



HOOKER & HOLCOMBE, INC.  
Benefit Consultants and Actuaries

65 LaSalle Road | West Hartford, CT 06107-2397 | *Founded in 1956*

*Confidential*

November 22, 2011

Mr. David St. Hilaire  
Director of Finance  
City of Danbury  
155 Deer Hill Avenue  
Danbury, CT 06810

Dear Dave:

Enclosed is the GASB 45 report for the July 1, 2010 valuation.

The July 1, 2010 valuation was used to develop the Annual Required Contribution (ARC) for fiscal years ending June 30, 2012 and June 30, 2013.

Please let me know if you have any questions or need additional information.

Sincerely,

Evan W. Woollacott, Jr., FCA, MAAA, EA

/mmh  
Enclosure

c: Dan Garrick

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HOOKER & HOLCOMBE, INC.  
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**City of Danbury  
GASB 45**

**Valuation as of  
July 1, 2010**

Evan W. Woollacott, Jr.,  
FCA, MAAA, EA

Sharad Arora  
Actuarial Specialist

November 22, 2011

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## Actuarial Certification

This report presents the results of the July 1, 2010 Actuarial Valuation for the City of Danbury's post-retirement benefits other than pension (OPEB) for City of Danbury and Danbury Board of Education employees (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal years ending June 30, 2012 and June 30, 2013. 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 City, and on cost and contribution information provided by the City. 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, Jr., FCA, MAAA  
Enrolled Actuary

November 22, 2011

## Executive Summary

The July 1, 2010 accrued liability of \$143,769,000 is approximately 6.5% higher than expected. The increase was mainly due to higher than expected premiums for City Plan.

Below is a history of the Actuarial Accrued Liability (AAL) and Annual Required Contribution (ARC).

<b>History of Actuarial Accrued Liability</b>	
<b>Actuarial Valuation Date</b>	<b>Actuarial Accrued Liabilities (AAL)</b>
7/1/2006	\$93,814,000
7/1/2008	122,584,000
7/1/2010	143,769,000

<b>History of Annual Required Contribution (ARC)</b>	
<b>Year Ended June 30</b>	<b>Annual Required Contribution (ARC)</b>
2008	\$8,809,000
2009	8,809,000
2010	13,125,000
2011	13,340,000
2012	14,801,000
2013	15,052,000

## Actuarial Accrued Liabilities

City of Danbury - GASB 45 Unfunded Actuarial Accrued Liability (UAAL)									
Actuarial Accrued Liability (AAL) 7/1/2010	Police	Fire	Other City	City Subtotal	Certified	Non-Certified	BOE Subtotal	Grand Total	
Actives	19,771,696	13,884,852	15,239,424	48,895,972	7,585,508	938,560	8,524,068	57,420,040	
Retirees	<u>28,605,754</u>	<u>25,022,568</u>	<u>21,513,955</u>	<u>75,142,277</u>	<u>11,173,527</u>	<u>32,669</u>	<u>11,206,196</u>	<u>86,348,473</u>	
<b>Total</b>	<b>48,377,450</b>	<b>38,907,420</b>	<b>36,753,379</b>	<b>124,038,249</b>	<b>18,759,035</b>	<b>971,229</b>	<b>19,730,264</b>	<b>143,768,513</b>	
Assets 7/1/2010	0	0	0	0	0	0	0	0	
<b>Unfunded Actuarial Accrued Liability (UAAL) 7/1/2010</b>	<b>48,377,450</b>	<b>38,907,420</b>	<b>36,753,379</b>	<b>124,038,249</b>	<b>18,759,035</b>	<b>971,229</b>	<b>19,730,264</b>	<b>143,768,513</b>	

## Annual Required Contribution (ARC)

City of Danbury - GASB 45 Annual Required Contribution (ARC)									
Annual Required Contribution (ARC) 2011 / 2012 Fiscal Year	Police	Fire	Other City	City Subtotal	Certified Non-Certified	BOE Subtotal	Grand Total		
Normal Cost	1,175,926	743,278	1,107,971	3,027,175	382,581	445,035	3,472,210		
30 Year Amortization of UAAL	3,643,518	2,930,289	2,768,059	9,341,866	1,412,825	1,485,973	10,827,839		
Interest Cost	168,681	128,575	135,661	432,917	62,839	67,585	500,502		
<b>Total ARC 2011 / 2012</b>	<b>4,988,125</b>	<b>3,802,142</b>	<b>4,011,691</b>	<b>12,801,958</b>	<b>1,858,245</b>	<b>1,998,593</b>	<b>14,800,551</b>		
City of Danbury - GASB 45 Annual Required Contribution (ARC)									
Annual Required Contribution (ARC) 2012 / 2013 Fiscal Year	Police	Fire	Other City	City Subtotal	Certified Non-Certified	BOE Subtotal	Grand Total		
Normal Cost	1,258,241	795,307	1,185,529	3,239,077	409,362	476,188	3,715,265		
30 Year Amortization of UAAL	3,643,518	2,930,289	2,768,059	9,341,866	1,412,825	1,485,973	10,827,839		
Interest Cost	171,562	130,396	138,376	440,334	63,777	68,676	509,010		
<b>Total ARC 2012 / 2013</b>	<b>5,073,321</b>	<b>3,855,992</b>	<b>4,091,964</b>	<b>13,021,277</b>	<b>1,885,964</b>	<b>2,030,837</b>	<b>15,052,114</b>		

**Participant Counts and Average Attained Age  
As of July 1, 2010**

<b>Participant Counts</b>			
<b>Group</b>	<b>Active Participants</b>	<b>Retirees**</b>	<b>Total</b>
Police	151	103	254
Fire	120	93	213
City*	265	145	410
BOE Certified	818	162	980
BOE Non Certified	454	4	458
<b>Total</b>	<b>1,808</b>	<b>507</b>	<b>2,315</b>

<b>Average Age</b>		
<b>Group</b>	<b>Active Average Age</b>	<b>Retirees Average Age</b>
Police	43	63
Fire	43	65
City*	50	73
BOE Certified	45	64
BOE Non Certified	51	65

\* Includes DMEA, Non-Union, & Teamsters

\*\* Does not include spouses and other dependents for City, Police & Fire.  
Does include spouses for BOE.

## Projected Benefit Payments

Fiscal Year Beginning July 1st	Currently Active Employees	Currently Retired Employees	Total
2011	883,000	6,430,000	7,313,000
2012	1,298,000	6,596,000	7,894,000
2013	1,774,000	6,764,000	8,538,000
2014	2,223,000	6,802,000	9,025,000
2015	2,654,000	6,847,000	9,501,000
2016	3,112,000	6,811,000	9,923,000
2017	3,582,000	6,818,000	10,400,000
2018	4,092,000	6,721,000	10,813,000
2019	4,932,000	6,852,000	11,784,000
2020	5,579,000	6,805,000	12,384,000
2021	6,505,000	6,825,000	13,330,000
2022	7,282,000	6,830,000	14,112,000
2023	7,755,000	6,764,000	14,519,000
2024	8,519,000	6,705,000	15,224,000
2025	9,280,000	6,651,000	15,931,000
2026	9,965,000	6,495,000	16,460,000
2027	10,493,000	6,399,000	16,892,000
2028	11,317,000	6,350,000	17,667,000
2029	12,064,000	6,305,000	18,369,000
2030	12,665,000	6,149,000	18,814,000

## Summary of Current Principal Plan Provisions

### Police

Eligibility for medical coverage	Age 65, or 15 years of service, or age 55 if mayor/council appointed ( <i>Appointment assumed</i> )						
	20 years of service and retires with non-service-connected disability						
Retiree/spouse cost of medical coverage	No cost to retiree before age 65, for self, or spouse. At age 65, City provides medical coverage, with retiree/spouse paying for underlying Medicare Part B. Widow/er coverage stops when eligible for other paid medical coverage, or remarries.						
Plan of coverage	Various Anthem medical plans, dependent on whether under or over age 65.						
Premium Rates for 2010 – 2011 Fiscal Year	<table border="0" style="margin-left: 20px;"> <tr> <td style="vertical-align: top;">Under age 65</td> <td>\$10,560 per year.</td> </tr> <tr> <td style="vertical-align: top;">Over age 64</td> <td>50% at \$5,700 per year. 50% at \$7,260 per year.</td> </tr> <tr> <td style="vertical-align: top;">Dental</td> <td>\$570 per year.</td> </tr> </table>	Under age 65	\$10,560 per year.	Over age 64	50% at \$5,700 per year. 50% at \$7,260 per year.	Dental	\$570 per year.
Under age 65	\$10,560 per year.						
Over age 64	50% at \$5,700 per year. 50% at \$7,260 per year.						
Dental	\$570 per year.						
Eligibility for retiree life insurance	Retires with a service-connected disability.						
Life insurance benefit	Death benefit provided to disabled employees and existing retirees (one times salary).						
Dental benefit	Same cost share as Medical.						

**Firefighters**

Eligibility for medical coverage	Retires at or after age 55, or at any age with 27 years of service. Must be receiving pension benefits at retirement date.
	20 years of service and retires with non-service connected disability.
	Widow/er of firefighter dying while an active employee with at least 15 years of service.
	Widow/er coverage stops when eligible for other paid medical coverage, or remarries.
Retiree/spouse cost of medical coverage	No cost to retiree before age 65, for self or spouse.
	At age 65, City provides medical coverage, with retiree/spouse paying for underlying Medicare Part B.
	Widow/er of in-service death of employee with 15 years service, pays 50% of City plan's premium.
Plan of coverage	Various Anthem medical plans, dependent on whether under or over age 65.
Premium Rates for 2010-2011 Fiscal Year	Under age 65    \$10,560 per year.
	Over age 64    50% at \$5,700 per year. 50% at \$7,260 per year.
	Dental            \$570 per year.
Eligibility for retiree life insurance	Retires with a service-connected disability.
Life insurance benefit	Death benefit provided to disabled employees and existing retirees.
Dental benefit	Same cost share as Medical.

**DMEA and Non-Union City Employees**

Eligibility for medical coverage	<p>A. Retires with pension and either              (i) 20 years of service or              (ii) age 62 with 15 years of service.</p> <p>B. Retires with pension (i.e. at or after age 55) and 10 years of service.</p> <p>C. Retires with pension at or after age 65 and 5 years of service.</p>
Retiree/spouse cost of medical coverage	<p>No cost to most retirees, other than Medicare part B.</p> <p>A few retirees pay \$300 annually.</p> <p>DMEA spouse under A. above pays only Medicare part B as long as retiree or widow/er receives a City Pension.</p> <p>Otherwise spouse also pays full premium.</p>
Plan of coverage	<p>Various Anthem medical plans, dependent on whether under or over age 65.</p>
Premium Rates for 2010-2011 Fiscal Year	<p>Under age 65   \$10,560 per year.</p> <p>Over age 64    50% at \$5,700 per year.                            50% at \$7,260 per year.</p> <p>Dental           \$570 per year.</p>
Eligibility for retiree life insurance	<p>Retires with a pension (i.e. after attaining age 55 and 5 years of service).</p>
Life insurance benefit	<p>\$2,500 for each 5 whole years of service, maximum benefit \$10,000.</p>
Dental benefit	<p>Same cost share as Medical.</p>

**Teamsters**

Eligibility for medical coverage	Retire before age 65 under the Rule of 85. However, Premium subsidy benefits provided only from age 55 to 65.
Retiree/spouse cost of medical coverage	Retirees prior to age 55 self-pay medical coverage.  After 55 and before age 65, retiree pays only for child coverage, and the excess of total retiree/spouse premium charged by the Teamsters Fund, over the City's maximum cap.
City's maximum cap	80% of the payment the City makes to the Teamsters Fund on behalf of a 40 hour/week employee, frozen at the time of retirement.
Teamsters premium currently required:	
Age 55-59	\$5,640/yr single retiree or eligible spouse.
Age 60-64 and 30 yrs coverage	\$1,176/yr single retiree or eligible spouse
25-29 years	\$1,440/yr single retiree or eligible spouse
20-24 years	\$1,572/yr single retiree or eligible spouse
15-19 years	\$1,704/yr single retiree or eligible spouse
Life Insurance	None provided post-retirement.

**Board of Education**

Eligibility for medical coverage:	If Eligible for Retirement under the CT Teachers Retirement System: Age 50 and 25 years of service, 55 and 20 years of service, or age 60 and 10 years of service.  If Covered by the Pension Plan for City General Employees: Age 65, Rule of 85, or age 55 and 10 years of service.
Retiree/spouse cost of medical coverage	Retiree and spouse pay 100% of the premium owed for active employees, independent of retiree/spouse age or Medicare eligibility.
Plan of coverage	Assumed the same as Active's Plan. Assumed that retirees with current Medicare coverage are not participating in this Plan.
Premium Rates for 2010-2011 Fiscal Year	\$8,924 per year.
Retiree life insurance provided by City	None.

## Actuarial Cost Methods and Assumptions

### City and Non Certified Board of Education

Discount rate:	7%, compounded annually, net of investment expenses.
Salary increase: (used only for Police and Fire life insurance)	4%/yr.
Mortality:	RP-2000 (Combined) Mortality Table, (Blue Collar Adjustment for Police and Fire, and No-Collar Adjustment for other employees).
Disability rates for life insurance, for the service-related disability benefit, Police Fire only	3 x 1955 UAW Disability Table.

Disability rates for life insurance, for the service-related disability benefit, Police Fire only (continued)

Rates of disability illustrated as follows:  
Percentage of Employees Becoming Disabled Prior to End of Year

<u>Age</u>	<u>Male</u>	<u>Female</u>
25	0.09%	0.15%
30	0.12	0.18
35	0.15	0.24
40	0.21	0.30
45	0.30	0.45
50	0.54	0.78
55	1.08	1.47
60	2.70	3.63

Actuarial Cost Methods and Assumptions - City  
(continued)

Employee turnover:

Crocker, Sarason and Straight T – 5.

*Percentage of Employees Terminating  
Prior to End of Year*

<u>Age</u>	<u>Rate</u>
25	7.72%
30	7.22
35	6.28
40	5.15
45	3.98
50	2.56
55	0.94
63	0

Assumed rates of retirement (applied to:  
employees when eligible for benefit)

At age 65: 100% or earlier according to  
service-related table below

<u>Service</u>	<u>Rate</u>
14 years	0%
15	5
16 - 19	2
20	10
21	10
22 - 24	4
25	15
26	15
27 - 29	5
30	25
31	5
32	15
33	25
34 or more	100

Medical trend rates:

10% for 2010, reducing by 1% for each  
year to a final 5%/year rate for 2015 and  
later.

Dental trend rates:

5% per year.

Actuarial Cost Methods and Assumptions - City  
(continued)

Aging rates effect on medical costs:

	<u>%/Yr. Increase</u>
50 – 54	3.3%
55 – 59	3.6
60 – 64	4.2
65 – 69	3.0
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 – 89	0.5
90 – 90	0.0

Claims Morbidity

We assume claims will be distributed according to the following table (for City):

<u>Age</u>	<u>Relative Claims Cost</u>
40	\$ 7,494
50	9,926
60	13,934
64	16,426

Percentage of actives eligible at retirement who continue with medical benefits:

100%.

Percentage of Actives retiring with a Spouse:

Males	70%
Females	35%

Age differential for spouse of new retiree:

Husbands are assumed to be 3 years older than wives.

## Actuarial Cost Methods and Assumptions

### Board of Education - Certified

Discount rate: 7%, compounded annually, net of investment expenses.

