



CONSULTING GROUP



A REVISED DEFINED BENEFIT ACTUARIAL VALUATION

For:

**City of Woonsocket, Rhode Island
Policemen's Pension Fund
Firemen's Pension Fund**

As of:

July 1, 2017

Prepared by:
USI Consulting Group



CONSULTING GROUP

December 6, 2017

CONFIDENTIAL

Ms. Chris Chamberlain
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Re: City of Woonsocket, Rhode Island Firemen's Pension Fund and Policemen's Pension Fund

Dear Chris:

We are pleased to present our *revised* Actuarial Valuation Report for the Plan Year beginning July 1, 2017. This report has been revised to reflect an approved Budget Schedule that follows the contribution schedule developed on February 8, 2017. Please see Exhibit II for more detail. The contribution pattern in Exhibit II replaces the original contribution pattern, illustrated in Exhibit I, and has been updated to reflect the adverse plan experience since the original schedule was developed.

A summary of the principal results of the valuation is provided for your convenience on pages 1 through 4. Details supporting GASB cost calculations will be provided in a separate report.

We have reflected the cost of living adjustment (COLA) pattern and contribution schedule approved by the Budget Commission, outlined in Exhibit II. The scheduled employer contribution for the year ending June 30, 2018 is \$3,881,000. The updated contribution pattern allows for the plan funded status to reach 80% as of July 1, 2033, at which point the cost-of-living adjustment is assumed to revert to 3% per year.

As an alternative to the approved contribution schedule, we also present the schedule outlined in Exhibit III. This schedule is based on a 5.0% return on assets assumption, an assumption that we feel is more appropriate than the 7.5% currently in use. The contribution schedule illustrates the fixed annual deposit of \$6,284,000 needed to fully fund the plan in the targeted 22-year period (22 years starting with the 7/1/2012 plan year). However, please note that annual asset and liability gains and losses will continue to impact the funded status of the plan and the estimated \$6,284,000 may need to be adjusted in future years to capture these fluctuations.

The Accumulated Benefit Obligation, valued using 7.5%, as of July 1, 2017 is \$85,358,949. For comparison, the same liability valued at 5.0% is \$107,381,863. We strongly recommend a decrease to the current discount rate assumption. Based on the plan's current asset allocation and the experience study released October 20, 2015, 5.0% appears to be a more appropriate assumption.

I would be happy to answer any questions you may have regarding this report.

Sincerely,

A handwritten signature in blue ink that reads "J. Packer".

USI Consulting Group
Jaime Packer, ASA, EA, MAAA
Associate Vice President and Actuary

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**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

VALUATION AS OF JULY 1, 2017

PRINCIPAL RESULTS OF THE VALUATION

Below is a summary of the principal results of this year's valuation compared with the previous year's valuation. Amounts for the previous year reflect the actuarial cost method, assumptions and plan benefits in effect at that time.

<u>CONTRIBUTION LIMITATIONS</u>	<u>As of July 1, 2016</u>	<u>As of July 1, 2017</u>
Actuarially Determined Contribution (Exhibit III)	\$6,210,000	\$6,284,000
Approved Budgetary Contribution (Exhibit II)	\$3,721,000	\$3,881,000
Covered Payroll	N/A	N/A
Alternate Employer Contribution	\$10,962,653	\$11,333,442
 <u>SUPPORTING INFORMATION</u>		
Market Value of Assets	\$38,593,619	\$36,318,178
Actuarial Value of Assets	\$42,735,614	\$39,505,148
Present Value of Accumulated Benefits	\$87,089,247	\$85,358,949
Accrued Benefit Funding Ratio – Market Value of Assets as a Percentage of Present Value of Accumulated Benefits	44.32%	42.55%
Present Value of Future Benefits	\$87,089,247	\$85,358,949
Projected Benefit Funding Ratio – Market Value of Assets as a Percentage of Present Value of Future Benefits	44.32%	42.55%
Number of Lives Included in the Valuation	231	221
Discount Rate	7.50%	7.50% *

*As detailed in the October 20, 2015 experience study, we strongly recommend a decrease to the current discount rate assumption. A 5.0% assumption appears to be more supportable based on the plan's current asset allocation, however, please discuss this in more detail with the plan's investment advisor. For comparison, the Present Value of Accumulated Benefits valued at 5.0% is \$107,381,863.

