THE POLICE PENSION TRUST FUND OF THE CITY OF STAMFORD

CITY OF STAMFORD

ACTUARIAL VALUATION REPORT

JULY 1, 2015

hooker & holcombe

Table of Contents

Report Prepared By:

Evan W. Woollacott, Jr.	Yelena Pelletier	Michael Lindberg
Vice President and Consulting Actuary	Actuary	Actuarial Analyst
860.856.2118	860.856.2066	860.856.2132
ewoollacott@hhconsultants.com	ypelletier@hhconsultants.com	mlindberg@hhconsultants.com

I. Introduction

A. Purpose of the Valuation

Liabilities were valued as of July 1, 2014 using data, cost information and assumptions from the July 1, 2014 valuation. 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 plan since the July 1, 2014 actuarial valuation. However, we have lowered the interest rate from 7.625% to 7.5% this year.

B. Comments

The market value return was approximately 4.4% this year. Because we are still smoothing in past asset gains, the actuarial smoothed return was 7.1%. The contribution increased by $745,000 this year. Approximately $156,000 of this was due to loading administrative expenses, $417,000 was due to lowering the interest rate assumption from 7.625% to 7.5%, and the expected increase was $181,000. The remaining portion ($9,000) is due to the 15 year open amortization period.

I. Introduction
continued

C. Certification

This report presents the results of the July 1, 2015 Actuarial Valuation for The Police 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

April 26, 2016

II. Results of the Valuation

A. Assets

1.	**Beginning value, 7/01/2014**	
	a. Trust assets	$ 191,185,506
	b. Accrued contributions - Employee	0
	c. Benefits payable	0
	d. Administrative expenses payable	0
	e. Net: (a) + (b) – (c) – (d)	191,185,506
2.	**Contributions**	
	a. Contributions during year - Employer	6,645,000
	b. Contributions during year - Employee	1,210,331
	c. Total for Plan Year	7,855,331
3.	**Disbursements**	
	a. Benefit payments during year	11,641,732
	b. Administrative expenses during year	228,492
	c. Change in benefits payable	0
	d. Change in administrative expenses payable	0
	e. Total for plan year	11,870,224
4.	**Net Investment Return**	
	a. Interest and dividends	4,981,562
	b. Other Income	0
	c. Realized/unrealized gain (loss)	4,422,431
	d. Investment – related expenses	(999,874)
	e. Total	8,404,119
5.	**Ending Value, 6/30/2015**	
	a. Trust assets: (1e) + (2c) - (3e) + (4e)	195,574,732
	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)	195,574,732
6.	**Approximate rate of return 2014-2015**	4.4%

II. Results of the Valuation

continued

A. Assets (continued)

1.	Actuarial Asset Value at July 1, 2014	$190,899,353
2.	Expected Return	14,663,814
3.	Contributions	7,855,331
4.	Disbursements	11,870,224
5.	Expected Actuarial Asset Value at June 30, 2015 (1) + (2) + (3) – (4)	201,548,274
6.	Market Value of Assets at July 1, 2015	195,574,732
7.	Appreciation (Depreciation) Capitalized .20 x [(6) – (5)]	-1,194,708
8.	Preliminary Actuarial Asset Value at June 30, 2015 (5) + (7)	200,353,566
9.	70% of Market Value .7 x (6)	136,902,312
10.	130% of Market Value 1.3 x (6)	254,247,152
11.	Actuarial Asset Value at June 30, 2015, not less than (9); and not greater than (10)	200,353,566
12.	Round to nearest thousand	200,354,000
13.	Actuarial Asset Return	7.13%

II. Results of the Valuation

continued

A. Assets (continued)

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*	Weighting
U.S. Domestic Equities	29.00%	5.00%	1.45%
Non-U.S. Equities	18.00%	5.50%	0.99%
U.S. Domestic Income	10.00%	2.00%	0.20%
Non-U.S. Income	5.00%	2.00%	0.10%
High Yield	4.00%	3.25%	0.13%
Real Estate	10.00%	5.00%	0.50%
Alternative Investments	17.00%	5.25%	0.89%
Hedge Funds	5.00%	5.25%	0.26%
Cash	2.00%	0.50%	0.01%
	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 7.25% and 7.75%. An expected rate of return of 7.5% was used.

II. Results of the Valuation
(continued)

B. Development of Unfunded Accrued Liability and Funded Ratio

		July 1, 2015 Interim Valuation	July 1, 2014 Valuation	July 1, 2013 Interim Valuation
1.	Projected Accrued Liability	$238,471,000	$225,233,000	$213,642,000
2.	Assets (Actuarial Value)	$200,354,000	$190,899,000	$180,800,000
3.	Unfunded Accrued Liability: (1) - (2)	$38,117,000	$34,334,000	$32,842,000
4.	Funded Ratio: (2) ¸ (1)	84.02%	84.76%	84.63%

C. Split of Accrued Liability

		July 1, 2015 Interim Valuation	July 1, 2014 Valuation
1.	Active Participants	$115,810,000	$109,381,000
2.	Vested Terminated Participants	$357,000	$337,000
3.	Participants in Pay Status	$122,304,000	$115,515,000
4.	Total Accrued Liability: (1) + (2) + (3)	$238,471,000	$225,233,000

II. Results of the Valuation
(continued)

D. 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	$5,031,000	$4,779,000
2.	Administrative Expenses	156,000	N/A
3.	Estimated Actuarial Employee Contributions	1,301,000	1,263,000
4.	City's Ongoing Annual Cost: (1) + (2) - (3)	3,886,000	3,516,000
5.	Amortization of Unfunded Accrued Liability (15 years)	4,017,000	3,642,000
6.	City's Annual Contribution: [(4) + (5)]	7,903,000	7,158,000

III. Actuarial Cost Methods and Assumptions

A. Actuarial Cost Methods

Funding Method

The actuarial method used to develop the Annual Recommended 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 Annual Recommended Contribution.