Mortality: RP 2000 (Combined)

Service-based withdrawal rates:

(until eligible to retire) (from CT State TRS 2008 Pension Valuation)	<u>Service</u>	<u>Male Rate</u>	<u>Female Rate</u>
	0-1	.14	.12
	1-2	.085	.09
	2-3	.055	.07
	3-4	.045	.06
	4-5	.035	.055
	5-6	.025	.05
	6-7	.024	.045
	7-8	.023	.035
	8-9	.022	.03
	9-10	.021	.025
	10 +	use age-related rates until eligible to retire	

Sample age-based withdrawal rates:

(until eligible to retire) (from CT State TRS 2008 Pension Valuation)	<u>Age</u>	<u>Male Rate</u>	<u>Female Rate</u>
	25-37	.012	.035
	45	.0126	.013
	50	.0196	.0125
	55	.0336	.0160
	59+	.04	.019

Actuarial Cost Methods and Assumptions – Board of Education - Certified  
(continued)

Assumed rates of retirement:  
(from CT State TRS 2008 Pension Valuation)

Age	Eligible for Normal (Unreduced) Retirement (Age 60 and 20 Yrs. Serv. or 35 yrs. Serv.)		Eligible for Early (Reduced) Retirement (Age 55 and 20 Yrs. Serv. or 25 yrs. Serv.)	
	Male	Female	Male	Female
55	38.5	30.0	5.0	7.5
56	38.5	30.0	7.0	8.5
57	38.5	30.0	10.0	9.5
58	38.5	30.0	11.0	10.0
59	38.5	30.0	12.0	10.0
60	22.0	20.0		
61-62	25.3	22.5		
63-64	27.5	22.5		
65	36.3	30.0		
66-69	27.5	30.0		
70-79	100.0	40.0		
80	100.0	100.0		

Medical trend rates:

10% for 2010, reducing by 1% for each year to a final 5%/year rate for 2015 and later.

Aging rates effect on medical costs:

	<u>%/Yr. Increase</u>
50 – 54	3.3%
55 – 59	3.6
60 – 64	4.2
65 – 69	3.0
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 – 89	0.5
90 – 90	0.0

Actuarial Cost Methods and Assumptions – Board of Education - Certified  
(continued)

Claims Morbidity

We assume claims will be distributed according to the following table (for all BOE) without integration for Medicare:

<u>Age</u>	<u>Relative Claims Cost</u>
40	\$ 6,239
50	8,263
60	11,599
70	16,518
80	20,634

Percentage of actives eligible at retirement who continue with medical benefits:

95%.

Percentage of actives retiring with a spouse:

Males	70%
Females	35%

Age differential for spouse of new retiree:

Husbands are assumed to be 3 years older than wives.

Coverage continuation past age 65 for current actives who retire before age 65 and elect medical coverage:

Hired before 4/1/1986	25%
Hired after 3/31/1986	none

## **Actuarial Cost Method**

**Actuarial Cost Method: Projected Unit Credit**

The Normal Cost is derived for each active participant as the actuarial present value of the projected benefits that are attributed to expected service in the current plan year. The Normal Cost for plan benefits is the total of the individual Normal Costs for active participants.

The Accrued Liability is equal to the portion of the present value of future benefits that is allocated to years of service before the valuation date.

**Amortization Method: 30 years, level dollar, open**

The Unfunded Accrued Liability is amortized each year over a constant 30 year period, as a level dollar amount.

**Asset Valuation Method: As of the July 1, 2010 Valuation, there were no plan assets.**

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*Confidential*

October 15, 2012

Mr. David S. Hilaire  
Director of Finance  
City of Danbury  
155 Deer Hill Avenue  
Danbury, CT 06810

***Re: City of Danbury General Employees Pension Plan***

Dear Dave:

Enclosed is the original and three copies of the July 1, 2011 Actuarial Valuation Report for the City of Danbury General Employees Pension Plan for distribution to any interested parties.

This valuation develops the Annual Required Contribution (ARC) for fiscal years ending June 30, 2013 and June 30, 2014. Due to actuarial experience losses on the return on investments, an Annual Required Contribution of \$3,817,000 is recommended for the 2013 and \$3,930,000 is recommended for the 2014 plan years.

Please call if you have any questions.

Sincerely,

Evan W. Woollacott, Jr., FCA, MAAA, EA

/aps  
Enclosure

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**City of Danbury  
General  
Employees  
Pension Plan**

Actuarial Valuation Report

July 1, 2011

Evan W. Woollacott, Jr.,  
FCA, MAAA, EA  
Consulting Actuary

Cathleen B. Falconer  
Pension Analyst

October 15, 2012

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## Section I

### Introduction

#### A. Purposes of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year. The information found in Sections II-B and II-C of the report has been developed for this purpose.

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,

<i>City's ultimate cost</i>	=	<i>benefits paid</i>	+	<i>expenses incurred</i>	-	<i>investment return</i>	-	<i>employee contributions</i>
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#### B. Contribution for Fiscal Years 2013 and 2014

The City's cost is:

	<b>2013 Fiscal Year</b>	<b>2014 Fiscal Year</b>
DMEA	\$ 675,000	\$ 695,000
Non-Union	807,000	828,000
Teamsters	780,000	804,000
School	<u>1,555,000</u>	<u>1,603,000</u>
Total	3,817,000	3,930,000

Please see Section II-D for the development of these figures.

#### C. Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$(6,777,984) as of July 1, 2011. In comparison to the July 1, 2009 Valuation, the unfunded liability increased by approximately \$9,570,000. The primary source of the increase was the asset performance. The portions of the increase are listed below.

1. Lower than expected assets	7,694,000
2. Lower than expected Plan Liabilities	(823,000)
3. Expected increase	<u>2,699,000</u>
	<u>\$9,570,000</u>

The change in assumptions detailed in Section IV Actuarial Methods and Assumptions decreased the Unfunded Accrued Liability approximately \$1,552,000.

## Section I

### Introduction

(continued)

The expected increase represents the value of benefits accruing.

The actuarial value of assets earned a return of about 3.2% in 2009-2010 and 5.6% in 2010-2011, compared to an expected rate of return of 8.0% per year. This resulted in an actuarial experience loss. The market value of assets returned about 14.1% in 2009-2010 and returned about 19.2% in 2010-2011.

With two years of less than expected asset performance, new asset losses will be smoothed. The actuarial value of assets remain greater than the market value. A comparison of 2009 and 2011 asset values is below.

	<u>2009</u>	<u>2011</u>
Market Value	\$ 82,905,178	\$100,761,910
Actuarial Value	111,314,774	110,890,677
Ratio	74.5%	90.9%

#### D. Changes Since The Last Valuation

With this valuation, we have recognized several changes in the Actuarial Assumptions. We have decreased the interest assumption from 8% to 7.25%. The Mortality Table has been updated to the IRS 2008 Generational Mortality Table from the 1983 Group Annuity Mortality Male Table. The salary scale has been changed from 4% per year, to a graded table beginning with 5% per year and scaling down to 3% per year at age 60. The Retirement Age assumption of earlier of age 65 or age at which age plus service equals 85, but not less than age 55 has been replaced with retirement rate assumptions for ages 55 through 70, which generate a weighted retirement age of 63. The COLA assumption was changed from 3.5% per year to 3% per year. In total, these changes decreased the ARC approximately \$287,000 or 7.2%.

#### E. Fiscal Year 2015 and 2016 Projections

We expect that the City will have an annual required contribution (ARC) for the fiscal year ending June 30, 2015. The ARC has two portions. The future service cost is expected to be approximately \$3,000,000. The past service cost will depend upon actual plan experience. Because the market value of assets is considerably less than the actuarial value of assets, we expect that there will be a past service cost when the July 1, 2013 valuation is completed. To estimate this portion of the ARC, it may be wise to review actual assets each year.

## Section I

### Introduction

(continued)

#### F. Certification

This report presents the results of the July 1, 2011 Actuarial Valuation for City of Danbury General Employees Pension Plan (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal years ending *June 30, 2013 and June 30, 2014*. 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, Jr., FCA, MAAA, Enrolled Actuary  
11-04513

October 15, 2012

## Section II

### Results of the Valuation

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2011	July 1, 2009
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Active Employees	\$ 70,079,948	\$ 62,106,213
Retired Pensioners	72,004,857	65,815,354
Terminated Vested Employees	<u>4,089,915</u>	<u>3,170,182</u>
TOTAL	\$146,174,720	\$131,091,749
<b>Source of Funds</b>		
1. Plan Assets	\$110,890,677	\$111,314,774
2. Unfunded Accrued Liability	6,777,984	(1,239,915)
3. Present Value of Future City Normal Cost Contributions	<u>28,506,059</u>	<u>21,016,890</u>
4. TOTAL = (1) + (2) + (3)	\$146,174,720	\$131,091,749

## Section II

### Results of the Valuation (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2011	July 1, 2009
Retired Pensioners	\$72,004,857	\$65,815,354
Terminated Vested Members	<u>4,089,915</u>	<u>3,170,182</u>
Inactive Employees	\$76,094,772	\$68,985,536
Active Employees:	<u>41,573,889</u>	<u>41,089,323</u>
Total Accrued Liability	117,668,661	110,074,859
Assets (Actuarial Value)	<u>110,890,677</u>	<u>111,314,774</u>
Unfunded Accrued Liability*	6,777,984	(1,239,915)
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	94.2%	101.1%

\* *Total Accrued Liability less Actuarial Assets*

## Section II

### Results of the Valuation (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	<u>DMEA</u>	<u>Non-Union</u>	<u>Teamsters</u>	<u>School</u>	<u>Total</u>
1. Accrued Liabilities					
a) Present value of benefits payable to retired members and beneficiaries	\$ 13,886,031	\$22,674,044	\$ 12,031,762	\$23,413,020	\$72,004,857
b) Present value of benefits payable to vested terminated members	841,741	866,249	1,119,248	1,262,677	4,089,915
c) Accrued liability for benefits to be paid by contributions of the city on account of active members	<u>6,702,390</u>	<u>8,066,377</u>	<u>9,148,516</u>	<u>17,656,606</u>	<u>41,573,889</u>
d) Total accrued liabilities	\$21,430,162	\$31,606,670	\$22,299,526	\$42,332,303	\$117,668,661
2. Actuarial Asset Value	20,195,736	29,786,054	21,015,022	39,893,866	110,890,677
3. Balance – Unfunded Accrued Liability (surplus): (1d) – (2)	1,234,426	1,820,616	1,284,504	2,438,437	6,777,984
4. Amortization of Unfunded Liability*	165,773	244,493	172,498	327,461	910,225
5. Funded Ratio: (2) / (1d)	94.2%	94.2%	94.2%	94.2%	94.2%

\* Amortized over the expected future service of active employees of the City (10 years as of July 1, 2011)

**Section II**  
**Results of the Valuation**  
(continued)

**C. Determination of Actuarial Gain (Loss)**

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability, without regard to any plan changes or changes in methods or actuarial assumptions. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced.

<b>Actuarial Gain (Loss)</b>	
<b>1. Expected unfunded actuarial accrued liability 7/1/2011</b>	
a. Expected unfunded actuarial accrued liability 7/1/2010	
i. Unfunded actuarial accrued liability 7/1/2009	(1,239,915)
ii. Normal cost 7/1/2009	2,416,703
iii. Interest at 8% to 7/1/2010	94,143
iv. Contributions for 2009-2010	0
v. Interest for ½ year on (iv)	0
vi. Expected unfunded actuarial accrued liability 7/1/2010 (i) + (ii) + (iii) - (iv) - (v)	1,270,931
b. Expected unfunded actuarial accrued liability 7/1/2011	
i. Expected unfunded actuarial accrued liability 7/1/2010	1,270,931
ii. Estimated normal cost 7/1/2010	2,513,371
iii. Interest at 8.0% to 7/1/2011	302,744
iv. Contributions for 2010-2011	2,529,000
v. Interest for ½ year on (iv)	99,214
vi. Expected unfunded actuarial accrued liability 7/1/2011 (i) + (ii) + (iii) - (iv) - (v)	1,458,832
<b>2. Actual unfunded liability at 7/1/2011 prior to assumption change</b>	8,329,771
<b>3. Actuarial gain (loss): (1.b.vi) - (2) + (3)</b>	(6,870,939)
<b>4. Sources of gain (loss)</b>	
a. (Loss) due to return on assets	(7,694,000)
b. (Loss) due to new entrants	(162,000)
c. Miscellaneous gain	204,000
d. Gain due to salary increases	<u>781,000</u>
e. Total gain (loss): (a)+(b)+(c)+(d)	(6,871,000)
<b>5. Decrease in unfunded liability due to assumption change</b>	(1,551,787)

## Section II

### Results of the Valuation (continued)

#### D. Valuation Results – July 1, 2011

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2011 valuation are:

	<u>DMEA</u>		<u>Non-Union</u>		<u>Teamsters</u>		<u>School</u>		<u>Total</u>	
	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>
1. Total Normal Cost	\$445,461	9.2%	\$488,114	9.2%	\$533,824	9.0%	\$1,079,167	9.5%	\$2,546,566	9.3%
2. Amortization Payment – 10 year amortization schedule	165,773		244,493		172,498		327,461		910,225	
3. Total City Cost payable at 7/1/2011: (1) + (2) above; not less than zero	611,234		732,607		706,322		1,406,628		3,456,791	
4. City Contribution Payable 6/30/2012: (3) x 1.0725	655,548	13.6%	785,721	14.8%	757,530	12.8%	1,508,609	13.3%	3,707,408	13.5%
5. Expected Covered Payroll for employees younger than assumed retirement age	4,819,586		5,318,703		5,909,307		11,352,070		27,399,666	

## Section II

### Results of the Valuation (continued)

#### E. Valuation Results – July 1, 2012 (projection)

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results are:

	<u>DMEA</u>		<u>Non-Union</u>		<u>Teamsters</u>		<u>School</u>		<u>Total</u>	
	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>
1. Total Normal Cost	\$463,279	9.2%	\$507,639	9.2%	\$555,177	9.0%	\$1,122,334	9.5%	\$2,648,429	9.3%
2. Amortization Payment – 10 year amortization schedule	165,773		244,493		172,498		327,461		910,225	
3. Total City Cost payable at 7/1/2012: (1) +(2) above; not less than zero	629,052		752,132		727,675		1,449,795		3,538,654	
4. Annual Required Contribution for fiscal year ending 6/30/2013: (3) x 1.0725	674,658	13.5%	806,662	14.6%	780,431	12.7%	1,554,905	13.2%	3,816,656	13.4%
5. Expected Covered Payroll for actives younger than assumed retirement age	5,012,369		5,531,451		6,145,679		11,806,153		28,495,652	

## Section II

### Results of the Valuation (continued)

#### F. Valuation Results – July 1, 2013 (projection)

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results are:

	<u>DMEA</u>		<u>Non-Union</u>		<u>Teamsters</u>		<u>School</u>		<u>Total</u>	
	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>	<u>Amount</u>	<u>Percent of Payroll</u>
1. Total Normal Cost	\$481,810	9.2%	\$527,945	9.2%	\$577,384	9.0%	\$1,167,227	9.5%	\$2,754,366	9.3%
2. Amortization Payment – 10 year amortization schedule	165,773		244,493		172,498		327,461		910,225	
3. Total City Cost payable at 7/1/2013: (1) + (2) above; not less than zero	647,583		772,438		749,882		1,494,688		3,664,591	
4. Annual Required Contribution for fiscal year ending 6/30/2013: (3) x 1.0725	694,533	13.3%	828,440	14.4%	804,248	12.6%	1,603,053	13.1%	3,930,274	13.3%
5. Expected Covered Payroll for actives younger than assumed retirement age	5,212,864		5,752,709		6,391,506		12,278,399		29,635,478	

## Section II

### Results of the Valuation (continued)

#### G. Accounting Information

##### Development of Liabilities and Assets for Vested and Non-Vested Benefits

	<u>DMEA</u>	<u>Non-Union</u>	<u>Teamsters</u>	<u>School</u>	<u>Total</u>
1. Present Value of Vested Benefits					
a) Retired Members and Beneficiaries	\$13,886,031	\$22,674,044	\$12,031,762	\$23,413,020	\$72,004,857
b) Vested Terminated Members	841,741	866,249	1,119,248	1,262,677	4,089,915
c) Vested Active Members	<u>4,454,040</u>	<u>5,033,961</u>	<u>5,191,489</u>	<u>13,050,145</u>	<u>27,729,635</u>
d) Total	\$19,181,812	\$28,574,254	\$18,342,499	\$37,725,842	\$103,824,407
2. Present Value of Non-Vested Benefits	<u>694,803</u>	<u>1,165,071</u>	<u>1,424,257</u>	<u>1,246,657</u>	<u>4,530,788</u>
3. Total Present Value of Accumulated Benefits	\$19,876,615	\$29,739,325	\$19,766,756	\$38,972,499	\$108,355,195
4. Market Value of Assets	18,351,055	27,065,392	19,095,508	36,331,735	100,761,910
5. Funded Ratio: (4) / (3)	92.3%	91.0%	96.6%	93.2%	93.0%

## Section III

### Supporting Exhibits

#### A. Membership Data

##### Employee Participation: July 1, 2009 – July 1, 2011

The data reported by the Plan Sponsor for this valuation includes 557 active employees who met the Plan's minimum age and service requirements as of July 1, 2011.