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

VALUATION AS OF JULY 1, 2017

EXECUTIVE SUMMARY

Purpose and Scope

The principal purposes of this actuarial valuation report are:

1. To present our calculations of the minimum suggested contribution and the accrued liability for the plan year beginning July 1, 2017 and
2. To review plan experience during the plan year ending June 30, 2017 and the funded status of the plan as of June 30, 2017.

The valuation is based upon employee data provided as of June 30, 2017 and financial information provided by the City of Woonsocket as of June 30, 2017. This data was not audited or otherwise verified by us other than for tests of reasonable consistency with prior year data.

Future measurements may differ significantly from the information contained within this report. These measurements will be based on the market value of assets, which varies based on the underlying portfolio experience, as well as plan sponsor contributions, benefit payments and expenses paid from plan assets. Liability calculations will be produced in accordance with current census data, as well as the interest rates and mortality tables in effect at that time. There has been no analysis of potential future impacts associated with this report.

Actuarial Methods and Assumptions

This report has been revised to reflect an approved Budget Schedule that follows the contribution schedule developed on February 8, 2017. Please see Exhibit II for more detail. The contribution pattern in Exhibit II replaces the original contribution pattern, illustrated in Exhibit I, and has been updated on page 8 to reflect the adverse plan experience since the original schedule was developed.

Similar to last year, the asset smoothing method results in an actuarial value of assets that is greater than the market value of assets. This is caused by the investment losses in three of the last four plan years. Please note that the smoothing method serves only to mitigate the volatility of year-to-year investment performance. The method recognizes each year's investment gain or loss over a five year period; it does not ignore the current market value, but only adjusts the timing of its recognition.

Plan Experience

As of July 1, 2017, there are no active participants. There are 221 pensioners.

On a market value basis, the investment loss was \$480,531. This loss will be recognized over five years. See page 6 for details.

As discussed above, the actuarial value of assets includes recognition of investment gains/losses over five years. There is also a 20% corridor around the market value of assets. The actuarial value of assets decreased from \$42,735,614 last year to \$39,505,148 as of July 1, 2017. This reflects an investment loss of about \$1,750,000 on the actuarial value of assets.

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

VALUATION AS OF JULY 1, 2017

EXECUTIVE SUMMARY (continued)

Plan Experience (continued)

There was a liability gain of approximately \$650,000, mostly due to experience. In the aggregate, the Plan experienced an actuarial loss of about \$1,100,000. The following is a history of the Funds' Market and Actuarial Value of Assets over the last several years:

	Market Value of Assets	Actuarial Value of Assets
7/1/2017	\$36,318,178	\$39,505,148
7/1/2016	\$38,593,619	\$42,735,614
7/1/2015	\$42,483,175	\$46,413,001
7/1/2014	\$47,108,903	\$48,567,118
7/1/2013	\$47,825,978	\$48,760,303
7/1/2012	\$52,780,570	\$55,902,219
7/1/2011	\$61,980,287	\$65,313,250

A comparison of the actual Actuarial Value of Assets as of 7/1/2017 (\$39,505,148) to the anticipated Actuarial Value of Assets as of 7/1/2017 as projected in Exhibit I (\$42,803,000) illustrates a deficit of \$3,298,000. The Budget Commission approved schedule in Exhibit I assumes an investment return of 7.5% annually on the market value of assets. The market value of assets for the past plan year actually returned 6.60%. The full impact of this loss is mitigated by the asset smoothing methodology.

Plan Contributions

We have reflected the cost of living adjustment (COLA) pattern and contribution schedule approved by the Budget Commission, outlined in Exhibit II. The scheduled employer contribution for the year ending June 30, 2018 is \$3,881,000. The updated contribution pattern allows for the plan funded status to reach 80% as of July 1, 2033, at which point the cost-of-living adjustment is assumed to revert to 3% per year.

The current investment return assumption (and discount rate) is 7.5%. The historical returns for the plan as well as the current investment allocation may not support this rate. This is further explored in the recent experience study for the Plan. In Exhibit III, we present results using an alternative investment return/discount rate of 5.0%, which is more consistent with expectations discussed in the experience study. The level fixed contribution of \$6,284,000 shown meets the state's requirements to fully fund the Plan within twenty-two years (22 years starting with the 7/1/2012 plan year). However, please note that annual asset and liability gains and losses will continue to impact the funded status of the plan and the estimated \$6,284,000 may need to be adjusted in future years to capture these fluctuations.

Alternatively, a contribution of \$11,333,442, illustrated on page 8, assumes a five-year amortization of the Unfunded Accrued Liability.

