THE FIREFIGHTERS' PENSION TRUST FUND OF THE CITY OF STAMFORD

CITY OF STAMFORD

INTERIM ACTUARIAL VALUATION REPORT

JULY 1, 2015

hooker & holcombe

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I. Introduction

A. Purpose of the Valuation

Liabilities were valued as of July 1, 2014 using data, cost information, and assumptions as of July 1, 2014. The July 1, 2014 liabilities were then projected to July 1, 2015.

The purpose of the valuation is to report the estimated funded status of the plan as of July 1, 2015 as well as an actuarially determined contribution for the fiscal year ending June 30, 2017.

It is important to note that the ultimate cost of a pension plan is based primarily on the level of benefits promised by the plan. The pension fund's investment earnings serve to reduce the cost of plan benefits and expenses. Thus,

City's Ultimate Cost = Benefits Paid + Expenses Incurred – Employee Contributions – Investment Return

Assets reported are actual (including accruals) through June 30, 2015 and reflect the asset smoothing method. Liabilities have been projected from the last full valuation done as of July 1, 2014.

We have assumed that no changes have been made to the plans since the July 1, 2014 actuarial valuation.

B. Comments

The market value return was approximately 0% this year. Due to asset smoothing, the actuarial smoothed return was 4.10% this year. We are expecting a contribution increase for the next fiscal year as the actuarial value of assets exceeds the market value of assets by approximately $17,600,000.

I. Introduction

continued

C. Certification

This report presents the results of the July 1, 2015 Actuarial Valuation for The Firefighters' Pension Trust Fund of the City of Stamford (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Contribution (ADC) for the fiscal year ending June 30, 2017. This report is intended to satisfy the requirements of Connecticut General Statute 7-450a.This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Trustee. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: 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 or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

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

Evan W. Woollacott

Evan W. Woollacott, Jr., FCA, MAAA, EA
14-04513

January 29, 2016

II. Results of the Valuation

A. Assets

1.	**Beginning value, 7/01/2014**	
	a. Trust assets	$129,714,814
	b. Accrued contributions - Employee	$0
	c. Benefits payable	$0
	d. Administrative expenses payable	$0
	e. Net: (a) + (b) – (c) – (d)	$129,714,814
2.	**Contributions**	
	a. Contributions during year - Employer	$3,515,000
	b. Contributions during year - Employee	$1,175,378
	c. Total for Plan Year	$4,690,378
3.	**Disbursements**	
	a. Benefit payments during year	$9,168,689
	b. Administrative expenses during year	$106,441
	c. Change in benefits payable	$0
	d. Change in administrative expenses payable	$0
	e. Total for plan year	$9,275,130
4.	**Net Investment Return**	
	a. Interest and dividends	$1,711,821
	b. Other Income	$0
	c. Realized/unrealized gain (loss)	($1,132,019)
	d. Investment – related expenses	($771,397)
	e. Total	($191,595)
5.	**Ending Value, 6/30/2015**	
	a. Trust assets: (1e) + (2c) - (3e) + (4e)	$124,938,467
	b. Accrued contribution – Employer	$0
	c. Accrued contribution – Employee	$0
	d. Benefit payable	$0
	e. Administrative expenses payable	$0
	f. Net: (a) + (b) + (c) – (d) – (e) or (1) + (2) – (3) + (4)	$124,938,467
6.	**Approximate rate of return 2014-2015**	0.00%

II. Results of the Valuation
continued

1.	Actuarial Asset Value at July 1, 2014	$141,313,028
2.	Expected Return	10,211,553
3.	Contributions	4,690,378
4.	Disbursements	9,275,130
5.	Expected Actuarial Asset Value at June 30, 2015 (1) + (2) + (3) – (4)	146,939,829
6.	Market Value of Assets	124,938,467
7.	Appreciation (Depreciation) Capitalized .20 x [(6) – (5)]	-4,400,272
8.	Preliminary Actuarial Asset Value at June 30, 2015 (5) + (7)	142,539,557
9.	70% of Market Value .7 x (6)	87,456,927
10.	130% of Market Value 1.3 x (6)	162,420,007
11.	Actuarial Asset Value at June 30, 2015, not less than (9); and not greater than (10)	142,539,557
12.	Round to nearest thousand	142,540,000
13.	Actuarial Asset Return	4.10%

II. Results of the Valuation
(continued)

B. Development of Unfunded Accrued Liability and Funded Ratio

		July 1, 2015 Interim Valuation	July 1, 2014 Valuation
1.	Projected Accrued Liability	$165,668,000	$159,884,000
2.	Assets (Actuarial Value)	$142,540,000	$141,313,000
3.	Unfunded Accrued Liability: (1) - (2)	$23,128,000	$18,571,000
4.	Funded Ratio: (2) / (1)	86.0%	88.4%