<b>Participant Data</b>				
	<b>Active</b>	<b>Terminated Vested</b>	<b>Retired and Beneficiaries</b>	<b>Total</b>
<b>Total Participants 7/1/2009</b>	<b>572</b>	<b>149</b>	<b>505</b>	<b>1,226</b>
Adjustments	-1	+2	0	+1
Retirements	-18	-11	+29	0
Terminations				
Vested	-8	+8	N/A	0
Non-vested	-21	N/A	N/A	-21
Deaths				
Without death benefit	-5	-3	-27	-35
With death benefit	0	0	-10	-10
End of certain period	0	0	-1	-1
New beneficiaries	N/A	0	+10	+10
Rehires	0	0	0	0
New entrants	<u>+38</u>	<u>N/A</u>	<u>N/A</u>	<u>+38</u>
<b>Total Participants 7/1/2011</b>	<b>557</b>	<b>145</b>	<b>506</b>	<b>1,208</b>
<b>Total annual plan salaries</b>				
7/1/2009	\$25,822,179			
7/1/2011	26,889,958			
<b>Total annual benefits</b>				
7/1/2009		\$623,433	\$6,255,286	
7/1/2011		622,097	7,141,713	

## Section III

### Supporting Exhibits

#### B. Development of Actuarial Value of Assets

	7/1/2009	7/1/2010
<b>Market Value</b>		
1. Beginning Value	\$82,905,178	\$87,925,946
2. Contributions	0	2,529,000
3. Net Appreciation	9,571,075	14,984,619
4. Interest & Dividends	2,096,957	2,037,672
5. Investment Expense	<u>(405,845)</u>	<u>(496,060)</u>
6. Total additions: (2) + (3) + (4) + (5)	11,262,187	19,055,231
7. Benefits	<u>(6,241,419)</u>	<u>(6,219,267)</u>
8. End of Year Market Value: (1) + (6) + (7)	87,925,946	100,761,910
9. Expected Market Return	6,387,560	6,889,305
Market Return	14.11%	19.19%
<b>Actuarial Value</b>		
10. Beginning Value	111,314,774	108,572,136
11. Contributions	0	2,529,000
12. Benefits	(6,241,419)	(6,219,267)
13. Expected Return	<u>8,660,328</u>	<u>8,541,000</u>
14. Expected Actuarial Value: (10) + (11) + (12) + (13)	113,733,683	113,422,869
15. Market Value	87,925,946	100,761,910
16. Amount to be smoothed: (15) – (14)	(25,807,737)	(12,660,959)
17. Smoothing Adjustment: 20% of (16)	(5,161,547)	(2,532,192)
Actuarial Value prior to corridor limit: (14) + (17)	108,572,136	110,890,677
Actuarial Value: (limited to be between 65% and 135% of Market Value)	108,572,136	110,890,677
Actuarial Return	3.23%	5.63%

## **Section IV**

### **Actuarial Cost Methods and Assumptions**

#### **A. Actuarial Cost Methods**

##### **Asset Valuation Method**

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. The Expected Actuarial Value is calculated using the previous year's Actuarial Asset Value, actual contributions, benefit payments and expenses, and expected investment income based on an assumed yield equal to the valuation interest rate. The Actuarial Value is adjusted, if necessary, to be within the range of 65% to 135% of the Market Value of assets.

##### **Actuarial Funding Method**

The actuarial valuation method used in the cost calculations is the Projected Unit Credit Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of two pieces:

- a. Normal Cost - The actuarial cost to fund benefit units earned during the year.
- b. Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial accrued liability.

##### **Process**

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City contributions for the fiscal years beginning one and two years after the valuation date. To accomplish this objective, we apply the City's Normal Cost Accrual Rate from the valuation year, to the estimated payroll for the target year to determine the Normal Cost for that year. We assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions

The actuarial assumptions used in the determination of costs and liabilities are as follows:

Interest:	Current: 7.25% compounded annually, net of investment expense.  Prior: 8.0% compounded annually, net of investment expenses.
Mortality:	Current: RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, separate tables for non-annuitants and annuitants projected to the valuation date with Scale AA.  Prior: 1983 Group Annuity Mortality Male Table with ages set back six years for females and ages set forward nine years for disabled lives.
Mortality Improvement:	Current: Projected to date of decrement using Scale AA (generational mortality).  Prior: None.
Employee Turnover:	Table T-5 by Crocker, Sarason and Straight

Rates of termination illustrated as follows:

#### Percentage of Employees Terminating

##### Prior to End of Year

<u>Age</u>	<u>Rate</u>
25	7.72%
30	7.22
35	6.28
40	5.15
45	3.98
50	2.56
55	0.94
60	0.09
63	0.00

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions (continued)

Salary Scale: Current: Graded scale 5%-3% (sample rates below) from present age to Normal Retirement Age.

<u>Age</u>	<u>Rate</u>
20	5.00%
25	4.75
30	4.50
35	4.25
40	4.00
45	3.75
50	3.50
55	3.25
60+	3.00

Prior: 4% per year from present age to Normal Retirement Age.

Retirement Age: Current: Retirement probabilities based on table below once participant meets Rule of 85.

<u>Age</u>	<u>Percent</u>	<u>Age</u>	<u>Percent</u>
55	10%	63	10%
56	5%	64	5%
57	5%	65	20%
58	5%	66	10%
59	5%	67	15%
60	10%	68	5%
61	10%	69	15%
62	15%	70	100%

Prior: Earlier of age 65 or age at which age plus service equals 85, but not less than age 55.

Expense Loading: No loading for expenses has been included, as all administrative expenses are paid by the City outside of the Trust Fund.

## Section IV

### Actuarial Cost Methods and Assumptions

(continued)

Cost of Living Increases:

Current: CPI is assumed to increase at 3% per year. This will result in a pension increase once every five years.

Prior: CPI is assumed to increase at 3½% per year. This will result in a pension increase once every five years.

## Section V

### Summary of Current Principal Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	June 1, 1963.
Eligibility Requirements:	All full-time employees except Policemen, Firemen, and those eligible for State Teachers Retirement System. Redevelopment employees are eligible as long as the Redevelopment Agency pays all costs.
Compensation:	W-2 Earnings.
Average Compensation:	Average of three highest years of Compensation or all years Compensation if less than three years.
Accrued Benefit:	1½% of Average Compensation times service to date of reference.
Normal Retirement Age:	
Requirement:	The first of the month following age 65. A normal pension is also available for participants retiring with age plus service of 85 or more.
Amount:	Accrued Benefit based on Average Compensation and service at Normal Retirement Date. The normal form of benefit is a life annuity.
2005 Retirement Incentive:	
Requirement:	As of June 30, 2006, attained age 51 and completed 15 years of credited service and not represented by a union. Elect participation by March 31, 2006.
Amount:	The benefit formula is increased from 1.5% to 2.0% with no actuarial reduction for retirement prior to normal retirement age.

## Section V

### Summary of Current Principal Pension Plan Provisions

(continued)

#### 2009 Retirement Incentive:

Requirement: As of June 30, 2009, attained age plus years of credited service greater than or equal to 80.

Amount: The benefit formula is increased from 1.5% to 2.0% with no actuarial reduction for retirement prior to normal retirement age.

#### Early Retirement:

Requirement: Attainment of age 55.

Amount: Accrued Benefit at termination, reduced by one-half of one percent for each month by which actual commencement precedes the earlier of a member's Normal Retirement Date or the first of the month following the date which causes the sum of the member's age and service to equal 85.

Normal Form of Pension: Life Annuity.

#### Vesting:

Age Requirement: None.

Service Requirement: According to the following schedule:

<u>Years of full Employment</u>	<u>Percentage of Vesting</u>
Less than 5	0%
5	50%
6	60%
7	70%
8	80%
9	90%
10 or more	100%

## Section V

### Summary of Current Principal Pension Plan Provisions (continued)

Alternatively, a participant who was hired prior to December 31, 1983 is fully vested if the sum of his age plus years of service is greater than or equal to fifty.

Cost of Living:

Whenever the cost-of-living index (December to December) goes above 115% of the base month index, pensions will be increased 15% on the following July 1. The latest base month was December, 2010.

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**City of Danbury  
Pre-1967  
Police and Fire  
Pension Plans**

Actuarial Valuation Report

July 1, 2011

Evan W. Woollacott, Jr., FCA  
MAAA, Enrolled Actuary  
Consulting Actuary

Cathy Falconer  
Pension Analyst

February 10, 2012

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## Section I

### Introduction

#### A. Purposes of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year. The information found in Sections II-B and II-C of the report have been developed for this purpose.

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,

<i>City's ultimate cost</i>	=	<i>benefits paid</i>	+	<i>expenses incurred</i>	-	<i>investment return</i>	-	<i>employee contributions</i>
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#### B. Contribution for Fiscal Years 2013 and 2014

The City's cost is:

	<u>2011 &amp; 2012 Fiscal Years</u>	<u>2013 &amp; 2014 Fiscal Years</u>
Pre-1967 Police	\$ 904,000	\$ 816,000
Pre-1967 Fire	<u>488,000</u>	<u>491,000</u>
Total	\$ 1,392,000	\$ 1,307,000

Please see Section II-D for the development of these figures.

#### C. Pre-1967 Police Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$4,249,278 as of July 1, 2011. This represents a decrease of approximately \$945,000 over the past two years. The plan experienced a net actuarial gain of approximately \$191,000 over the two-year period ending on July 1, 2011. The net gain resulted from an actuarial experience loss of \$474,000 due to investment earnings less than expected, a gain of \$258,000 due to an expected cost of living increase less than assumed (2.0% per year actual 3.5% per year assumed), a gain of \$407,000 due to retiree mortality being more than expected. The changes in mortality and cost of living adjustment assumptions increased the unfunded accrued liability an additional \$198,000.

The actuarial value of assets earned a return of about 2.5% in 2009-2010 and 4.3% in 2010-2011, compared to an expected rate of return of 8.0% per year. This shortfall resulted in an actuarial experience loss. The market value of assets returned approximately 12.4% in 2009-2010 and returned approximately 18.8% in 2010-2011.

## Section I

### Introduction

(continued)

#### D. Pre-1967 Fire Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$3,042,074 as of July 1, 2011. This represents a decrease of approximately \$201,000 over the prior valuation. The plan experienced an actuarial experience loss of \$328,000 over the two-year period ending on July 1, 2011. The net loss resulted from an actuarial experience loss of \$398,000 due to investments earning less than expected, a gain of \$209,000 due to a cost of living increase less than expected (2.2% per year actual vs. 3.5% per year expected), a loss of \$139,000 due to retiree mortality being less than expected. The changes in mortality and cost of living adjustment assumptions increased the unfunded accrued liability an additional \$16,000.

The actuarial value of assets earned a return of about 3.2% in 2009-2010 and 4.7% in 2010-2011, compared to an expected rate of return of 8.0% per year. This shortfall resulted in an actuarial experience loss. The market value of assets returned approximately 11.7% in 2009-2010 and returned approximately 15.2% in 2010-2011. Similar to the Police Plan, the actuarial value of assets exceeds the market value of assets.

#### E. Changes Since The Last Valuation

This valuation recognizes an increase in the Fire and the Police retiree benefits due to a COLA increase. This COLA increase is a part of the normal plan operation.

Also, the mortality assumption was changed to reflect a more current mortality table and the cost of living adjustment assumption was changed from 3.5% to 3.0%. Please see Section IV, Actuarial Assumptions for details of these changes.

#### F. Proposed GASB 25/27 Changes

Currently, there are some proposed GASB changes that will impact the City's 2014 financials. These changes will require the City to disclose a Net Pension Liability (NPL). As of July 1, 2011, the NPL for the two plans is calculated below.

	(1) Accrued <u>Liability</u>	(2) Market Value <u>of Assets</u>	(1) - (2) Net Pension <u>Liability</u>
7/1/2011 Fire	\$7,643,052	\$4,005,865	\$3,637,187
7/1/2011 Police	9,143,772	4,213,050	4,930,722

There will also be changes in the calculation of the annual expense. However, the City will be able to continue its current funding policy.

## Section I

### Introduction

(continued)

#### G. Certification

This report presents the results of the July 1, 2011 Actuarial Valuation for City of Danbury Pre-1967 Police and Fire Pension Plans (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal year(s) ending *June 30, 2013 and June 30, 2014*. 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.

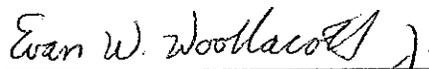
I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

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, Jr., FCA, MAAA, EA  
11-04513

February 10, 2012

## Section IIa

### Results of the Valuation (Police)

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2011	July 1, 2009
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Disabled Pensioners	\$ 5,506,058	\$ 6,881,380
Retired Pensioners	<u>3,637,714</u>	<u>4,139,371</u>
TOTAL	\$ 9,143,772	\$11,020,751
<b>Source of Funds</b>		
1. Actuarial Value of Plan Assets	\$ 4,894,494	\$ 5,826,153
2. Unfunded Accrued Liability	<u>4,249,278</u>	<u>5,194,598</u>
3. TOTAL = (1) + (2)	\$ 9,143,772	\$11,020,751

Section IIa

Results of the Valuation (Police)  
(continued)

B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2011	July 1, 2009
Accrued Liability		
Disabled Pensioners	\$ 5,506,058	\$ 6,881,380
Retired Pensioners	<u>3,637,714</u>	<u>4,139,371</u>
Total Accrued Liability	9,143,772	11,020,751
Assets (Actuarial Value)	4,894,494	5,826,153
Unfunded Accrued Liability	4,249,278	5,194,598
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	54%	53%

## Section IIa

### Results of the Valuation (Police)

(continued)

#### C. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced. The gain (loss) due to the change in assumptions is included in this calculation and is identified in item 4d below.