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

VALUATION AS OF JULY 1, 2017

EXECUTIVE SUMMARY (continued)

Funded Status

Market value of assets, as a percentage of the present value of accrued benefits, decreased from 44.32% as of July 1, 2016 to 42.55% as of July 1, 2017. This decrease is due to the asset under-performance and the recognition of 3% cost-of-living adjustments starting with the July 1, 2033 plan year. Last year, the budgeted contribution schedule was not sufficient to allow these 3% cost-of-living adjustments to be valued, however the revised schedule now allows the plan to reach 80% during the projection period.

The funded ratio may not be appropriate for assessing the need for or the amount of future contributions, based on the assumptions stated in this report. The funded ratio uses a liability calculated by using a discount rate of 7.5%, but a liability calculated by using a discount rate of 5.0% would be more appropriate. Measuring the funded ratio based on a 5% discount rate assumption yields a funded ratio of 33.82%. The funded ratio will be different if measuring actuarial value of assets.

Pension Benefit Obligation

The Accumulated Benefit Obligation as of July 1, 2017 is \$85,358,949 as compared to \$87,089,247 last year. This information, including a reconciliation from the prior year, is located on page 13 of this report. For comparison, the same liability valued at 5.0% is \$107,381,863. As discussed, we strongly recommend a decrease to the current discount rate assumption. Based on the plan's current asset allocation and the experience study released in 2015, 5.0% appears to be a more appropriate assumption.

Actuarial Certification

This report has been prepared in accordance with generally accepted actuarial standards and procedures and conforms to the Guidelines for Professional Conduct of the American Academy of Actuaries. It is based on the employee and financial data submitted to USI Consulting Group by the plan sponsor and the retirement plan provisions outlined herein.

There exists no relationship with the plan or the plan sponsor that would impair the objectivity of our work.

I, Jaime Packer am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

USI Consulting Group



Jaime Packer, ASA, EA, MAAA
Associate Vice President and Actuary



Diane Padernacht
Associate Vice President and Actuarial Manager



Yevgeny Venetsky, ASA
Actuarial Analyst

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

FINANCIAL STATEMENT AS OF JULY 1, 2017

SECTION I: STATEMENT OF ASSETS

Assets	<u>July 1, 2016</u>	<u>July 1, 2017</u>
Receivables	0	310,083
DAA Account #1061636	5,144,209	0
Hartford Account #1061100201	11,536,148	48
State Street Account #1061100117	8,569,120	0
Liquidity Account #1061580	5,122,662	36,007,887
Robeco Boston Account #1061101	6,249,182	160
Vanguard Fund Account #1061112	1,972,298	0
Other Assets	<u>0</u>	<u>0</u>
Total Assets	38,593,619	36,318,178
 Liabilities and Net Assets		
Payables	0	0
Acquisition Indebtedness	0	0
Other Liabilities	<u>0</u>	<u>0</u>
Total Liabilities	0	0
Net Assets	38,593,619	36,318,178
 Statement of Receipts and Disbursements		
Net Assets at Beginning of Year		38,593,619
Contributions Received or Receivable		
Employer	3,721,000	
Employee	0	
Noncash Contributions	<u>0</u>	3,721,000
Net Investment Return		<u>2,383,085</u>
Total Income		6,104,085
Distribution of Benefits		
Directly to Participants or Beneficiaries	8,235,548	
Other	<u>0</u>	8,235,548
Investment Expenses		65,000
Administrative Expenses		<u>78,978</u>
Total Expenses		8,379,526
Net Increase (Decrease)		(2,275,441)
Net Assets at Year End		36,318,178

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

FINANCIAL STATEMENT AS OF JULY 1, 2017

SECTION II: DEVELOPMENT OF ASSET GAIN/(LOSS)

A. Market Value assets prior year:	38,593,619
B. Interest at prior valuation interest rate on A to current date:	2,894,521
C. Contributions for prior year:	3,721,000
D. Interest at prior valuation interest rate on C to current date:	128,367
E. Benefits Paid:	(8,235,548)
F. Interest at prior valuation interest rate on E to current date:	(303,250)
G. Expected Assets (Sum A through F):	36,798,709
H. Actual Assets:	36,318,178
I. Asset Gain/(Loss) (H - G):	(480,531)

SECTION III: DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

Adjustment to recognize investment gain/(loss) over 5-year period:

Year Ending <u>June 30</u>	Investment <u>Gain/(Loss)</u>	Adjustment <u>Factor</u>	<u>Adjustment</u>
2014	242,844	1/5	48,569
2015	(2,947,508)	2/5	(1,179,003)
2016	(2,786,852)	3/5	(1,672,111)
2017	(480,531)	4/5	(384,425)
		Total Adjustment	(3,186,970)