II. Results of the Valuation

(continued)

C. Actuarially Determined Contribution

		July 1, 2015 for Fiscal Year Ending June 30, 2017	July 1, 2014 for Fiscal Year Ending June 30, 2016
1.	Ongoing Annual Cost	$3,653,000	$3,547,000
2.	Expected Administrative Expenses	177,000	0
3.	Estimated Actuarial Employee Contributions	1,171,000	1,136,000
4.	City's Ongoing Annual Cost: (1) + (2) - (3)	2,659,000	2,411,000
5.	Amortization of Unfunded Accrued Liability (14 years)	2,481,000	1,931,000
6.	City's Annual Contribution: [(4) + (5)]	5,140,000	4,342,000

II. Results of the Valuation
(continued)

D. Target Asset Allocation

June 30, 2015

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*	Weighting
Large Cap Equities	35.00%	4.75%	1.66%
International Equities	20.00%	5.25%	1.05%
Small Cap Equities	15.00%	5.50%	0.83%
High Quality Bonds	14.00%	2.00%	0.28%
International Income	2.00%	2.00%	0.04%
High Yield	2.00%	3.25%	0.07%
Emerging Markets	2.00%	3.50%	0.07%
Alternative Investments	10.00%	5.25%	0.53%
	100.00%		4.53%
Long-Term Inflation Expectation			3.00%
Long-Term Expected Nominal Return			7.53%

**Long-Term Returns are provided by HHIA. The returns are geometric means.*

The long-term expected rate of return on pension plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return are developed. Best estimates of the real rates of return for each major asset class are included in the pension plan's target asset allocation.

The information above is based on geometric means and does not reflect additional returns through investment selection, asset allocation and rebalancing. The results support a rate between 7.00% and 8.00%. An expected rate of return of 7.25% was used.

II. Results of the Valuation

(continued)

E. Amortization

Interest 7.25%

		Balance 7/1/2014	Amortization Payment	Balance 7/1/2015	Amortization Payment	Years Left
7/1/2014	Initial Base	18,571,239	1,931,316	17,846,317	1,931,316	14
7/1/2015	Experience			5,282,184	549,321	15
					2,480,637	

III. Actuarial Cost Methods and Assumptions

A. Actuarial Cost Methods

Funding Method

The actuarial method used to develop the Actuarially Determined Contribution is the Projected Unit Credit Cost Method.

The Ongoing Annual Cost equals the total present value for all participants of the benefit accruing during the coming year, increased to reflect salaries projected to the assumed retirement date.

The Accrued Liability equals the present value of all benefits accrued to date, increased to reflect salaries for all active participants. The total Accrued Liability is reduced by plan assets to develop the Unfunded Accrued Liability.

The cost of amortizing the Unfunded Accrued Liability constitutes a portion of the Actuarially Determined Contribution.

The total Actuarially Determined Contribution equals the Ongoing Annual Cost, further increased by any positive amortization of the Unfunded Accrued Liability. Beginning with the July 1, 2014 valuation, there was an initial unfunded amount of approximately $18,571,000. This amount will be completely amortized by July 1, 2029. Each future valuation will amortize any changes in the unfunded accrued liability due to actuarial experience, plan changes or assumption changes over 15 years.

Asset Valuation Method

The Actuarial Value of Assets used in the development of the Annual Recommended Contribution is designed to smooth out fluctuations in the market value. An Expected Actuarial Value of Assets is determined based on the prior year's Actuarial Value of Assets and the assumed interest rate equal to the valuation interest rate. The Actuarial Value of Assets is equal to the Expected Actuarial Asset Value plus 20% of the difference between the Market Value and the Expected Value. The Actuarial Value of Assets is limited to a minimum of 70% or a maximum of 130% of the Market Value.

III. Actuarial Cost Methods and Assumptions

B. Actuarial Assumptions

Investment Rate of Return

7.25%.

Inflation

3.0%.

This assumption is based on long term (1926-2013) historical inflation numbers. While near term averages have been lower, we do not believe this trend will continue indefinitely and expect that there will be a reversion to the long term average.

Mortality

RP-2000 Mortality Table with separate male and female rates, with blue collar adjustment, combined table for non-annuitants and annuitants, projected to the valuation date with Scale AA.

Mortality Improvement

Projected to date of decrement using Scale AA (generational mortality).

We have selected a mortality table commonly used by public pension systems (such as the State of Connecticut).