Actuarial Gain (Loss)	
<b>1. Expected unfunded actuarial accrued liability 7/1/2011</b>	
a. Expected unfunded actuarial accrued liability 7/1/2010	
i. Unfunded actuarial accrued liability 7/1/2009	\$ 5,194,598
ii. Normal cost 7/1/2009	0
iii. Interest at 8% to 7/1/2010	415,568
iv. Contributions for 2009-2010	845,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2010: (i)+(ii)+(iii)-(iv)-(v)	4,765,166
b. Expected unfunded actuarial accrued liability 7/1/2011	
i. Expected unfunded actuarial accrued liability 7/1/2010	4,765,166
ii. Estimated normal cost 7/1/2010	0
iii. Interest at 8% to 7/1/2011	381,213
iv. Contributions for 2010-2011	904,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2011 (i)+(ii)+(iii)-(iv)-(v)	4,242,379
<b>2. Actual unfunded liability 7/1/2011 prior to assumption change</b>	4,051,306
<b>3. Actuarial gain (loss): (1b)(vi) - (2)</b>	191,073
<b>4. Sources of gain (loss)</b>	
a. Gain (Loss) due to return on assets	\$ (474,000)
b. Gain (Loss) due to mortality	407,000
c. Gain (Loss) due to COLA increase	<u>258,000</u>
d. Total gain (loss): (a)+(b)+(c)	\$ 191,000
<b>5. Increase in unfunded liability due to assumption change</b>	197,972

## Section IIa

### Results of the Valuation (Police) (continued)

#### D. Valuation Results – July 1, 2011

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2011 valuation are:

	July 1, 2011	July 1, 2009
Annual Contribution	Cost	Cost
a) Normal Cost	\$ 0	\$ 0
b) Estimated Employee Contributions	<u>0</u>	<u>0</u>
c) City's Normal Cost: (a)-(b)	0	0
d) Amortization of unfunded liability*	<u>756,000</u>	<u>837,000</u>
e) City's contribution at beginning of period (c)+(d)	756,000	837,000
f) Interest to end of year (e) x 8.0%	<u>60,000</u>	<u>67,000</u>
g) City's contribution (e) + (f)	816,000	904,000

\* *Unfunded liability is amortized over the average expected future lifetime of the participants (7 years as of July 1, 2011).*

## Section IIa

### Results of the Valuation (Police) (continued)

#### E. Accounting Information

##### Development of Liabilities and Assets for Vested and Non-Vested Benefits

	July 1, 2011	July 1, 2009
<b>Vested Liabilities</b>		
Disabled Pensioners	\$ 5,506,058	\$ 6,881,380
Retired Pensioners	<u>3,637,714</u>	<u>4,139,371</u>
Total	9,143,772	11,020,751
<b>Market Value of Assets</b>	4,213,050	4,377,640
<b>Percentage Funded</b>	46%	40%

## Section IIb

### Results of the Valuation (Fire)

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2011	July 1, 2009
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Disabled Pensioners	\$ 3,657,914	\$ 3,777,875
Retired Pensioners	<u>3,985,138</u>	<u>4,840,975</u>
TOTAL	\$ 7,643,052	\$ 8,618,850
<b>Source of Funds</b>		
1. Actuarial Value of Plan Assets	\$ 4,600,978	\$ 5,375,994
2. Unfunded Accrued Liability	<u>3,042,074</u>	<u>3,242,856</u>
3. TOTAL = (1) + (2)	\$ 7,643,052	\$ 8,618,850

## Section IIb

### Results of the Valuation (Fire) (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2011	July 1, 2009
Accrued Liability		
Disabled Pensioners	\$ 3,657,914	\$ 3,777,875
Retired Pensioners	<u>3,985,138</u>	<u>4,840,975</u>
Total Accrued Liability	7,643,052	8,618,850
Assets (Actuarial Value)	<u>4,600,978</u>	<u>5,375,994</u>
Unfunded Accrued Liability	3,042,074	3,242,856
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	60%	62%

## Section IIb

### Results of the Valuation (Fire) (continued)

#### C. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced. The gain (loss) due to the change in assumptions is included in this calculation and is identified in item 4d below.

Actuarial Gain (Loss)	
<b>1. Expected unfunded actuarial accrued liability 7/1/2011</b>	
a. Expected unfunded actuarial accrued liability 7/1/2010	
i. Unfunded actuarial accrued liability 7/1/2009	\$ 3,242,856
ii. Normal cost 7/1/2009	0
iii. Interest at 8% to 7/1/2010	259,428
iv. Contributions for 2009-2010	552,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2010: (i)+(ii)+(iii)-(iv)-(v)	2,950,284
b. Expected unfunded actuarial accrued liability 7/1/2011	
i. Expected unfunded actuarial accrued liability 7/1/2010	2,950,284
ii. Estimated normal cost 7/1/2010	0
iii. Interest at 8% to 7/1/2011	236,023
iv. Contributions for 2010-2011	488,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2011 (i)+(ii)+(iii)-(iv)-(v)	2,698,307
<b>2. Actual unfunded liability 7/1/2011 prior to assumption change</b>	3,025,994
<b>3. Actuarial gain (loss): (1b)(vi) - (2)</b>	(327,687)
<b>4. Sources of gain (loss)</b>	
a. Gain (Loss) due to return on assets	\$ (398,000)
b. Gain (Loss) due to mortality	(139,000)
c. Gain (Loss) due to COLA increase	<u>209,000</u>
d. Total (loss): (a)+(b)+(c)	\$ (328,000)
<b>5. Increase in unfunded liability due to assumption change</b>	16,080

## Section IIb

### Results of the Valuation (Fire) (continued)

#### D. Valuation Results – July 1, 2011

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2011 valuation are:

	July 1, 2011	July 1, 2009
<b>Annual Contribution</b>	<b>Cost</b>	<b>Cost</b>
a) Normal Cost	\$ 0	\$ 0
b) Estimated Employee Contributions	0	0
c) City's Normal Cost: (a)-(b)	0	0
d) Amortization of unfunded liability*	<u>451,000</u>	<u>448,000</u>
e) City's contribution at beginning of period (c)+(d)	451,000	448,000
f) Interest to end of year (e) x 8.0%	36,000	36,000
g) Estimated actuarial fees	<u>4,000</u>	<u>4,000</u>
h) City's contribution (e) + (f) + (g)	491,000	488,000

\* *Unfunded liability is amortized over the average expected future lifetime of the participants (9 years as of July 1, 2011).*

## Section IIb

### Results of the Valuation (Fire) (continued)

#### E. Accounting Information

##### Development of Liabilities and Assets for Vested and Non-Vested Benefits

	July 1, 2011	July 1, 2009
<b>Vested Liabilities</b>		
Disabled Pensioners	\$ 3,657,914	\$ 3,777,875
Retired Pensioners	<u>3,985,138</u>	<u>4,840,975</u>
Total	7,643,052	8,618,850
<b>Market Value of Assets</b>	4,005,865	4,184,793
<b>Percentage funded</b>	52%	49%

## Section IIIa

### Supporting Membership Data Exhibit

**Employee Participation: July 1, 2009 – July 1, 2011**

<b>Retired Participant Data</b>			
	<b>Police</b>	<b>Fire</b>	<b>Total</b>
<b>Total Participants 7/1/2009</b>	<b>36</b>	<b>27</b>	<b>63</b>
Adjustments	0	0	0
Deaths			
Without death benefit	-4	-3	-7
With death benefit	-3	-1	-4
New beneficiaries	<u>3</u>	<u>1</u>	<u>4</u>
<b>Total Participants 7/1/2011</b>	<b>32</b>	<b>24</b>	<b>56</b>
<b>Total annual benefits</b>			
7/1/2011	\$1,328,100	\$1,022,505	
7/1/2009	1,565,174	\$1,090,688	

## Section IIIb

### Supporting Asset Exhibits

#### A. Police

#### Development of the Market Value of Assets

Summary of Fund Activity		
	7/1/2009-6/30/2010	7/1/2010-6/30/2011
<b>1. Beginning market value</b>		
a. Trust assets	\$ 4,377,640	\$ 4,126,763
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,377,640	4,126,763
<b>2. Contributions</b>		
a. City Contributions during year	845,000	904,000
b. Employee contributions during year	0	0
c. Change in accrued contribution	0	0
d. Total for plan year	845,000	904,000
<b>3. Disbursements</b>		
a. Benefit payments during year	1,542,401	1,455,107
b. Change in benefits payable	0	0
c. Total for plan year	1,542,401	1,455,107
<b>4. Net investment return</b>		
a. Interest and dividends	86,387	83,978
b. Realized gain (loss)	386,229	583,751
c. Unrealized gain (loss)	0	0
d. Expenses	(26,092)	(30,335)
e. Total	446,524	637,394
<b>5. Ending market value</b>		
a. Trust assets: (1a)+(2a)+(2b)-(3a)+(4e)	4,126,763	4,213,050
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,126,763	4,213,050
<b>6. Approximate annual rate of return</b>	12.4%	18.8%

## Section IIIb

### Supporting Exhibits

(continued)

#### A. Police

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 65% to 135% of Market Value.

Determination of the Actuarial Value of Assets		
1.	Actuarial value of assets at July 1, 2009	\$ 5,826,153
2.	Contributions for 2009-2010	845,000
3.	Disbursements during 2009-2010	(1,542,401)
4.	Expected return during 2009-2010	<u>405,583</u>
5.	Expected actuarial asset value at July 1, 2010	5,534,335
6.	Market value July 1, 2010	4,126,763
7.	Appreciation (depreciation) capitalized 20% x [(6) - (5)]	(281,514)
8.	Actuarial asset value at July 1, 2010 (5) + (7) (adjusted to be within 65% to 135% of MV)	5,252,821
9.	Contributions for 2010-2011	904,000
10.	Disbursements during 2010-2011	(1,455,107)
11.	Expected return during 2010-2011	<u>363,141</u>
12.	Expected actuarial asset value at July 1, 2011	5,064,855
13.	Market value July 1, 2011	4,213,050
14.	Appreciation (depreciation) capitalized 20% x [(13) - (12)]	(170,361)
15.	Actuarial asset value at July 1, 2011 (12) + (14) (adjusted to be within 65% to 135% of MV)	4,894,494
16.	Actuarial value as a percent of market value	116.2%
	Return on Act. Val. Assets, 2009-2010	2.5%
	Return on Act. Val. Assets, 2010-2011	4.3%

## Section IIIb

### Supporting Asset Exhibits

#### B. Fire

#### Development of the Market Value of Assets

Summary of Fund Activity		
	7/1/2009-6/30/2010	7/1/2010-6/30/2011
<b>1. Beginning market value</b>		
a. Trust assets	\$ 4,184,793	\$ 4,068,139
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,184,793	4,068,139
<b>2. Contributions</b>		
a. City Contributions during year	552,000	488,000
b. Employee contributions during year	0	0
c. Change in accrued contribution	0	0
d. Total for plan year	552,000	488,000
<b>3. Disbursements</b>		
a. Benefit payments during year	1,094,304	1,085,194
b. Change in benefits payable	0	0
c. Total for plan year	1,094,304	1,085,194
<b>4. Net investment return</b>		
a. Interest and dividends	73,303	68,995
b. Realized gain (loss)	374,173	491,064
c. Unrealized gain (loss)	0	0
d. Expenses	(21,826)	(25,139)
e. Total	425,650	534,920
<b>5. Ending market value</b>		
a. Trust assets: (1a)+(2a)+(2b)-(3a)+(4e)	4,068,139	4,005,865
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,068,139	4,005,865
<b>6. Approximate annual rate of return</b>	11.7%	15.2%

## Section IIIb

### Supporting Exhibits

(continued)

#### B. Fire

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 65% to 135% of Market Value.

Determination of the Actuarial Value of Assets		
1.	Actuarial value of assets at July 1, 2009	\$ 5,375,994
2.	Contributions for 2009-2010	552,000
3.	Disbursements during 2009-2010	(1,094,304)
4.	Expected return during 2009-2010	<u>387,149</u>
5.	Expected actuarial asset value at July 1, 2010	5,220,839
6.	Market value July 1, 2010	4,068,139
7.	Appreciation (depreciation) capitalized 20% x [(6) – (5)]	(230,540)
8.	Actuarial asset value at July 1, 2010 (5) + (7) (adjusted to be within 65% to 135% of MV)	4,990,299
9.	Contributions for 2010-2011	488,000
10.	Disbursements during 2010-2011	(1,085,194)
11.	Expected return during 2010-2011	<u>356,651</u>
12.	Expected actuarial asset value at July 1, 2011	4,749,756
13.	Market value July 1, 2011	4,005,865
14.	Appreciation (depreciation) capitalized 20% x [(13) – (12)]	(148,778)
15.	Actuarial asset value at July 1, 2011 (12) + (14) (adjusted to be within 65% to 135% of MV)	4,600,978
16.	Actuarial value as a percent of market value	114.9%
	Return on Act. Val. Assets, 2009-2010	3.2%
	Return on Act. Val. Assets, 2010-2011	4.7%

## Section IV

### Actuarial Cost Methods and Assumptions

#### A. Actuarial Cost Methods

##### Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. The Actuarial Value is adjusted, if necessary, to be within the range of 65% to 135% of the Market Value of assets.

##### Actuarial Funding Method

The actuarial valuation method used in the cost calculations is the Projected Unit Credit (PUC) Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial liability.

Under the new proposed GASB pension disclosure rules, the City will need to disclose their liabilities based upon the Entry Age Normal Cost Method (EAN). Because the group contains only participants in pay status, the EAN liabilities are the same as the (PUC) liabilities.

##### Process

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City's contribution for the fiscal years ending in 2012 and 2013. To accomplish this objective, we assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions

The actuarial assumptions used in the determination of costs and liabilities are as follows:

##### Interest:

Current valuation: 8.0% compounded annually, net of investment expenses.

##### Mortality:

Current valuation: Retired Pensioners: RP-2000 Mortality Table with separate male and female rates with Blue Collar adjustment combined table for annuitants with no projection.

Disabled Pensioners: IRS Revenue Ruling 96-7  
Disabilities before 1995.

Mortality improvement: None.

Prior valuation: 1983 Group Annuity Mortality Male Table with ages set back six years for females and ages set forward nine years for disabled lives.

Mortality improvement: None.

##### Cost of Living increases:

Current valuation: 3.0%

Prior valuation: 3.5%

##### Expense Loading:

The Annual Contribution requirement for the Pre-1967 Fire Plan includes an estimate of the annual actuarial fees. The Pre-1967 Police Plan does not include this estimate because it is assumed that the City will pay these expenses from outside the plan.

## Section Va

### Summary of Current Principal Police Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan – July 1, 1967.
Eligibility:	Hired by Police Dept. before July 1, 1967 <u>and</u> contributed to the plan.
Retirement Benefit:	All participants are retired and have had their benefits calculated.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to surviving spouse until death or remarriage.
Cost of Living:	All pension payments are to be increased to correspond to any increase in salary by members of the same grade and rank of retired member while in active service.