Valuation Assets as of July, 1, 2017:

A. Market Value:	36,318,178
B. Total Adjustment:	<u>(3,186,970)</u>
C. Actuarial Value of Assets (Unlimited) [A - B]:	39,505,148
D. 80% of Market Value:	29,054,542
E. 120% of Market Value:	<u>43,581,813</u>
F. Actuarial Value of Assets, not less than D or more than E:	39,505,148

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

VALUATION RESULTS AS OF JULY 1, 2017

1. PRESENT VALUE OF FUTURE BENEFITS*

The value of all projected retirement, death and disability benefits projected to be paid to current plan participants, discounted to the valuation date with interest and mortality rates.

	<u>Lives</u>	<u>Police</u>	<u>Fire</u>	<u>Total</u>
Active	0	0	0	0
Disabled	50	7,141,590	14,143,728	21,285,318
Retired	<u>171</u>	<u>20,565,185</u>	<u>43,508,446</u>	<u>64,073,631</u>
Totals	221	27,706,775	57,652,174	85,358,949

2. ENTRY AGE ACCRUED LIABILITY*

The portion of the present value of future benefits attributable to prior normal costs.

	<u>Police</u>	<u>Fire</u>	<u>Total</u>
Active	0	0	0
Disabled	7,141,590	14,143,728	21,285,318
Retired	<u>20,565,185</u>	<u>43,508,446</u>	<u>64,073,631</u>
Total	27,706,775	57,652,174	85,358,949

3. ACTUARIAL VALUE OF ASSETS

39,505,148

4. UNFUNDED ACCRUED LIABILITY (2 - 3)

45,853,801

5. ENTRY AGE NORMAL COST

The amount required to fund the present value of benefits as a level percent of pay from entry age to retirement age.

A. Employer Normal Cost	0
B. Expected Employee Contributions	<u>0</u>
C. Total Normal Cost	0

*Liabilities reflect the annual cost of living adjustments illustrated on page 8.

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

CURRENT VALUATION - SCHEDULED CONTRIBUTIONS

COLA for retirees: Alternate 0% and 2% until FYE 2023, then 2% unless attain 80% funded (then 3%)
Investment Return: 7.50%

Fiscal Year Ending 6/30	Estimated Accrued Liability (AL)	Estimated Actuarial Assets	Unfunded AL	Budget Commission		Funded %	Compound COLA (at Beginning of Fiscal Year)
				Approved Contribution Schedule*	Benefit Payments		
2018	85,359,000	39,505,000	45,854,000	3,881,000	7,964,000	46%	0%
2019	84,756,000	36,617,000	48,139,000	4,049,000	7,939,000	43%	2%
2020	82,681,000	33,762,000	48,919,000	4,223,000	7,774,000	41%	0%
2021	80,631,000	31,736,000	48,895,000	4,405,000	7,735,000	39%	2%
2022	78,474,000	30,401,000	48,073,000	4,595,000	7,555,000	39%	0%
2023	76,350,000	29,460,000	46,890,000	4,793,000	7,499,000	39%	2%
2024	74,132,000	28,721,000	45,411,000	5,000,000	7,431,000	39%	2%
2025	71,825,000	28,217,000	43,608,000	5,215,000	7,353,000	39%	2%
2026	69,431,000	27,986,000	41,445,000	5,440,000	7,262,000	40%	2%
2027	66,959,000	28,072,000	38,887,000	5,674,000	7,158,000	42%	2%
2028	64,551,000	28,521,000	36,030,000	5,919,000	7,039,000	44%	2%
2029	61,955,000	29,386,000	32,569,000	6,174,000	6,905,000	47%	2%
2030	59,309,000	30,725,000	28,584,000	6,440,000	6,756,000	52%	2%
2031	56,623,000	32,600,000	24,023,000	6,718,000	6,590,000	58%	2%
2032	53,914,000	35,081,000	18,833,000	7,007,000	6,409,000	65%	2%
2033	51,194,000	38,242,000	12,952,000	7,309,000	6,211,000	75%	2%
2034	48,481,000	42,162,000	6,319,000	7,624,000	6,052,000	87%	3%
2035	45,732,000	46,872,000	(1,140,000)	0	5,876,000	102%	3%
2036	42,964,000	44,211,000	(1,247,000)	0	5,684,000	103%	3%

Note: The Accrued Liability, Assets, Unfunded AL, and Funded Percentages are all determined as of the beginning of the fiscal year and the Contributions assume a mid-year deposit.