We are using Scale AA because it is consistent with recent industry analysis of future mortality improvement based on Social Security data for years 1977-1993 and is commonly used with the RP-2000 Mortality Table.

Salary Scale

Service	Rate
0	15.0%
1-2	10.0%
3	9.0%
4	8.0%
5	7.0%
6	6.0%
7	6.0%
8	5.0%
9	4.0%
10+	3.5%

The salary increase assumption was based on the experience study as of July 1, 2013.

Payroll Growth Assumption

3% annually to project normal cost only.

Medicare Part B Reimbursements

3% increase assumption each year.

III. Actuarial Cost Methods and Assumptions

(continued)

Retirement Age

Ret Rates by Years of Service*	
Years	**Rate**
25	0.040
26	0.000
27	0.040
28	0.040
29	0.040
30	0.040
31	0.040
32	0.180
33	0.110
34	0.380
35	0.100
36	0.220
37	0.000
38	0.290
39	0.200
40	1.000

** Retirement rate at age 65 is 1.00*

The retirement rates were based on the experience study that was performed as of July 1, 2013

Turnover

The following annual rates of turnover are assumed:

Age	Probability
20	5.44%
25	4.89%
30	3.70%
35	2.35%
40	0.00%
45	0.00%
50	0.00%
55	0.00%
60	0.00%

The turnover rates were validated by the experience study that was performed as of July 1, 2013.

III. Actuarial Cost Methods and Assumptions
(continued)

Disability

The following annual rates of disability are assumed:

Age	Probability
20	0.05%
25	0.05%
30	0.05%
35	0.06%
40	0.09%
45	0.18%
50	0.40%
55	0.85%
60	1.74%

The disability rates were validated by the experience study that was performed as of July 1, 2013.

Survivorship

80% of employees assumed to be married, with wives 4 years younger than husbands.

Expenses

The administrative expense is assumed to be the average of the prior two years of administrative expenses.

Prior assumption: The return is assumed to be net of both administrative expenses and investment expenses. Therefore, a direct expense assumption has not been made.

Vacation Bank

60% of retirees are assumed to elect additional pension credit as an annuity from the fund.

This assumption was based upon the July 1, 2013 experience study.

IV. Summary of Current Principal Pension Plan Provisions

Plan identification

Single-employer pension plan

Pension Earnings

Base Salary in Final Year or Employment excluding bonuses and overtime including differential amounts.

Normal Retirement

Eligibility: 20 years of service if hired before January 1, 1981; 20 years of service and age 48 if hired after January 1, 1981.

Benefit:

Years of Service	% of Pension Earnings
20	50.00%
21	52.00%
22	54.00%
23	56.00%
24	58.00%
25	60.00%
26	62.00%
27	64.00%
28	66.00%
29	68.00%
30	70.00%
31	72.00%
32	74.00%

Limits on Annual Benefit

Maximum: 74.00% of pension earnings.

Minimum: None.

Early Retirement

Eligibility: None.

Benefit: See Termination Benefit.

Disability - Non-Service Connected

Service Requirement: 20 years of service.

Benefit: 50% of salary, not less than accrued benefit.

IV. Summary of Current Principal Pension Plan Provisions
(continued)

Disability - Service Connected

Service Requirement: None.

Benefit: 100% of pay (or 75% of pay depending on extent of disability).

Pre-Retirement Death Benefit - Non Service Connected and less than 10 years of service

Service Requirement: None.

Benefit: Return of employee contributions with interest.

Pre-Retirement Death Benefit - Service Connected or more than 10 years of service

Service Requirement: None, if service connected; 10 years if non service connected.

Benefit: Greater of 100% of retirement benefit and 50% of salary.

Post-Retirement Spouse's Benefit

100% of pension retiree was receiving.

Post-Retirement Death Benefit

Lump sum, excess of accumulated contributions over benefits paid to member or survivors (if not eligible for spouse's benefit).

Medicare Part B

The City pays the cost of the Medicare Part B supplemental benefit from the pension trust for each retiree receiving Medicare coverage. The 2014 Medicare Part B monthly premium is $104.90.

Vesting in Accrued Benefit

Eligibility: 15 years of service.

Benefit: 2.5% of final salary times service. Benefit is payable when the employee would have had 20 years of service but not earlier than age 48.

Termination Benefit

Accumulated contributions as lump sum, if not vested.

Employee Contributions

6.25% of salary; no contributions for those with 32 or more years of service.

Additional Retirement Benefits

Employees can trade in vacation leave for additional pension credit. Each 20 days grants an additional 1.5% of salary up to a maximum of 7.5%.

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