## Section Vb

### Summary of Current Principal Fire Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan – July 1, 1967.
Eligibility:	Hired by Fire Dept. before July 1, 1967 <u>and</u> contributed to the plan.
Retirement Benefit:	All participants are retired and have had their benefits calculated.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to surviving spouse until death or remarriage.
Cost of Living:	All pension payments are to be increased to correspond to any increase in salary by members of the same grade and rank of retired member while in active service.

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**City of Danbury  
Pre-1967  
Police and Fire  
Pension Plans**

Actuarial Valuation Report  
REVISED

July 1, 2011

Evan W. Woollacott, Jr., FCA  
MAAA, Enrolled Actuary  
Consulting Actuary

Cathy Falconer  
Pension Analyst

November 13, 2012

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# Section I

## Introduction

### A. Purposes of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year. The information found in Sections II-B and II-C of the report have been developed for this purpose.

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 service to reduce the cost of plan benefits and expenses. Thus,

<i>City's ultimate cost</i>	=	<i>benefits paid</i>	+	<i>expenses incurred</i>	-	<i>investment return</i>	-	<i>employee contributions</i>
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### B. Contribution for Fiscal Years 2013 and 2014

The City's cost is:

	<b><u>2011 &amp; 2012 Fiscal Years</u></b>	<b><u>2013 &amp; 2014 Fiscal Years</u></b>	<b><u>2013 &amp; 2014 Fiscal Years (BOY)</u></b>
Pre-1967 Police	\$ 904,000	\$ 863,000	\$ 805,000
Pre-1967 Fire	<u>488,000</u>	<u>532,000</u>	<u>497,000</u>
Total	\$ 1,392,000	\$ 1,395,000	\$ 1,302,000

Please see Section II-D for the development of these figures.

### C. Pre-1967 Police Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$4,615,484 as of July 1, 2011. This represents a decrease of approximately \$579,000 over the past two years. The plan experienced a net actuarial gain of approximately \$191,000 over the two-year period ending on July 1, 2011. The net gain resulted from an actuarial experience loss of \$474,000 due to investment earnings less than expected, a gain of \$258,000 due to an expected cost of living increase less than assumed (2.0% per year actual 3.5% per year assumed), a gain of \$407,000 due to retiree mortality being more than expected. The changes in mortality and cost of living adjustment assumptions increased the unfunded accrued liability an additional \$198,000. The change in interest assumption increased the unfunded accrued liability an additional \$366,000.

The actuarial value of assets earned a return of about 2.5% in 2009-2010 and 4.3% in 2010-2011, compared to an expected rate of return of 8.0% per year. This shortfall resulted in an actuarial experience loss. The market value of assets returned approximately 12.4% in 2009-2010 and returned approximately 18.8% in 2010-2011.

## Section I

### Introduction

(continued)

#### D. Pre-1967 Fire Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$3,399,612 as of July 1, 2011. This represents a decrease of approximately \$157,000 over the prior valuation. The plan experienced an actuarial experience loss of \$328,000 over the two-year period ending on July 1, 2011. The net loss resulted from an actuarial experience loss of \$398,000 due to investments earning less than expected, a gain of \$209,000 due to a cost of living increase less than expected (2.2% per year actual vs. 3.5% per year expected), a loss of \$139,000 due to retiree mortality being less than expected. The changes in mortality and cost of living adjustment assumptions increased the unfunded accrued liability an additional \$16,000. The change in interest assumption increased the unfunded accrued liability an additional \$358,000.

The actuarial value of assets earned a return of about 3.2% in 2009-2010 and 4.7% in 2010-2011, compared to an expected rate of return of 8.0% per year. This shortfall resulted in an actuarial experience loss. The market value of assets returned approximately 11.7% in 2009-2010 and returned approximately 15.2% in 2010-2011. Similar to the Police Plan, the actuarial value of assets exceeds the market value of assets.

#### E. Changes Since The Last Valuation

This valuation recognizes an increase in the Fire and the Police retiree benefits due to a COLA increase. This COLA increase is a part of the normal plan operation.

Also, the mortality assumption was changed to reflect a more current mortality table, the cost of living adjustment assumption was changed from 3.5% to 3.0%, and the interest assumption was changed from 8.0% to 7.25%. Please see Section IV, Actuarial Assumptions for details of these changes.

#### F. GASB 25/27 Changes

In June of 2012, The Government Accounting Standards Board (GASB) issued statements 67 and 68. GASB 67 is a new standard that pertains to financial reporting for pension plans. In general, it replaces GASB 25 and it is effective for fiscal years beginning after June 15, 2013. GASB 68 is a new standard that pertains to accounting and financial reporting for pensions. In general, it replaces GASB 27 and it is effective for fiscal years beginning after June 15, 2014. Both statements replace the relevant provisions of GASB 50.

## Section I

### Introduction

(continued)

Currently, your annual financial report tracks the Net Pension Obligation (NPO) and the NPO is displayed in the footnote section of the annual financial report. With GASB 68, the NPO will no longer be tracked. A new item called Net Pension Liability (NPL) will be displayed not as a footnote but directly on your balance sheet. For both standards, liabilities are calculated using the Entry Age Normal Cost Method. In general, the NPL is EAN Accrued Liability less the Market Value of Assets. A table that displays the NPL for the City's pension plan is below.

<u>Valuation Date</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Market Value Of Assets</u>	<u>Net Pension Liability</u>
July 1, 2011 Fire	8,000,590	4,005,865	3,994,725
July 1, 2011 Police	9,509,978	4,213,050	5,296,928

In addition to replacing the NPO with NPL, the Annual Required Contribution (ARC) will also be eliminated. Even though the ARC will be eliminated, we will work with you to develop a contribution policy. The new term for this is called the Actuarially Determined Contribution (ADC). One possible ADC is to use the same concepts that were used to develop the ARC which would mean no change in the present funding policy.

Under the prior standards the ARC served as both the contribution policy and the accounting expense. As noted above the ARC is eliminated and replaced with the ADC with regard to the funding policy. The new pension expense will be quite different from the ARC and it has several components (including normal cost, interest cost, amortization components, actual return, and plan changes). The new pension expense will help reconcile the change in the Net Pension Liability each year. In addition, it will be more volatile than the ARC and so not suitable for use as a contribution policy.

If the City wants to see how the pension expense works, please let us know and we will prepare a sample exhibit. Like the Net Pension Liability, the calculation of the pension expense is based upon the Entry Age Normal Cost Method and will no longer be a footnote but reported directly in the annual financial report.

## Section I

### Introduction

(continued)

#### G. Certification

This report presents the results of the July 1, 2011 **revised** Actuarial Valuation for City of Danbury Pre-1967 Police and Fire Pension Plans (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal year(s) ending *June 30, 2013 and June 30, 2014*. 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.

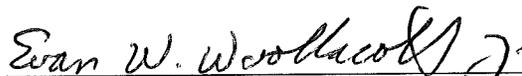
I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

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, Jr., FCA, MAAA, EA  
11-04513

November 13, 2012

## Section IIa

### Results of the Valuation (Police)

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2011	July 1, 2009
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Disabled Pensioners	\$ 5,727,870	\$ 6,881,380
Retired Pensioners	<u>3,782,108</u>	<u>4,139,371</u>
TOTAL	\$ 9,509,978	\$11,020,751
<b>Source of Funds</b>		
1. Actuarial Value of Plan Assets	\$ 4,894,494	\$ 5,826,153
2. Unfunded Accrued Liability	<u>4,615,484</u>	<u>5,194,598</u>
3. TOTAL = (1) + (2)	\$ 9,509,978	\$11,020,751

## Section IIa

### Results of the Valuation (Police) (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2011	July 1, 2009
Accrued Liability		
Disabled Pensioners	\$ 5,727,870	\$ 6,881,380
Retired Pensioners	<u>3,782,108</u>	<u>4,139,371</u>
Total Accrued Liability	9,509,978	11,020,751
Assets (Actuarial Value)	4,894,494	5,826,153
Unfunded Accrued Liability	4,615,484	5,194,598
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	52%	53%

## Section IIa

### Results of the Valuation (Police) (continued)

#### C. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced. The gain (loss) due to the change in assumptions is included in this calculation and is identified in item 4d below.

<b>Actuarial Gain (Loss)</b>	
<b>1. Expected unfunded actuarial accrued liability 7/1/2011</b>	
a. Expected unfunded actuarial accrued liability 7/1/2010	
i. Unfunded actuarial accrued liability 7/1/2009	\$ 5,194,598
ii. Normal cost 7/1/2009	0
iii. Interest at 8% to 7/1/2010	415,568
iv. Contributions for 2009-2010	845,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2010: (i)+(ii)+(iii)-(iv)-(v)	4,765,166
b. Expected unfunded actuarial accrued liability 7/1/2011	
i. Expected unfunded actuarial accrued liability 7/1/2010	4,765,166
ii. Estimated normal cost 7/1/2010	0
iii. Interest at 8% to 7/1/2011	381,213
iv. Contributions for 2010-2011	904,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2011 (i)+(ii)+(iii)-(iv)-(v)	4,242,379
<b>2. Actual unfunded liability 7/1/2011 prior to assumption change</b>	4,051,306
<b>3. Actuarial gain (loss): (1b)(vi) – (2)</b>	191,073
<b>4. Sources of gain (loss)</b>	
a. Gain (Loss) due to return on assets	\$ (474,000)
b. Gain (Loss) due to mortality	407,000
c. Gain (Loss) due to COLA increase	<u>258,000</u>
d. Total gain (loss): (a)+(b)+(c)	\$ 191,000
<b>5. Increase in unfunded liability due to assumption change</b>	564,178

## Section IIa

### Results of the Valuation (Police) (continued)

#### D. Valuation Results – July 1, 2011

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2011 valuation are:

	July 1, 2011	July 1, 2009
Annual Contribution	Cost	Cost
a) Normal Cost	\$ 0	\$ 0
b) Estimated Employee Contributions	<u>0</u>	<u>0</u>
c) City's Normal Cost: (a)-(b)	0	0
d) Amortization of unfunded liability*	<u>805,000</u>	<u>837,000</u>
e) City's contribution at beginning of period (c)+(d)	805,000	837,000
f) Interest to end of year** (e)	<u>58,000</u>	<u>67,000</u>
g) City's contribution (e) + (f)	863,000	904,000
h) City's Beginning of Year Contribution: (e)	805,000	837,000

\* *Unfunded liability is amortized over the average expected future lifetime of the participants (7 years as of July 1, 2011).*

\*\* *8% for 2009, 7.25% for 2011.*

## Section IIa

### Results of the Valuation (Police) (continued)

#### E. Accounting Information

##### Development of Liabilities and Assets for Vested and Non-Vested Benefits

	July 1, 2011	July 1, 2009
<b>Vested Liabilities</b>		
Disabled Pensioners	\$ 5,727,870	\$ 6,881,380
Retired Pensioners	<u>3,782,108</u>	<u>4,139,371</u>
Total	9,509,978	11,020,751
<b>Market Value of Assets</b>	4,213,050	4,377,640
<b>Percentage Funded</b>	44%	40%

## Section IIb

### Results of the Valuation (Fire)

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2011	July 1, 2009
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Disabled Pensioners	\$ 3,814,566	\$ 3,777,875
Retired Pensioners	<u>4,186,024</u>	<u>4,840,975</u>
TOTAL	\$ 8,000,590	\$ 8,618,850
<b>Source of Funds</b>		
1. Actuarial Value of Plan Assets	\$ 4,600,978	\$ 5,375,994
2. Unfunded Accrued Liability	<u>3,399,612</u>	<u>3,242,856</u>
3. TOTAL = (1) + (2)	\$ 8,000,590	\$ 8,618,850

## Section IIb

### Results of the Valuation (Fire) (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2011	July 1, 2009
Accrued Liability		
Disabled Pensioners	\$ 3,814,566	\$ 3,777,875
Retired Pensioners	<u>4,186,024</u>	<u>4,840,975</u>
Total Accrued Liability	8,000,590	8,618,850
Assets (Actuarial Value)	<u>4,600,978</u>	<u>5,375,994</u>
Unfunded Accrued Liability	3,399,612	3,242,856
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	58%	62%

## Section IIb

### Results of the Valuation (Fire) (continued)

#### C. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced. The gain (loss) due to the change in assumptions is included in this calculation and is identified in item 4d below.

<b>Actuarial Gain (Loss)</b>	
<b>1. Expected unfunded actuarial accrued liability 7/1/2011</b>	
a. Expected unfunded actuarial accrued liability 7/1/2010	
i. Unfunded actuarial accrued liability 7/1/2009	\$ 3,242,856
ii. Normal cost 7/1/2009	0
iii. Interest at 8% to 7/1/2010	259,428
iv. Contributions for 2009-2010	552,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2010: (i)+(ii)+(iii)-(iv)-(v)	2,950,284
b. Expected unfunded actuarial accrued liability 7/1/2011	
i. Expected unfunded actuarial accrued liability 7/1/2010	2,950,284
ii. Estimated normal cost 7/1/2010	0
iii. Interest at 8% to 7/1/2011	236,023
iv. Contributions for 2010-2011	488,000
v. Interest on (iv)	<u>0</u>
vi. Expected unfunded actuarial accrued liability 7/1/2011 (i)+(ii)+(iii)-(iv)-(v)	2,698,307
<b>2. Actual unfunded liability 7/1/2011 prior to assumption change</b>	3,025,994
<b>3. Actuarial gain (loss): (1b)(vi) – (2)</b>	(327,687)
<b>4. Sources of gain (loss)</b>	
a. Gain (Loss) due to return on assets	\$ (398,000)
b. Gain (Loss) due to mortality	(139,000)
c. Gain (Loss) due to COLA increase	<u>209,000</u>
d. Total (loss): (a)+(b)+(c)	\$ (328,000)
<b>5. Increase in unfunded liability due to assumption change</b>	373,618

## Section IIb

### Results of the Valuation (Fire) (continued)

#### D. Valuation Results – July 1, 2011

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2011 valuation are:

	July 1, 2011	July 1, 2009
<b>Annual Contribution</b>	<b>Cost</b>	<b>Cost</b>
a) Normal Cost	\$ 0	\$ 0
b) Estimated Employee Contributions	0	0
c) City's Normal Cost: (a)-(b)	0	0
d) Amortization of unfunded liability*	<u>492,000</u>	<u>448,000</u>
e) City's contribution at beginning of period (c)+(d)	492,000	448,000
f) Interest to end of year** (e)	35,000	36,000
g) Estimated actuarial fees	<u>5,000</u>	<u>4,000</u>
h) City's contribution (e) + (f) + (g)	532,000	488,000
i) City's Beginning of Year Contribution (e) + (g)	497,000	452,000

\* *Unfunded liability is amortized over the average expected future lifetime of the participants (9 years as of July 1, 2011).*

\*\* *8% for 2009, 7.25% for 2011.*

## Section IIb

### Results of the Valuation (Fire) (continued)

#### E. Accounting Information

##### Development of Liabilities and Assets for Vested and Non-Vested Benefits

	July 1, 2011	July 1, 2009
<b>Vested Liabilities</b>		
Disabled Pensioners	\$ 3,814,566	\$ 3,777,875
Retired Pensioners	<u>4,186,024</u>	<u>4,840,975</u>
Total	8,000,590	8,618,850
<b>Market Value of Assets</b>	4,005,865	4,184,793
<b>Percentage funded</b>	50%	49%

## Section IIIa

### Supporting Membership Data Exhibit

**Employee Participation: July 1, 2009 – July 1, 2011**

<b>Retired Participant Data</b>			
	<b>Police</b>	<b>Fire</b>	<b>Total</b>
<b>Total Participants 7/1/2009</b>	<b>36</b>	<b>27</b>	<b>63</b>
Adjustments	0	0	0
Deaths			
Without death benefit	-4	-3	-7
With death benefit	-3	-1	-4
New beneficiaries	<u>3</u>	<u>1</u>	<u>4</u>
<b>Total Participants 7/1/2011</b>	<b>32</b>	<b>24</b>	<b>56</b>
<b>Total annual benefits</b>			
7/1/2011	\$1,328,100	\$1,022,505	
7/1/2009	1,565,174	\$1,090,688	

## Section IIIb

### Supporting Asset Exhibits

#### A. Police

#### Development of the Market Value of Assets

<b>Summary of Fund Activity</b>		
	<b>7/1/2009-6/30/2010</b>	<b>7/1/2010-6/30/2011</b>
<b>1. Beginning market value</b>		
a. Trust assets	\$ 4,377,640	\$ 4,126,763
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,377,640	4,126,763
<b>2. Contributions</b>		
a. City Contributions during year	845,000	904,000
b. Employee contributions during year	0	0
c. Change in accrued contribution	0	0
d. Total for plan year	845,000	904,000
<b>3. Disbursements</b>		
a. Benefit payments during year	1,542,401	1,455,107
b. Change in benefits payable	0	0
c. Total for plan year	1,542,401	1,455,107
<b>4. Net investment return</b>		
a. Interest and dividends	86,387	83,978
b. Realized gain (loss)	386,229	583,751
c. Unrealized gain (loss)	0	0
d. Expenses	(26,092)	(30,335)
e. Total	446,524	637,394
<b>5. Ending market value</b>		
a. Trust assets: (1a)+(2a)+(2b)-(3a)+(4e)	4,126,763	4,213,050
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,126,763	4,213,050
<b>6. Approximate annual rate of return</b>	12.4%	18.8%

## Section IIIb

### Supporting Exhibits (continued)

#### A. Police

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 65% to 135% of Market Value.