*See Exhibit II for development.

ALTERNATIVE SCHEDULED CONTRIBUTION

(1) Employer Normal Cost	0
(2) 5 Year Amortization of \$45,853,801	10,542,737
(3) Maximum Recommended Contribution at beginning of Plan Year = (1) + (2), not less than zero	10,542,737
(4) Interest Charge on (1) and (2) to Plan Year End	<u>790,705</u>
(5) Total Recommended Contribution at Plan Year End = (3) + (4)	11,333,442

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND
POLICEMEN'S PENSION FUND**

PARTICIPANT DATA AS OF JULY 1, 2017

Retired participants, beneficiaries, contingent annuitants and disabled participants

Number	221
Average monthly benefit	\$3,029.77
Average attained age	73.36

RECONCILIATION OF PARTICIPANT STATUS

	<u>Active</u>	Deferred <u>Vested</u>	<u>Disabled</u>	<u>Retired</u>	<u>Total</u>
Prior Valuation	0	0	50	181	231
Terminated - vested	0	0	0	0	0
Terminated - not vested	0	0	0	0	0
Retired	0	0	0	0	0
Survivor Annuitant	0	0	0	1	1
Deaths	0	0	0	(11)	(11)
Data Corrections	0	0	0	0	0
QDRO	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Current Valuation	0	0	50	171	221
Fire	0	0	30	101	131
Police	0	0	20	70	90

**CITY OF WOONSOCKET, RHODE ISLAND
FIREMEN'S PENSION FUND**

SUMMARY OF PLAN PROVISIONS

<u>Effective Date</u>	January 1, 1960
<u>Plan Year Beginning</u>	July 1, 2017
<u>Pensioner's Benefits</u>	All remaining participants in the plan are currently in payment status. Benefits were determined by the plan sponsor, upon commencement, in accordance with the terms of the plan.
<u>Cost-of-Living Provision</u>	All pensioners and alternate payees (but not beneficiaries or Ronald Pelletier) are eligible for a variable COLA depending on the pre-determined schedule and the plan's funding level. The COLA is described on page 8 and in Exhibits I and II.
<u>Eligibility</u>	<p>There are no age or service requirements. All members of the Fire Department hired prior to July 1, 1985 are eligible.</p> <p>Members hired after July 1, 1985 participate in the State Retirement System.</p>
<u>Employee Contributions</u>	8% of annual salary during the plan year.
<u>Normal Retirement Date</u>	Upon completion of 20 years of service a member is eligible to retire.
<u>Normal Retirement Benefit</u> Benefit Formula	50% of current annual salary plus 2.5% of salary for each year worked in excess of 20 years up to a maximum of 75% of salary.
Normal Form of Benefit	66.67% joint and survivor annuity.
<u>Pre-Retirement Death Benefit</u>	<p>For a work related death, the member's beneficiary is entitled to receive a benefit of 50% of pay plus an additional 10% of pay for each minor child up to a maximum of 66.7% of pay.</p> <p>For a non-work related death, the member's beneficiary is entitled to receive a benefit of 30% of pay plus an additional 10% of pay for each minor child up to a maximum of 50% of pay.</p>
<u>Disability Benefit</u>	66.7% of current salary for a work related disablement and 50% of current salary for a non-work related disablement.

**CITY OF WOONSOCKET, RHODE ISLAND
POLICEMEN'S PENSION FUND**

SUMMARY OF PLAN PROVISIONS

<u>Plan Year Beginning</u>	July 1, 2017
<u>Pensioner's Benefits</u>	All remaining participants in the plan are currently in payment status. Benefits were determined by the plan sponsor, upon commencement, in accordance with the terms of the plan.
<u>Cost-of-Living Provision</u>	All pensioners and alternate payees (but not beneficiaries, John Dethomas, Edward Hopkins or Albert Leclair) are eligible for a variable COLA depending on the pre-determined schedule and the plan's funding level. The COLA is described on page 8 and in Exhibits I and II.
<u>Eligibility</u>	<p>There are no age or service requirements. All members of the Police Department hired prior to July 1, 1980 are eligible.</p> <p>Members hired after July 1, 1980 participate in the State Retirement System.</p>
<u>Employee Contributions</u>	7% of annual salary during the plan year.
<u>Normal Retirement Date</u>	<p>Upon completion of 20 years of service a member is eligible to retire.</p> <p>Maximum normal retirement age is 65.</p>
<u>Normal Retirement Benefit</u> Benefit Formula	60% of current annual salary plus 2.0% of salary for each year worked in excess of 20 years up to a maximum of 70% of salary.
Normal Form of Benefit	66.67% joint and survivor annuity.
<u>Cost-of-Living Provision</u>	Varying COLA depending on pre-determined schedule combined with the plan's funding level.
<u>Pre-Retirement Death Benefit</u>	<p>For a work related death, the member's beneficiary is entitled to receive a benefit of 50% of pay plus an additional 10% of pay for each minor child up to a maximum of 66.7% of pay.</p> <p>For a non-work related death, the member's beneficiary is entitled to receive a benefit of 30% of pay plus an additional 10% of pay for each minor child up to a maximum of 50% of pay.</p>
<u>Disability Benefit</u>	66.7% of current salary for a work related disablement and 50% of current salary for a non-work related disablement.