The total Annual Recommended Contribution equals the Ongoing Annual Cost, further increased by any positive amortization of the Unfunded Accrued Liability. The amortization period is 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
(continued)

B. Actuarial Assumptions

Mortality

RP-2000 Blue Collar Combined - Generational Mortality Table.

Mortality Improvement

Pre and Post-retirement: Projected to date of decrement using Scale AA.

We have selected a mortality table commonly used by public pension systems (such as the State of Connecticut). It is a recently published pension mortality study released by the Society of Actuaries. The plan does not have sufficiently credible data on which to perform a mortality experience study.

We are using scale AA because is consistent with recent industry analysis of future mortality improvement and Scale AA is commonly used with the RP-2000 Mortality Table.

Investment Return

7.5% per year.

Prior: 7.625% per year.

Salary Scale

Yearly Rates of Increases

Age	Rate
20	6.50%
25	6.50%
30	5.85%
35	5.20%
40	4.55%
45	3.90%
50	3.25%
55+	3.00%

The assumption is based on input from the plan sponsor regarding future expectations, as well as knowledge that younger employees generally earn higher annual percentage increases than older employees.

Payroll Growth Assumption

3% used to project normal cost only.

Medicare Part B Reimbursement

3% increase assumption each year.

III. Actuarial Cost Methods and Assumptions
(continued)

Retirement Age

Sample rates of assumed annual rates of retirement after completion of 25 years are as follows:

Age	Retirement Rate
55	50%
56	50%
57	50%
58	50%
59	50%

An additional 50% is added upon attainment of 20 years of service and 100% of members remaining beyond the earlier of age 60 with 25 years of service or age 65 are assumed to retire.

Turnover

The following annual rates of turnover are assumed:

Age	Probability
20	5.44%
25	4.89%
30	3.70%
35	2.35%
40	1.13%
45	0.00%
50	0.00%
55	0.00%
60	0.00%

The actuarial assumptions in regards to rates of decrement shown above are based on standard tables modified for certain plan features such as eligibility for full and early retirement where applicable and input from the plan sponsor.

Disability

The following annual rates of disability are assumed:

Age	Probability
20	.05%
25	.05%
30	.05%
35	.06%
40	.09%
45	.18%
50	.40%
55	.85%
60	1.74%

III. Actuarial Cost Methods and Assumptions
(continued)

Survivorship

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

Survivorship

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

Expenses

Administrative expenses were assumed to be the average of the last two years of administrative expenses.

Sick Bank and Vacation Bank

50% of retirees are assumed to elect an annuity from the fund.

Post-Retirement Life Insurance

100% of active and retired employees are assumed to have a $4,000 life insurance policy beginning at retirement.

IV. Summary of Current Principal Pension Plan Provisions

Pension Earnings

Base Salary in Final Year of Employment plus 14 paid holidays.

Normal Retirement

Eligibility: 20 years of service

Benefit:

Years of Service	% of Pension Earnings
20	50.00%
21	53.00%
22	56.00%
23	59.00%
24	62.00%
25	65.00%
26	67.33%
27	69.66%
28	71.99%
29	74.32%
30	76.65%

Limits on Annual Benefit

Maximum: 76.65% of pension earnings plus a possible 7.5% (from Sick Bank) for a total of 84.15%

Minimum: None.

Early Retirement

Eligibility: None.

Minimum: See Termination Benefit.

Disability:

Service Requirement: None.

Benefit: 75% of pay (or 50% of pay depending on extent of disability).

Pre-Retirement Death Benefit – Non Service Connected

Service Requirement: 10 years of service.

Benefit: 50% of salary.

Pre-Retirement Death Benefit – Service Connected

Service Requirement: None.

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

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).

Post-Retirement Lump Sum at Death

Lump Sum equal to $4,000.00.

Vesting in Accrued Benefit

Eligibility: 10 years of service.

Benefit: 50% off final salary times the ratio of service at termination to 20 years. Benefit is payable when the officer 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

7% of salary; no contributions for those with 30 or more years of service.

Additional Retirement Benefits

Employees can trade in 50% of sick leave for additional pension credit. If an officer's sick bank has less than 200 days, unused vacation time may be added, subject to a maximum of 200 sick and unused vacation days combined. Each 20 days grants an additional 1.5% of salary up to a maximum of 7.5%.

G:\Clients\497 Stamford\2015 pyb 0701 fye 0630\Valuation\Pension Police\2015 Police Valuation Report.docx