262
6. Changes due to:		
(a) (Gain)/loss	$8,971	
(b) Assumptions	N/A	
(c) Funding method	N/A	
(d) Plan provisions	N/A	
(e) Total changes		8,971
7. Unfunded actuarial accrued liability at end of year		$60,676,233

EXHIBIT G

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The value of all projected benefit payments for current members less the portion that will be paid by future normal costs.

Actuarial Accrued Liability For Pensioners: The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded Actuarial Accrued Liability: Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

Investment Return: The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:			
1.	Retired participants as of the valuation date (including two beneficiaries in pay status)		83
2.	Participants inactive during year ended June 30, 2015 with vested rights		0
3.	Participants active during the year ended June 30, 2015		30
	Fully vested	30	
	Not vested	0	
4.	Inactive non-vested participants as of June 30, 2015		0
The actuarial factors as of the valuation date are as follows:			
1.	Total normal cost, including administrative expenses		$1,053,338
2.	Present value of future benefits		84,868,048
3.	Present value of future normal costs		1,116,714
4.	Actuarial accrued liability		83,751,334
	Retired participants and beneficiaries	$58,996,492	
	Active participants	24,754,842	
5.	Actuarial value of assets (equal to market value)		23,075,101
6.	Unfunded actuarial accrued liability		$60,676,233

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended contribution is as follows:

1.	Total benefit normal cost	$978,338
2.	Administrative expenses	75,000
3.	Expected employee contributions	-238,236
4.	Employer normal cost: (1) + (2) + (3)	$815,102
5.	Payment on unfunded actuarial accrued liability	5,420,187
6.	Total recommended contribution: (4) + (5), adjusted for timing	$6,954,295
7.	Projected payroll	$3,174,660
8.	Total recommended contribution as a percentage of projected payroll: (6) ÷ (7)	219.06%
9.	Actuarially determined employer contribution for Fiscal Year ending June 30, 2017: (6)	$6,954,295

EXHIBIT II

History of Employer Contributions

Plan Year Ended June 30	Actuarially Determined Employer Contributions (ADEC)*	Actual Contributions	Percentage Contributed
2007	$3,100,390	$3,544,672	114.3%
2008	3,208,904	3,209,813	100.0%
2009	3,704,162	2,833,053	76.5%
2010	3,833,808	3,596,440	93.8%
2011	4,701,525	1,886,017	40.1%
2012	4,866,078	1,316,296	27.1%
2013	4,941,035	1,504,172	30.4%
2014	6,325,477	2,706,157	42.8%
2015	6,607,532	2,620,273	39.7%
2016	6,954,295	--	--

** Prior to 2015, this amount was the Annual Required Contribution (ARC)*

EXHIBIT III

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll* [(b) - (a)] / (c)
07/01/2009	$17,472,877	$65,098,078	$47,625,201	26.84%	$3,449,317	1,380.71%
07/01/2011	23,695,404	70,408,046	46,712,642	33.65%	3,533,442	1,322.02%
07/01/2012	21,828,784	77,341,524	55,512,740	28.22%	3,901,034	1,423.03%
07/01/2013	22,051,272	78,316,245	56,264,973	28.16%	3,354,290	1,677.40%
07/01/2014	24,179,398	82,359,411	58,180,013	29.36%	3,023,153	1,924.48%
07/01/2015	23,075,101	83,751,334	60,676,233	27.55%	2,977,948	2,037.52%

** Not less than zero*

EXHIBIT IV

Supplementary Information

Valuation date	July 1, 2015
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level dollar
Remaining amortization period	21 years remaining as of July 1, 2015
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return	7.50%
Inflation rate	2.75%
Projected salary increases	4.00%
Cost of living adjustments	3.25%
Plan membership:	
Retired participants and beneficiaries receiving benefits	83
Terminated participants entitled to, but not yet receiving benefits	0
Active participants	30
Total	113

EXHIBIT V

Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions:	The information and analysis used in selecting each demographic assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Review July 1, 2011 to June 30, 2014 dated April 1, 2015. Please see this study for the rationale of each assumption used.
Mortality Rates:	
Healthy:	Males – 115% of the RP-2000 Combined Healthy White Collar Mortality Table for Males
	Females – 95% of the RP-2000 Combined Healthy White Collar Mortality Table for Females
	The healthy mortality tables are adjusted to the valuation date using generational projection under Scale AA to reflect future mortality improvements.
Disabled:	Males – 60% of PBGC Table V(a) for disabled males eligible for Social Security disability benefits
	Females – 60% of PBGC Table VI(a) for disabled females eligible for Social Security disability benefits
	No provision was made to the disabled mortality tables for future mortality improvement after the measurement date.