**CITY OF WOONSOCKET, RHODE ISLAND
POLICEMEN'S PENSION FUND
FIREMEN'S PENSION FUND**

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

ACTUARIAL COST METHOD

Individual entry age normal cost. Under this method, the annual cost is equal to the normal cost, plus amortization of unfunded accrued liabilities over a fixed period of years selected within the minimum (10 years) and maximum (5 to 30 years) periods permitted by law.

The normal cost is zero because all participants are retired.

The actuarial accrued liability is the accumulation, based on the actuarial assumptions, of all assumed prior normal costs. Thus, it represents the amount of reserves, which would be held by the plan, had it always been in effect for the present group of participants and had plan experience followed that predicted by the actuarial assumptions. The unfunded accrued liability is the excess, if any, of the accrued liability over the plan assets.

The actuarially determined contribution is calculated in accordance with the Funding Improvement Plan developed by the Pension Study Commission. The intent is to fully fund the plan in twenty-two years starting with the plan year ending 6/30/2013. However, as noted in this report, based on plan experience, this goal is not expected to be met using the current contribution schedule.

Attribution – Because all participants are in pay status, there is no further attribution and all benefits are included in the accrued liability as of the valuation date. All benefits are vested.

ACTUARIAL ASSUMPTIONS

Post-Retirement

Male and Female Mortality – RP-2000 Mortality Table, projected to 2010 using scale AA to form a new base table with fully generational projection at scale AA going forward. The mortality table is further modified to assume 115% of the male rates and 95% of the female rates.

The generational projection and scaling of the male and female rates is consistent with the assumptions utilized for the Employees' Retirement System of Rhode Island. Furthermore, an experience study was completed in 2015 which provides support of continued use of this table for this population.

Investment Return – 7.50% per annum

The current investment return assumption (and discount rate) is 7.50%. The historical returns for the plan as well as the current investment allocation may not support this rate. This is further reviewed in the recent experience study for the Plan. We have proposed 5.00% as an alternative investment return assumption.

Expense Loading -- \$175,000 per year for one year and then reduced by 5% per year, paid mid-year.

Assumed annual benefit increases (COLA) – Based on plan provisions; please refer to page 8 for a projected schedule.

Pre-Retirement Assumptions: N/A – All participants are in pay status.

ASSET VALUATION

Market value of plan assets adjusted to phase in asset gains and losses from July 1, 2014 over a five-year period at a rate of 20% per year. Valuation assets are further limited to a 20% corridor around market value.

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ACCUMULATED PLAN BENEFITS

The actuarial assumptions are set forth in the Summary of Actuarial Methods and Assumptions section of this report.

<u>Actuarial Present Values of Accumulated Plan Benefits (Accumulated Benefit Obligation):</u>	<u>7/1/2016</u>	<u>7/1/2017</u>
Vested Benefits		
Participants currently receiving payments	87,089,247	85,358,949
Other Participants		
Active Employees	0	0
Deferred Vested Terminated Employees	<u>0</u>	<u>0</u>
Total-Other Participants	<u>0</u>	<u>0</u>
Total Vested Benefits	87,089,247	85,358,949
Nonvested Benefits	<u>0</u>	<u>0</u>
Total Actuarial Present Values of Accumulated Plan Benefits	87,089,247	85,358,949
Projected Benefit Obligation	87,089,247	85,358,949
 <u>Statement of Changes in Accumulated Plan Benefits</u>		
Actuarial Present Value of Accumulated Plan Benefits at Beginning of Year		87,089,247
Increase (Decrease) Attributable to:		
Benefits Paid		(8,235,548)
Interest Due to Change in the Discount Period		6,228,444
Change in the Discount Rate		0
Plan Amendment		0
Assumption Change		926,284
Additional benefits earned, including experience gains and losses		<u>(649,478)</u>
Actuarial Present Value of Accumulated Plan Benefits at End of Year		85,358,949
Discount Assumption	7.50%	7.50%
Mortality Assumption	RP2000 adjusted	RP2000 adjusted
COLA Assumption	Alternating 0%, 2% until FYE 2023, 2% then 3% when 80% funded	Alternating 0%, 2% until FYE 2023, 2% then 3% when 80% funded