<b>Determination of the Actuarial Value of Assets</b>		
1.	Actuarial value of assets at July 1, 2009	\$ 5,826,153
2.	Contributions for 2009-2010	845,000
3.	Disbursements during 2009-2010	(1,542,401)
4.	Expected return during 2009-2010	<u>405,583</u>
5.	Expected actuarial asset value at July 1, 2010	5,534,335
6.	Market value July 1, 2010	4,126,763
7.	Appreciation (depreciation) capitalized 20% x [(6) – (5)]	(281,514)
8.	Actuarial asset value at July 1, 2010 (5) + (7) (adjusted to be within 65% to 135% of MV)	5,252,821
9.	Contributions for 2010-2011	904,000
10.	Disbursements during 2010-2011	(1,455,107)
11.	Expected return during 2010-2011	<u>363,141</u>
12.	Expected actuarial asset value at July 1, 2011	5,064,855
13.	Market value July 1, 2011	4,213,050
14.	Appreciation (depreciation) capitalized 20% x [(13) – (12)]	(170,361)
15.	Actuarial asset value at July 1, 2011 (12) + (14) (adjusted to be within 65% to 135% of MV)	4,894,494
16.	Actuarial value as a percent of market value	116.2%
	Return on Act. Val. Assets, 2009-2010	2.5%
	Return on Act. Val. Assets, 2010-2011	4.3%

## Section IIIb

### Supporting Asset Exhibits

#### B. Fire

#### Development of the Market Value of Assets

Summary of Fund Activity		
	7/1/2009-6/30/2010	7/1/2010-6/30/2011
<b>1. Beginning market value</b>		
a. Trust assets	\$ 4,184,793	\$ 4,068,139
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,184,793	4,068,139
<b>2. Contributions</b>		
a. City Contributions during year	552,000	488,000
b. Employee contributions during year	0	0
c. Change in accrued contribution	0	0
d. Total for plan year	552,000	488,000
<b>3. Disbursements</b>		
a. Benefit payments during year	1,094,304	1,085,194
b. Change in benefits payable	0	0
c. Total for plan year	1,094,304	1,085,194
<b>4. Net investment return</b>		
a. Interest and dividends	73,303	68,995
b. Realized gain (loss)	374,173	491,064
c. Unrealized gain (loss)	0	0
d. Expenses	(21,826)	(25,139)
e. Total	425,650	534,920
<b>5. Ending market value</b>		
a. Trust assets: (1a)+(2a)+(2b)-(3a)+(4e)	4,068,139	4,005,865
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a)+(b)-(c)	4,068,139	4,005,865
<b>6. Approximate annual rate of return</b>	11.7%	15.2%

## Section IIIb

### Supporting Exhibits (continued)

#### B. Fire

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 65% to 135% of Market Value.

Determination of the Actuarial Value of Assets		
1.	Actuarial value of assets at July 1, 2009	\$ 5,375,994
2.	Contributions for 2009-2010	552,000
3.	Disbursements during 2009-2010	(1,094,304)
4.	Expected return during 2009-2010	<u>387,149</u>
5.	Expected actuarial asset value at July 1, 2010	5,220,839
6.	Market value July 1, 2010	4,068,139
7.	Appreciation (depreciation) capitalized 20% x [(6) – (5)]	(230,540)
8.	Actuarial asset value at July 1, 2010 (5) + (7) (adjusted to be within 65% to 135% of MV)	4,990,299
9.	Contributions for 2010-2011	488,000
10.	Disbursements during 2010-2011	(1,085,194)
11.	Expected return during 2010-2011	<u>356,651</u>
12.	Expected actuarial asset value at July 1, 2011	4,749,756
13.	Market value July 1, 2011	4,005,865
14.	Appreciation (depreciation) capitalized 20% x [(13) – (12)]	(148,778)
15.	Actuarial asset value at July 1, 2011 (12) + (14) (adjusted to be within 65% to 135% of MV)	4,600,978
16.	Actuarial value as a percent of market value	114.9%
	Return on Act. Val. Assets, 2009-2010	3.2%
	Return on Act. Val. Assets, 2010-2011	4.7%

## Section IV

### Actuarial Cost Methods and Assumptions

#### A. Actuarial Cost Methods

##### Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. The Actuarial Value is adjusted, if necessary, to be within the range of 65% to 135% of the Market Value of assets.

##### Actuarial Funding Method

The actuarial valuation method used in the cost calculations is the Projected Unit Credit (PUC) Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial liability.

Under the new proposed GASB pension disclosure rules, the City will need to disclose their liabilities based upon the Entry Age Normal Cost Method (EAN). Because the group contains only participants in pay status, the EAN liabilities are the same as the (PUC) liabilities.

##### Process

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City's contribution for the fiscal years ending in 2012 and 2013. To accomplish this objective, we assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions

The actuarial assumptions used in the determination of costs and liabilities are as follows:

##### Interest:

Current valuation:	7.25% compounded annually, net of investment expenses.
Prior valuation:	8.0% compounded annually, net of investment expenses.

##### Mortality:

Current valuation:	Retired Pensioners: RP-2000 Mortality Table with separate male and female rates with Blue Collar adjustment combined table for annuitants with no projection.  Disabled Pensioners: IRS Revenue Ruling 96-7 Disabilities before 1995.
Mortality improvement:	None.
Prior valuation:	1983 Group Annuity Mortality Male Table with ages set back six years for females and ages set forward nine years for disabled lives.
Mortality improvement:	None.

##### Cost of Living increases:

Current valuation:	3.0%
Prior valuation:	3.5%

##### Expense Loading:

The Annual Contribution requirement for the Pre-1967 Fire Plan includes an estimate of the annual actuarial fees. The Pre-1967 Police Plan does not include this estimate because it is assumed that the City will pay these expenses from outside the plan.

## Section Va

### Summary of Current Principal Police Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan – July 1, 1967.
Eligibility:	Hired by Police Dept. before July 1, 1967 <u>and</u> contributed to the plan.
Retirement Benefit:	All participants are retired and have had their benefits calculated.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to surviving spouse until death or remarriage.
Cost of Living:	All pension payments are to be increased to correspond to any increase in salary by members of the same grade and rank of retired member while in active service.

## Section Vb

### Summary of Current Principal Fire Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan – July 1, 1967.
Eligibility:	Hired by Fire Dept. before July 1, 1967 <u>and</u> contributed to the plan.
Retirement Benefit:	All participants are retired and have had their benefits calculated.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to surviving spouse until death or remarriage.
Cost of Living:	All pension payments are to be increased to correspond to any increase in salary by members of the same grade and rank of retired member while in active service.

G:\Clients\341 Danbury\2011 pyb 0701 fye 0630\Valuation\Pension Police Fire (Pre 67)\Pre-1967 Police and Fire.DOC

July 31, 2013

Mr. David A. St. Hilaire  
Director of Finance  
City of Danbury  
155 Deer Hill Avenue  
Danbury, CT 06810

***Re: City of Danbury Post-1967 Police and Fire Pension Plans***

Dear Dave:

Enclosed is the original and three copies of the Final July 1, 2012 Actuarial Valuation Report for the City of Danbury Post-1967 Police and Fire Pension Plans for distribution to any interested parties.

Please call if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Evan W. Woollacott, Jr." with a stylized flourish at the end.

Evan W. Woollacott, Jr., FCA, MAAA, EA

/mmh  
Enclosure



HOOKER & HOLCOMBE, INC.  
Benefit Consultants and Actuaries

65 LaSalle Road  
West Hartford, CT 06107-2397  
860-521-8400 tel  
860-521-3742 fax  
[www.hhconsultants.com](http://www.hhconsultants.com)

## **City of Danbury Post-1967 Fire and Police Pension Plans**

Actuarial Valuation Report

July 1, 2012

Evan W. Woollacott, Jr., FCA,  
MAAA, Enrolled Actuary  
Consulting Actuary

Robert P. Lessard  
Pension Analyst

July 31, 2013

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<b>Executive Summary</b>		
	<b>Post-1967 Police</b>	<b>Post-1967 Fire</b>
<b>Number of participants</b>		
Active	14	113
Terminated vested	0	2
Retired	<u>87</u>	<u>77</u>
Total	101	192
<b>Total annual plan salaries</b>	\$1,150,002	\$8,410,697
<b>Average plan salary</b>	82,143	74,431
<b>Actuarial present value of future benefits</b>	58,650,530	93,890,713
<b>Asset value</b>		
Market	42,135,602	56,640,390
Actuarial	50,877,985	67,213,044
<b>Normal cost - City</b>	127,961	1,153,687
<b>Unfunded actuarial accrued liability</b>	7,439,761	8,762,008
<b>Contributions as of beginning of plan year</b>		
Fiscal Year 2013-2014	799,000*	1,975,000*
Fiscal Year 2014-2015	803,000*	2,010,000*

\* *The City's contribution can never be less than the amount contributed by the plan participants for the prior fiscal year. This is not reflected in the contribution amounts shown above.*

# Section I

## Introduction

### A. Purposes of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year. The information found in Sections IIa and IIb of the report have been developed for this purpose.

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 service to reduce the cost of plan benefits and expenses. Thus,

<i>City's ultimate</i>	=	<i>benefits</i>	+	<i>expenses</i>	-	<i>investment</i>	-	<i>employee</i>
<i>cost</i>		<i>paid</i>		<i>incurred</i>		<i>return</i>		<i>contributions</i>

### B. Contribution for Fiscal Years 2014 and 2015

The City's Actuarially Determined Employer Contribution (ADEC) is:

	<u>2014 Fiscal Year</u>	<u>2015 Fiscal Year</u>
Post-1967 Police	\$ 799,000	\$ 803,000
Post-1967 Fire	<u>1,975,000</u>	<u>2,010,000</u>
Total	\$2,774,000	\$2,813,000

Please see Section IIa-E and IIb-E for the development of these figures. These figures do not reflect any contributions mandated by City Ordinances or Collective Bargaining Agreements.

### C. Post-1967 Police Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$7,439,761 as of July 1, 2012. This represents an increase of approximately \$3,743,000 over the past two years. The plan experienced a net actuarial loss of \$2,108,250 over the two year period ending on July 1, 2012. The net loss resulted from a loss of \$3,476,000 due to investment results that were less than expected, a gain of \$296,000 due to salary increases less than expected, a loss of \$1,326,250 due to higher than expected plan liabilities and a gain of \$2,398,000 due to retiree COLAs less than 3.5% per year assumed.

The actuarial value of assets earned a return of about 5.5% in the year ending in 2011 and about 3.6% in the year ending in 2012, compared to an expected rate of return of 8.0% per year. This shortfall resulted in a loss. The market value of assets returned about 19.5% in the year ending in 2011 and lost about 3.9% in the year ending in 2012.

## Section I

### Introduction

(continued)

#### D. Post-1967 Fire Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$8,762,008 as of July 1, 2012. This represents an increase of approximately \$5,689,000 over the prior valuation. The plan experienced a net actuarial loss of \$1,480,857 over the two year period ending on July 1, 2012. The net loss resulted from a loss of \$4,100,000 due to investment results that were less than expected, a gain of \$837,000 due to salary increases less than expected, a loss of \$1,186,857 due to higher than expected plan liabilities and a gain of \$2,969,000 due to retiree COLAs less than 3.5% per year assumed.

The actuarial value of assets earned a return of about 5.7% in the year ending in 2011 and about 3.9% in the year ending in 2012, compared to an expected rate of return of 8.0% per year. This shortfall resulted in a loss. The market value of assets returned about 19.4% in the year ending in 2011 and lost 3.7% in the year ending in 2012.

#### E. Post-1967 Police Valuation Contribution

The valuation contribution increased from approximately \$789,000 to \$796,000 this year. A table with the sources of the increase is below.

1. July 1, 2010 valuation contribution	\$789,000
2. Increase due to asset experience	479,700
3. Decrease due to liability experience	(188,700)
4. Expected increase	18,700
5. Increase due to assumption changes	584,000
6. Decrease due to contribution timing change	(77,300)
7. Change in unfunded liability amortization period	(498,000)
8. Change in COLA assumption	(234,000)
9. Miscellaneous increase	<u>(77,400)</u>
10. July 1, 2012 valuation contribution	\$796,000

#### F. Post-1967 Fire Valuation Contribution

The valuation contribution increased from approximately \$1,386,000 to \$1,940,000 this year. A table with the sources of the increase is below.

1. July 1, 2010 valuation contribution	\$1,386,000
2. Increase due to asset experience	443,500
3. Decrease due to liability experience	(283,300)
4. Expected increase	81,700
5. Increase due to assumption changes	1,022,100
6. Decrease due to contribution timing change	(126,400)
7. Change in unfunded liability amortization period	(236,000)
8. Change in COLA assumption	(404,000)
9. Miscellaneous increase	<u>56,400</u>
10. July 1, 2012 valuation contribution	\$1,940,000

## **Section I**

### **Introduction**

(continued)

#### **G. Changes Since The Last Valuation**

The interest rate assumption was reduced from 8% to 7.25%. The salary scale was adjusted from 4% to a scale that is graded by age. Also, there was an increase in the Fire employee contribution rate. The COLA assumption was reduced from 3.5% to 3%. In addition, the rates of disability were adjusted to more closely match actual experience. The corridor to determine Actuarial Value of assets was adjusted. Also, the City decided to begin contributing at the beginning of each year rather than at the end of the year. Finally, the City decided to use a 20 year schedule to amortize its unfunded liability. These changes increased the unfunded actuarial accrued liability by approximately \$1,357,000 for the Police and \$3,422,000 for the Fire. The changes decreased the Police ARC by approximately \$249,000 and increased the Fire ARC by approximately \$234,000.