Termination Rates before Retirement:

	Rate (%)					
	Mortality*		Disability		Withdrawal	
Age	Male	Female	Male	Female	Male	Female
20	0.04%	0.02%	0.34	0.34	0.00	0.00
25	0.04	0.02	0.34	0.34	0.00	0.00
30	0.04	0.03	0.44	0.44	0.00	0.00
35	0.07	0.04	0.58	0.58	0.00	0.00
40	0.10	0.06	0.88	0.88	0.00	0.00
45	0.15	0.10	1.44	1.44	0.00	0.00
50	0.23	0.15	2.42	2.42	0.00	0.00
55	0.38	0.25	2.42	2.42	0.00	0.00
60	0.64	0.44	2.42	2.42	0.00	0.00

100% of deaths and disabilities are assumed to be service-related.

** Generational projection is not reflected in tabular rates.*

Retirement Rates:

Years of Service	Retirement Probability
20	75%
21-25	50%
26 or more	100%

All employees are assumed to retire no later than age 65.

Percent Married: 85% of active firefighters and retirees are assumed to be married. Wives are assumed to be three years younger than their husbands unless dates of birth are provided.

Net Investment Return: 7.50%

Salary Increases:	4.00%; including 2.75% for inflationary increases, 0.50% for productivity increases and 0.75% for promotional and longevity increases
Payroll Growth:	3.25%
Inflation:	2.75%
Severance Pay:	Severance pay is estimated as 50% of base pay at retirement. With this assumption, this increases the expected final average salary which includes overtime and other portions of total pay at retirement by 12.5%.
Administrative Expenses:	Administrative expenses are assumed to be $75,000, payable as of the beginning of the year.
Cost of Living Increases:	½ of the expected payroll growth (1.625%)
Actuarial Value of Assets:	Market value
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant would have commenced participation if the plan had always been in existence. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service, with Normal Cost determined as if the current benefit accrual rate had always been in effect.
Changes in Assumptions:	There have been no changes in assumptions since the last valuation.

EXHIBIT VI

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Town of Johnston Firefighters Pension System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Normal Retirement:	
Eligibility	20 years of service
Amount	The annual benefit at retirement is equal to the percentage of final average salary specified in the table below. For pension purposes, final average salary is a three-year average of pay comprising base (including on-the-job injury pay), holiday and longevity pay, "severance pay" (unused sick and vacation pay distributed at retirement), and 75% of overtime pay.

Years of Service	Benefit as a Percentage of Final Average Salary
20	50.0%
21	52.5
22	55.0
23	57.5
24	60.0
25	62.5
26	65.0
27	67.5
28	70.0
29	72.5
30 or more	75.0

Years of service include call service.

Commencement Date	Retirement benefits commence as of the first payroll period after retirement.
Form of Payment	The annual benefit calculated in accordance with the formula above is payable monthly for the remainder of the retired member's life, with 67.5% of the member's benefit payable for the lifetime of his or her surviving spouse. The benefit ceases if the spouse remarries. If there is no spouse, a dependent's benefit may be paid to any children until their 18th birthday.
Disability:	
Service Related	
Eligibility	Job-related mental or physical incapacity. Disability to be determined by the Town.
Amount	66 2/3% of final average salary
Non-Service Related	
Eligibility	Retirement because of a non-job-related mental or physical incapacity. Disability to be determined by the Town.
Amount	Benefit applicable under retirement or vested termination (25% of final average salary for non-vested member is minimum benefit)
Commencement Date	Benefits commence as of the first payroll period after disability
Form of Payment	Same as Normal Retirement
Vested Termination:	
Eligibility	10 years of service
Benefit Formula	25% of final average salary at termination with 10 years of service, increasing by 2.5% for each additional year of service up to a maximum of 47.5% of final average salary.
Commencement Date	Age 55
Form of Payment	Same as Normal Retirement

Spouse's Pre-Retirement Death Benefit:	
Eligibility	Death while actively employed
Benefit Formula	Surviving spouse (or if none, dependent children) receives 50% of final average salary (30% of final average salary for non-service related death). If surviving spouse has dependent children under age 18, additional percentages of final average salary up to a 66 2/3% benefit if service related or 50% benefit if not service related.
Retiree Cost-of-Living Increases:	One-half of the negotiated base pay increases for active firefighters
Military Service Purchase:	A member may purchase up to four years of pension service credit for prior military service by contributing 10% of the member's base pay at hire at any time prior to retirement, for each year purchased.
Employee Contributions:	8% of salary including base, holiday, longevity, clothing allowance, clothing maintenance allowance, severance and overtime.
Eligibility:	All members of the fire department hired before July 1, 1999 (members hired after this date are participants in the Rhode Island Municipal Employees Retirement System).
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.