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EXHIBIT I

BUDGET COMMISSION APPROVED FUNDING SCHEDULE

Scenario #2014-9-12 updated 2014-10-11 and 2015-1-30

Contribution Pattern: 2.4% annual increases; at least 100% funded in 22 years (starting with the 7/1/2012 plan year)

Investment Return: 7.50%; COLA applied to retirees only;

Compound COLA Pattern: Alternate 0% and 2% until FYE 2023 then 2% unless attain 80% funded (then 3%)

RP2000 Mortality Table, projected to 2010 and then fully generational with 115% male and 95% female

Fiscal Year Ending 6/30	Estimated Accrued Liability (AL)	Estimated Actuarial Assets	Unfunded AL	Annual and Scheduled Required Contribution	Benefit Payments	Funded %	Compound COLA
2015	90,478,000	48,567,000	41,911,000	3,548,000	8,187,000	54%	2%/0%*
2016	88,742,000	47,194,000	41,548,000	3,633,000	8,059,000	53%	0%
2017	87,009,000	44,389,000	42,620,000	3,721,000	8,062,000	51%	2%
2018	86,621,000	42,803,000	43,818,000	3,810,000	7,918,000	49%	0%
2019	84,685,000	41,605,000	43,080,000	3,901,000	7,904,000	49%	2%
2020	82,626,000	40,384,000	42,242,000	3,995,000	7,745,000	49%	0%
2021	80,588,000	39,344,000	41,244,000	4,091,000	7,714,000	49%	2%
2022	78,438,000	38,365,000	40,073,000	4,189,000	7,538,000	49%	0%
2023	76,317,000	37,606,000	38,711,000	4,289,000	7,487,000	49%	2%
2024	74,097,000	36,954,000	37,143,000	4,392,000	7,425,000	50%	2%
2025	71,781,000	36,431,000	35,350,000	4,498,000	7,352,000	51%	2%
2026	69,375,000	36,062,000	33,313,000	4,606,000	7,265,000	52%	2%
2027	66,885,000	35,875,000	31,010,000	4,716,000	7,163,000	54%	2%
2028	64,320,000	35,899,000	28,421,000	4,830,000	7,047,000	56%	2%
2029	61,688,000	36,169,000	25,519,000	4,945,000	6,915,000	59%	2%
2030	59,003,000	36,723,000	22,280,000	5,064,000	6,766,000	62%	2%
2031	56,276,000	37,601,000	18,675,000	5,186,000	6,600,000	67%	2%
2032	53,522,000	38,849,000	14,673,000	5,310,000	6,416,000	73%	2%
2033	50,757,000	40,515,000	10,242,000	5,438,000	6,272,000	80%	3%
2034	47,939,000	42,593,000	5,346,000	5,500,000	6,109,000	89%	3%
2035	45,083,000	45,065,000	18,000	0	5,926,000	100%	3%
2036	42,208,000	42,210,000	(2,000)	0	5,724,000	100%	3%

*COLA for selected members

Note: The Accrued Liability, Assets, Unfunded AL, and Funded Percentages are all determined as of the beginning of the fiscal year and the Annual Contributions are determined assuming a mid-year deposit.

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EXHIBIT II

ALTERNATIVE VALUATION - FULLY FUNDING PLAN IN 22 YEARS - Feb 8, 2017

COLA for retirees: Alternate 0% and 2% until FYE 2023, then 2% unless attain 80% funded (then 3%)

Investment Return: 7.50%; Contribution increases at 4.31% per year to fully fund the plan.