#### **H. Future Assumption Changes**

The actuarial assumptions used for liabilities worked reasonably well for both the Police and the Fire over the two year period.

We evaluated the COLA increases over the two year period and decided to adjust the COLA assumption. Disability losses persisted in this valuation, so we revised the disability assumption to better match experience.

For the next valuation, we will want to update the retirement assumption.

## Section I

### Introduction

(continued)

#### I. New Accounting Standards - Post-1967 Police

In June of 2012, The Government Accounting Standards Board (GASB) issued statements 67 and 68. GASB 67 is a new standard that pertains to financial reporting for pension plans. In general, it replaces GASB 25 and it is effective for fiscal years beginning after June 15, 2013. GASB 68 is a new standard that pertains to accounting and financial reporting for pensions. In general, it replaces GASB 27 and it is effective for fiscal years beginning after June 15, 2014. Both statements replace the relevant provisions of GASB 50.

Currently, your annual financial report tracks the Net Pension Obligation (NPO) and the NPO is displayed in the footnote section of the annual financial report. With GASB 68, the NPO will no longer be tracked. A new item called Net Pension Liability (NPL) will be displayed not as a footnote but directly on your balance sheet. For both standards, liabilities are calculated using the Entry Age Normal Cost Method. In general, the NPL is EAN Accrued Liability less the Market Value of Assets. A table that displays the NPL for the Post-1967 Police pension plan is below.

<u>Valuation Date</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Market Value Of Assets</u>	<u>Net Pension Liability</u>
July 1, 2008	53,707,851	53,765,468	(57,617)
July 1, 2010	56,869,380	42,465,992	14,403,388
July 1, 2012	58,433,632	42,135,602	16,298,030

In addition to replacing the NPO with NPL, the Annual Required Contribution (ARC) will also be eliminated. Even though the ARC will be eliminated, we will work with you to develop a contribution policy. The new term for this is called the Actuarially Determined Employer Contribution (ADEC). One possible ADEC is to use the same concepts that were used to develop the ARC which would mean no change in the present funding policy.

Under the prior standards the ARC served as both the contribution policy and the accounting expense. As noted above the ARC is eliminated and replaced with ADEC with regard to the funding policy. The new pension expense will be quite different from the ARC and it has several components (including normal cost, interest cost, amortization components, actual return and plan changes). The new pension expense will help reconcile the change in the Net Pension Liability each year. In addition, it will be more volatile than the ARC and so not suitable for use as a contribution policy.

If the City wants to see how the pension expense works, please let us know and we will prepare a sample exhibit. Like the Net Pension Liability, the calculation of the pension expense is based upon the Entry Age Normal Cost Method and will no longer be a footnote but reported directly in the annual financial report.

## Section I

### Introduction

(continued)

#### J. New Accounting Standards - Post-1967 Fire

In June of 2012, The Government Accounting Standards Board (GASB) issued statements 67 and 68. GASB 67 is a new standard that pertains to financial reporting for pension plans. In general, it replaces GASB 25 and it is effective for fiscal years beginning after June 15, 2013. GASB 68 is a new standard that pertains to accounting and financial reporting for pensions. In general, it replaces GASB 27 and it is effective for fiscal years beginning after June 15, 2014. Both statements replace the relevant provisions of GASB 50.

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<u>Valuation Date</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Market Value Of Assets</u>	<u>Net Pension Liability</u>
July 1, 2008	63,173,040	63,220,218	(47,178)
July 1, 2010	70,941,543	53,019,592	17,921,951
July 1, 2012	77,245,773	56,640,390	20,605,383

In addition to replacing the NPO with NPL, the Annual Required Contribution (ARC) will also be eliminated. Even though the ARC will be eliminated, we will work with you to develop a contribution policy. The new term for this is called the Actuarially Determined Employer Contribution (ADEC). One possible ADEC is to use the same concepts that were used to develop the ARC which would mean no change in the present funding policy.

Under the prior standards the ARC served as both the contribution policy and the accounting expense. As noted above the ARC is eliminated and replaced with ADEC with regard to the funding policy. The new pension expense will be quite different from the ARC and it has several components (including normal cost, interest cost, amortization components, actual return and plan changes). The new pension expense will help reconcile the change in the Net Pension Liability each year. In addition, it will be more volatile than the ARC and so not suitable for use as a contribution policy.

If the City wants to see how the pension expense works, please let us know and we will prepare a sample exhibit. Like the Net Pension Liability, the calculation of the pension expense is based upon the Entry Age Normal Cost Method and will no longer be a footnote but reported directly in the annual financial report.

## Section I

### Introduction (continued)

#### K. Certification

This report presents the results of the July 1, 2012 Actuarial Valuation for the City of Danbury Post-1967 Police & Fire Pension Plans (the Plans) for the purpose of estimating the funded status of the Plans and determining the Annual Required Contribution (ARC) for the fiscal year ending June 30, 2014. 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 Plans.

In preparing this valuation, I have relied on employee data provided by the City, and on asset and contribution information provided by the City. 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 Plans as summarized in the Plan Provisions section of this report and the actuarial assumptions and methods detailed in the Actuarial Cost 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 Plans' 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.

HOOKER & HOLCOMBE, INC.



Evan W. Woollacott, Jr, FCA, MAAA, EA  
11-04513

July 31, 2013

## Section IIa

### Results of the Valuation (Police)

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2012	July 1, 2010
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Active Employees	\$ 10,819,621	\$ 13,247,401
Disabled Pensioners	35,785,075	31,996,822
Retired Pensioners	12,045,834	12,147,448
Terminated Vested Members	<u>0</u>	<u>0</u>
TOTAL	\$ 58,650,530	\$ 57,391,671
<b>Source of Funds</b>		
1. Plan Assets	\$ 50,877,985	\$ 52,769,298
2. Unfunded Accrued Liability	7,439,761	3,696,897
3. Present Value of Future Employee Contributions	44,093	131,581
4. Present Value of Future Employer Normal Costs	<u>288,691</u>	<u>793,895</u>
5. TOTAL = (1) + (2) + (3) + (4)	\$ 58,650,530	\$ 57,391,671

## Section IIa

### Results of the Valuation (Police) (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2012	July 1, 2010
Accrued Liability		
Inactive Employees:		
Disabled Pensioners	\$ 35,785,075	\$ 31,996,822
Retired Pensioners	12,045,834	12,147,448
Terminated Vested Members	<u>0</u>	<u>0</u>
	47,830,909	44,144,270
Active Employees:	<u>10,486,837</u>	<u>12,321,925</u>
Total Accrued Liability	58,317,746	56,466,195
Assets (Actuarial Value)	<u>50,877,985</u>	<u>52,769,298</u>
Unfunded Accrued Liability	7,439,761	3,696,897
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	87%	93%

## Section IIa

### Results of the Valuation (Police) (continued)

#### C. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability, without regard to any plan changes or changes in methods or actuarial assumptions. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced.

<b>Actuarial Gain (Loss)</b>	
<b>1. Expected unfunded actuarial accrued liability July 1, 2012</b>	
a. Expected unfunded actuarial accrued liability July 1, 2011	
i. Unfunded actuarial accrued liability July 1, 2010	\$ 3,696,897
ii. Normal cost July 1, 2010	254,365
iii. Interest at 8.0% to July 1, 2011	316,101
iv. Contributions for 2011	47,579
v. Interest to July 1, 2011 on (iv)	<u>1,867</u>
vi. Expected unfunded actuarial accrued liability July 1, 2011: (i) + (ii) + (iii) - (iv) - (v)	4,217,917
b. Expected unfunded actuarial accrued liability July 1, 2012	
i. Expected unfunded actuarial accrued liability July 1, 2011	4,217,917
ii. Estimated normal cost July 1, 2011	264,540
iii. Interest at 8.0% to July 1, 2012	358,597
iv. Contributions for 2012	833,428
v. Interest to July 1, 2012 on (iv)	<u>32,696</u>
vi. Expected unfunded actuarial accrued liability July 1, 2012 (i) + (ii) + (iii) - (iv) - (v)	3,974,930
<b>2. Actual unfunded liability July 1, 2012, prior to assumption changes</b>	6,083,180
<b>3. Actuarial Gain/(Loss): (1b)(vi) - (2)</b>	(2,108,250)
<b>4. Sources of Gain/(Loss)</b>	
a. Gain/(Loss) due to salary increases	\$ 296,000
b. Gain/(Loss) due to return on assets	(3,476,000)
c. Gain/(Loss) due to retiree data changes and disability	2,398,000
d. Gain/(Loss) due to turnover, disability and retirements	(344,000)
e. Gain/(Loss) due to other	<u>(982,250)</u>
f. Total Gain/(Loss): (a) + (b) + (c) + (d) + (e)	\$ (2,108,250)

## Section IIa

### Results of the Valuation (Police) (continued)

#### D. Valuation Results - July 1, 2012

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2012 valuation are:

Annual Contribution	July 1, 2012		July 1, 2010	
	Cost	Percent of Payroll	Cost	Percent of Payroll
a) Normal Cost	\$ 141,429	12.3%	\$ 254,365	16.6%
b) Estimated Administrative Expenses	5,300	0.5%	5,300	0.3%
c) Estimated Employee Contributions	<u>(18,768)</u>	<u>(1.7)%</u>	<u>(39,000)</u>	<u>(2.5)%</u>
d) City's Normal Cost: (a) + (b) + (c)	127,961	11.1%	220,665	14.4%
e) Amortization of unfunded liability*	<u>667,566</u>	<u>58.1%</u>	<u>510,136</u>	<u>33.4%</u>
f) City's contribution at beginning of period (d) + (e), but not less than \$0	795,527	69.2%	730,801	47.8%
g) Interest to End of Plan Year**	0	0.0%	58,464	3.8%
h) City's contribution*** (f) + (g)	795,527	69.2%	789,265	51.6%
<b>Unfunded Accrued Liability</b>	7,439,761		3,696,897	
<b>Expected Covered Payroll</b>	1,150,002		1,528,555	
<b>Average Pay</b>	82,143		80,450	
<b>Average Age per Active participant</b>	60.0 years		58.2 years	
<b>Average Service per Active participant</b>	33.6 years		32.2 years	

\* Amortized over 10 years at July 1, 2010; 20 years at July 1, 2012.

\*\* The City decided to make contributions at the beginning of each fiscal year in the future.

\*\*\* This contribution can never be less than the amount contributed by the police officers for the prior fiscal year.

## Section IIa

### Results of the Valuation (Police)

(continued)

#### E. Employer Contribution for Fiscal Years 2014 and 2015

Based on the valuation results in the section D, the City's contribution will be as follows:

	July 1, 2013 - June 30, 2014	July 1, 2014 - June 30, 2015
a) Normal Cost as a percent of payroll	11.1%	11.1%
b) Estimated covered payroll	1,184,502	1,220,037
c) City's Normal Cost	131,800	135,754
d) Amortization of unfunded liability	<u>667,566</u>	<u>667,566</u>
e) City's contribution at beginning of period, but not less than \$0*	799,366	803,320
f) Round to nearest thousand	799,000	803,000

\* *The City's contribution can never be less than the amount contributed by the plan participants for the prior fiscal year. This is not reflected in the contribution amounts shown above.*

## Section IIb

### Results of the Valuation (Fire)

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2012	July 1, 2010
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Active Employees	\$ 48,058,411	\$ 43,615,217
Disabled Pensioners	21,412,775	18,985,374
Retired Pensioners	24,415,239	22,335,978
Terminated Vested Members	<u>4,288</u>	<u>4,287</u>
TOTAL	\$ 93,890,713	\$ 84,940,856
<b>Source of Funds</b>		
1. Plan Assets	\$ 67,213,044	\$ 65,257,292
2. Unfunded Accrued Liability	8,762,008	3,072,861
3. Present Value of Future Employee Contributions	4,802,917	4,117,846
4. Present Value of Future Employer Normal Cost	<u>13,112,744</u>	<u>12,492,857</u>
5. TOTAL = (1) + (2) + (3) + (4)	\$ 93,890,713	\$ 84,940,856

## Section IIb

### Results of the Valuation (Fire) (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2012	July 1, 2010
Accrued Liability		
Inactive Employees:		
Disabled Pensioners	\$ 21,412,775	\$ 18,985,374
Retired Pensioners	24,415,239	22,335,978
Terminated Vested Members	<u>4,288</u>	<u>4,287</u>
	45,832,302	41,325,639
Active Employees:	<u>30,142,750</u>	<u>27,004,514</u>
Total Accrued Liability	75,975,052	68,330,153
Assets (Actuarial Value)	<u>67,213,044</u>	<u>65,257,292</u>
Unfunded Accrued Liability	8,762,008	3,072,861
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	88%	96%

## Section IIb

### Results of the Valuation (Fire) (continued)

#### C. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability, without regard to any plan changes or changes in methods or actuarial assumptions. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced.

<b>Actuarial Gain (Loss)</b>	
<b>1. Expected unfunded actuarial accrued liability July 1, 2012</b>	
a. Expected unfunded actuarial accrued liability July 1, 2011	
i. Unfunded actuarial accrued liability July 1, 2010	\$ 3,072,861
ii. Normal cost July 1, 2010	1,334,828
iii. Interest at 8.0% to July 1, 2011	352,615
iv. Contributions for 2011	778,269
v. Interest to July 1, 2011 on (iv)	<u>30,532</u>
vi. Expected unfunded actuarial accrued liability July 1, 2011: (i) + (ii) + (iii) - (iv) - (v)	3,951,503
b. Expected unfunded actuarial accrued liability July 1, 2012	
i. Expected unfunded actuarial accrued liability July 1, 2011	3,951,503
ii. Estimated normal cost July 1, 2011	1,388,221
iii. Interest at 8.0% to July 1, 2012	427,178
iv. Contributions for 2012	1,836,002
v. Interest to July 1, 2012 on (iv)	<u>72,027</u>
vi. Expected unfunded actuarial accrued liability July 1, 2012 (i) + (ii) + (iii) - (iv) - (v)	3,858,873
<b>2. Actual unfunded liability July 1, 2012, prior to assumption changes</b>	5,339,730
<b>3. Actuarial Gain/(Loss): (1b)(vi) - (2)</b>	(1,480,857)
<b>4. Sources of Gain/(Loss)</b>	
a. Gain/(Loss) due to salary increases	\$ 837,000
b. Gain/(Loss) due to return on assets	(4,100,000)
c. Gain/(Loss) due to retiree data changes and disability	(156,000)
d. Gain/(Loss) due to turnover, disability, cost of living and retirements	2,969,000
e. Gain/(Loss) due to other	<u>(1,030,857)</u>
f. Total Gain/(Loss): (a) + (b) + (c) + (d) + (e)	\$ (1,480,857)

## Section IIb

### Results of the Valuation (Fire) (continued)

#### D. Valuation Results - July 1, 2012

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2012 valuation are:

Annual Contribution	July 1, 2012		July 1, 2010	
	Cost	Percent of Payroll	Cost	Percent of Payroll
a) Normal Cost	\$ 1,562,631	18.6%	\$ 1,334,828	15.8%
b) Estimated Administrative Expenses	5,300	0.1%	5,300	0.1%
c) Estimated Employee Contributions	<u>(414,244)</u>	<u>(5.0%)</u>	<u>(378,217)</u>	<u>(4.5%)</u>
d) City's Normal Cost: (a) + (b) + (c)	1,153,687	13.7%	961,911	11.4%
e) Amortization of unfunded liability*	<u>786,210</u>	<u>9.4%</u>	<u>321,447</u>	<u>3.8%</u>
f) City's contribution at beginning of period, but not less than \$0: (d) + (e)	1,939,897	23.1%	1,283,358	15.2%
g) Interest to End of Plan Year**	0	0.0%	102,669	1.2%
h) City's contribution*** (f) + (g)	1,939,897	23.1%	1,386,027	16.4%
<b>Unfunded Accrued Liability</b>	8,762,008		3,072,861	
<b>Expected Covered Payroll</b>	8,410,697		8,446,958	
<b>Average Pay</b>	74,431		70,391	
<b>Average Age per Active participant</b>	43.9 years		42.8 years	
<b>Average Service per Active participant</b>	15.3 years		14.4 years	

\* Amortized over 16 years at July 1, 2010; 20 years at July 1, 2012.