Fiscal	Estimated	Estimated		Alternative			
Year	Accrued	Actuarial		Contribution	Benefit		
Ending	Liability (AL)	Assets	Unfunded AL	Schedule	Payments	Funded %	Compound COLA
6/30							
2017	87,832,000	42,736,000	45,096,000	3,721,000	8,103,000	49%	2%
2018	87,463,000	39,537,000	47,926,000	3,881,000	7,965,000	45%	0%
2019	85,541,000	36,760,000	48,781,000	4,049,000	7,954,000	43%	2%
2020	83,495,000	34,002,000	49,493,000	4,223,000	7,801,000	41%	0%
2021	81,464,000	32,062,000	49,402,000	4,405,000	7,772,000	39%	2%
2022	79,319,000	30,803,000	48,516,000	4,595,000	7,601,000	39%	0%
2023	77,197,000	29,831,000	47,366,000	4,793,000	7,553,000	39%	2%
2024	74,975,000	29,051,000	45,924,000	5,000,000	7,494,000	39%	2%
2025	72,654,000	28,495,000	44,159,000	5,215,000	7,422,000	39%	2%
2026	70,240,000	28,202,000	42,038,000	5,440,000	7,337,000	40%	2%
2027	67,740,000	28,215,000	39,525,000	5,674,000	7,239,000	42%	2%
2028	65,308,000	28,580,000	36,728,000	5,919,000	7,126,000	44%	2%
2029	62,669,000	29,350,000	33,319,000	6,174,000	6,997,000	47%	2%
2030	59,972,000	30,582,000	29,390,000	6,440,000	6,852,000	51%	2%
2031	57,228,000	32,339,000	24,889,000	6,718,000	6,690,000	57%	2%
2032	54,452,000	34,688,000	19,764,000	7,007,000	6,512,000	64%	2%
2033	51,658,000	37,704,000	13,954,000	7,309,000	6,316,000	73%	2%
2034	48,862,000	41,467,000	7,395,000	7,624,000	6,104,000	85%	3%
2035	46,081,000	46,063,000	18,000	0	5,930,000	100%	3%
2036	43,276,000	43,279,000	(3,000)	0	5,738,000	100%	3%

Note: The Accrued Liability, Assets, Unfunded AL, and Funded Percentages are all determined as of the beginning of the fiscal year and the Contributions assume a mid-year deposit.

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EXHIBIT III

ALTERNATIVE VALUATION - FULLY FUNDING PLAN IN 22 YEARS

COLA for retirees: Alternate 0% and 2% until FYE 2023, then 2% unless attain 80% funded (then 3%)

Investment Return: 5.00%

Fiscal	Estimated	Estimated		Alternative			
Year	Accrued	Actuarial		Contribution	Benefit		
Ending	Liability (AL)	Assets	Unfunded AL	Schedule	Payments	Funded %	Compound COLA
6/30							
2018	107,647,000	39,505,000	68,142,000	6,284,000	7,964,000	37%	0%
2019	106,133,000	38,226,000	67,907,000	6,284,000	7,939,000	36%	2%
2020	103,149,000	36,927,000	66,222,000	6,284,000	7,774,000	36%	0%
2021	100,192,000	36,392,000	63,800,000	6,284,000	7,735,000	36%	2%
2022	97,132,000	36,469,000	60,663,000	6,284,000	7,555,000	38%	0%
2023	94,110,000	36,841,000	57,269,000	6,284,000	7,499,000	39%	2%
2024	90,999,000	37,298,000	53,701,000	6,284,000	7,431,000	41%	2%
2025	87,808,000	37,852,000	49,956,000	6,284,000	7,353,000	43%	2%
2026	84,541,000	38,522,000	46,019,000	6,284,000	7,262,000	46%	2%
2027	81,210,000	39,324,000	41,886,000	6,284,000	7,158,000	48%	2%
2028	77,958,000	40,279,000	37,679,000	6,284,000	7,039,000	52%	2%
2029	74,537,000	41,409,000	33,128,000	6,284,000	6,905,000	56%	2%
2030	71,087,000	42,737,000	28,350,000	6,284,000	6,756,000	60%	2%
2031	67,621,000	44,290,000	23,331,000	6,284,000	6,590,000	65%	2%
2032	64,155,000	46,095,000	18,060,000	6,284,000	6,409,000	72%	2%
2033	60,155,000	48,181,000	11,974,000	6,284,000	6,211,000	80%	3%
2034	56,712,000	50,579,000	6,133,000	6,284,000	6,052,000	89%	3%
2035	53,264,000	53,264,000	0	0	5,876,000	100%	3%
2036	49,826,000	49,826,000	0	0	5,684,000	100%	3%

Note: The Accrued Liability, Assets, Unfunded AL, and Funded Percentages are all determined as of the beginning of the fiscal year and the Contributions assume a mid-year deposit.