\*\* The City decided to make contributions at the beginning of each fiscal year in the future.

\*\*\* This contribution can never be less than the amount contributed by the firefighters for the prior fiscal year.

## Section IIb

### Results of the Valuation (Fire) (continued)

#### E. Employer Contribution for Fiscal Years 2014 and 2015

Based on the valuation results in the section D, the City's contribution will be as follows:

	July 1, 2012 - June 30, 2013	July 1, 2014 - June 30, 2015
a) Normal Cost as a percent of payroll	13.7%	13.7%
b) Estimated covered payroll	8,663,018	8,922,909
c) City's Normal Cost	1,188,298	1,223,947
d) Amortization of unfunded liability	<u>786,210</u>	<u>786,210</u>
e) City's contribution at beginning of period, but not less than \$0*	1,974,508	2,010,157
f) City's contribution rounded to nearest \$1,000	1,975,000	2,010,000

\* *The City's contribution can never be less than the amount contributed by the plan participants for the prior fiscal year. This is not reflected in the contribution amounts shown above.*

## Section IIIa

### Supporting Exhibits (Police)

#### A. Membership Data

##### Employee Participation: July 1, 2010 - July 1, 2012

The data reported by the Plan Sponsor for this valuation includes 14 active employees who met the Plan's minimum age and service requirements as of July 1, 2012.

<b>Participant Data</b>				
	<b>Active</b>	<b>Terminated Vested</b>	<b>Retired</b>	<b>Total</b>
<b>Total Participants July 1, 2010</b>	<b>19</b>	<b>0</b>	<b>83</b>	<b>102</b>
Adjustments	0	0	0	0
Retirements	-5	0	+5	0
Terminations				
Vested	0	0	N/A	0
Non-vested	0	N/A	N/A	0
Deaths				
Without death benefit	0	0	-1	-1
With death benefit	0	0	-1	-1
New beneficiaries	N/A	0	+1	+1
Rehires	0	0	0	0
New entrants	<u>0</u>	<u>N/A</u>	<u>N/A</u>	<u>0</u>
<b>Total Participants July 1, 2012</b>	<b>14</b>	<b>0</b>	<b>87</b>	<b>101</b>
<b>Total annual plan salaries</b>				
July 1, 2010	\$1,528,555			
July 1, 2012	1,150,002			
<b>Total annual benefits</b>				
July 1, 2010		\$0	\$3,601,197	
July 1, 2012		0	3,925,118	

**Section IIIa**  
**Supporting Exhibits (Police)**

**Age, Service, Salary Information for 2012**  
**City of Danbury Post-1967 Police Pension Plan**

Attained Age	Completed Years of Credited Service																									
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years					
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.				
Under 25																										
25 to 29																										
30 to 34																										
35 to 39																										
40 to 44																										
45 to 49																										
50 to 54													1	74,949		1	74,949						2	74,949		
55 to 59													1	72,246		4	91,261						5	87,458		
60 to 64																4	77,053		1	88,344			5	79,311		
65 to 69																1	74,695				1	91,566		2	83,130	
70 & over																										
All ages													2	73,597		10	82,290		1	88,344		1	91,566		14	82,143

## Section IIIa

### Supporting Exhibits (Police) (continued)

#### B. Assets

#### Development of Asset Market Values (Valuation Exhibit C)

<b>Summary of Fund Activity</b>		
	<b>July 1, 2010 - June 30, 2011</b>	<b>July 1, 2011 - June 30, 2012</b>
<b>1. Beginning market value</b>		
a. Trust assets	\$ 42,465,993	\$ 46,859,701
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a) + (b) - (c)	42,465,993	46,859,701
<b>2. Contributions</b>		
a. City Contributions during year	0	798,000
b. Employee contributions during year	47,579	35,428
c. Change in accrued contribution	0	0
d. Total for plan year	47,579	833,428
<b>3. Disbursements</b>		
a. Benefit payments during year	3,587,627	3,805,150
b. Change in benefits payable	0	0
c. Total for plan year	3,587,627	3,805,150
<b>4. Net investment return</b>		
a. Interest and dividends	976,342	1,072,572
b. Realized & Unrealized gain (loss)	7,196,360	(2,635,175)
c. Expenses	(238,946)	(189,774)
d. Total	7,933,756	(1,752,377)
<b>5. Ending market value</b>		
a. Trust assets: (1a) + (2a) + (2b) - (3a) + (4d)	46,859,701	42,135,602
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a) + (b) - (c)	46,859,701	42,135,602
<b>6. Approximate rate of return</b>	19.5%	-3.9%

## Section IIIa

### Supporting Exhibits (Police) (continued)

#### B. Assets

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 65% to 135% of Market Value for the July 1, 2012 Valuation.

<b>Determination of the Actuarial Value of Assets</b>		
1.	Actuarial value of assets at July 1, 2010	\$ 52,769,298
2.	Contributions for 2010-2011	47,579
3.	Disbursements during 2010-2011	(3,587,627)
4.	Expected return during 2010-2011	<u>4,082,666</u>
5.	Expected actuarial asset value at July 1, 2011	53,311,916
6.	Market value July 1, 2011	46,859,701
7.	Appreciation (depreciation) capitalized 20% x [(6) - (5)]	(1,290,443)
8.	Actuarial asset value at July 1, 2011 (5) + (7) (limited to be within 65% and 135% of Market Value)	52,021,473
9.	Contributions for 2011-2012	833,428
10.	Disbursements during 2011-2012	(3,805,150)
11.	Expected return during 2011-2012	<u>4,013,830</u>
12.	Expected actuarial asset value at July 1, 2012	53,063,581
13.	Market value July 1, 2012	42,135,602
14.	Appreciation (depreciation) capitalized 20% x [(13) - (12)]	(2,185,596)
15.	Actuarial asset value at July 1, 2012 (12) + (14) (limited to be within 65% and 135% of Market Value)	50,877,985
16.	Actuarial value as a percent of market value	120.7%
	2010-2011 rate of return on Actuarial Value of Assets	5.5%
	2011-2012 rate of return on Actuarial Value of Assets	3.6%

## Section IIIb

### Supporting Exhibits (Fire)

#### A. Membership Data

##### Employee Participation: July 1, 2010 - July 1, 2012

The data reported by the Plan Sponsor for this valuation includes 113 active employees who met the Plan's minimum age and service requirements as of July 1, 2012.

<b>Participant Data</b>				
	<b>Active</b>	<b>Terminated Vested</b>	<b>Retired</b>	<b>Total</b>
<b>Total Participants July 1, 2010</b>	<b>120</b>	<b>2</b>	<b>70</b>	<b>192</b>
Adjustments	0	0	0	0
Retirements	-7	0	+7	0
Terminations				
Vested	0	0	N/A	0
Non-vested	-1	N/A	N/A	-1
Deaths				
Without death benefit	0	0	0	0
With death benefit	0	0	0	0
New beneficiaries	N/A	0	0	0
End of year certain	N/A	0	0	0
Lump sum settlements	N/A	0	0	0
Transfers in	0	N/A	N/A	0
Rehires	0	0	0	0
New entrants	<u>+1</u>	<u>N/A</u>	<u>N/A</u>	<u>+1</u>
<b>Total Participants July 1, 2012</b>	<b>113</b>	<b>2*</b>	<b>77</b>	<b>192</b>
<b>Total annual plan salaries</b>				
July 1, 2010	\$8,446,958			
July 1, 2012	8,410,697			
<b>Total annual benefits</b>				
July 1, 2010		\$0	\$3,157,505	
July 1, 2012		0	3,506,895	

\* Includes 2 participants who are vested in employee contributions only.

## Section IIIb

### Supporting Exhibits (Fire)

Age, Service, Salary Information for 2012																							
City of Danbury Post-1967 Fire Pension Plan																							
		Completed Years of Credited Service																					
		Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years	
		No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25																							
25 to 29			2	67,845	8	69,279															10	68,992	
30 to 34			2	67,062	14	69,234	1	70,027													17	69,025	
35 to 39			3	67,805	5	67,814	4	74,640	1	68,944											13	69,999	
40 to 44			2	66,661	4	68,828	3	76,922	5	75,730	2	78,077									16	73,388	
45 to 49			3	67,095	4	68,643	6	72,464	5	74,218	4	75,595	1	77,870							23	72,260	
50 to 54					1	68,448	1	68,547	1	84,566	5	78,685	7	80,982							15	78,791	
55 to 59							1	84,444			2	93,636	4	82,673	4	91,578	2	85,509			13	87,672	
60 to 64											1	78,803	3	79,731	1	68,183	1	93,385			6	79,928	
65 to 69																							
70 & over																							
All ages			12	67,320	36	68,914	16	74,196	12	75,271	14	79,860	15	80,975	5	86,899	3	88,134			113	74,431	

## Section IIIb

### Supporting Exhibits (Fire) (continued)

#### B. Assets

#### Development of Asset Market Values (Valuation Exhibit C)

<b>Summary of Fund Activity</b>		
	<b>July 1, 2010 - June 30, 2011</b>	<b>July 1, 2011 - June 30, 2012</b>
<b>1. Beginning market value</b>		
a. Trust assets	\$ 53,019,592	\$ 60,496,555
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a) + (b) - (c)	<u>53,019,592</u>	<u>60,496,555</u>
<b>2. Contributions</b>		
a. City Contributions during year	311,000	1,429,001
b. Employee contributions during year	467,269	407,001
c. Change in accrued contribution	0	0
d. Total for plan year	<u>778,269</u>	<u>1,836,002</u>
<b>3. Disbursements</b>		
a. Benefit payments during year	3,362,267	3,488,351
b. Change in benefits payable	0	0
c. Total for plan year	<u>3,362,267</u>	<u>3,488,351</u>
<b>4. Net investment return</b>		
a. Interest and dividends	1,238,515	1,406,034
b. Realized & Unrealized gain (loss)	9,098,777	(3,394,117)
c. Expenses	(276,331)	(215,733)
d. Total	<u>10,060,961</u>	<u>(2,203,816)</u>
<b>5. Ending market value</b>		
a. Trust assets: (1a) + (2a) + (2b) - (3a) + (4d)	60,496,555	56,640,390
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a) + (b) - (c)	<u>60,496,555</u>	<u>56,640,390</u>
<b>6. Approximate rate of return</b>	19.4%	-3.7%

## Section IIIb

### Supporting Exhibits (Fire) (continued)

#### B. Assets

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 65% to 135% of Market Value for the July 1, 2012 Valuation.

<b>Determination of the Actuarial Value of Assets</b>		
1.	Actuarial value of assets at July 1, 2010	\$ 65,257,292
2.	Contributions for 2010-2011	778,269
3.	Disbursements during 2010-2011	(3,362,267)
4.	Expected return during 2010-2011	<u>5,107,011</u>
5.	Expected actuarial asset value at July 1, 2011	67,780,305
6.	Market value July 1, 2011	60,496,555
7.	Appreciation (depreciation) capitalized 20% x [(6) - (5)]	(1,456,750)
8.	Actuarial asset value at July 1, 2011 (5) + (7) (limited to be within 65% and 135% of Market Value)	66,323,555
9.	Contributions for 2011-2012	1,836,002
10.	Disbursements during 2011-2012	(3,488,351)
11.	Expected return during 2011-2012	<u>5,185,002</u>
12.	Expected actuarial asset value at July 1, 2012	69,856,208
13.	Market value July 1, 2012	56,640,390
14.	Appreciation (depreciation) capitalized 20% x [(13) - (12)]	(2,643,164)
15.	Actuarial asset value at July 1, 2012 (12) + (14) (limited to be within 65% and 135% of Market Value)	67,213,044
16.	Actuarial value as a percent of market value	118.7%
	2010-2011 rate of return on Actuarial Value of Assets	5.7%
	2011-2012 rate of return on Actuarial Value of Assets	3.9%

## **Section IV**

### **Actuarial Cost Methods and Assumptions**

#### **A. Actuarial Cost Methods**

##### **Asset Valuation Method**

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. The Actuarial Value is adjusted, if necessary, to be within the range of 70% to 130% of the Market Value of assets.

Prior Valuation: The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. The Actuarial Value is adjusted, if necessary, to be within the range of 65% to 135% of the Market Value of assets.

##### **Actuarial Funding Method**

The actuarial valuation method used in the cost calculations is the Projected Unit Credit Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of two pieces:

- a. Normal Cost - The actuarial cost to fund benefit units earned during the year.
- b. Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial liability.

##### **Process**

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City's contribution for the fiscal years ending in 2014 and 2015. To accomplish this objective, we apply the City's Normal Cost Accrual Rate from the valuation year, to the estimated payroll for the target year to determine the Normal Cost for that year. We assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions

Changes in Actuarial Assumptions as of July 1, 2012:

The valuation reflects changes in the actuarial assumptions listed below. (The assumptions used before and after these changes are more fully described in the subsequent pages.)

- Interest
- Salary Scale
- Employee Disability
- Cost of Living

The actuarial assumptions used in the determination of costs and liabilities are as follows:

Interest: 7.25% compounded annually, net of investment expenses.

Prior Valuation: 8% compounded annually, net of investment expenses.

Mortality: Active/Regular Retirement:

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.

Disabled:

RP-2000 Disabled Mortality Table with separate male and female rates, with no collar adjustment.

Mortality Improvement: Active/Regular Retirement:

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

Disabled:

None.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions (continued)

Salary Scale: Graded scale 5% at age 20 down to 3% at age 60 and beyond.

Prior Valuation: It is assumed that salaries will increase by 4% per annum (compounded) from present age to Normal Retirement Age.

Employee Turnover: Table T-1 by Crocker, Sarason and Straight

Rates of termination illustrated as follows:

Percentage of Employees Terminating  
Prior to End of Year

<u>Age</u>	<u>Rate</u>
25	4.89%
30	3.70
35	2.35
40	1.13
45	0.27
50	0.00

Retirement Age: Earlier of age 65 or hire age plus 34.

Expense Loading: We have included the estimated actuarial fees in the Normal Cost each year.

Cost of Living: Pension payments are assumed to increase 3% per year while in payment status.

Prior Valuation: Pension payments are assumed to increase 3½% per year while in payment status.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions (continued)

Employee Disability: 6 x 1955 UAW Disability Table

Rates of disability illustrated as follows:

#### Percentage of Employees Becoming Disabled Prior to End of Year

Age	Male	Female
25	0.18%	0.30%
30	0.24	0.36
35	0.30	0.48
40	0.42	0.60
45	0.60	0.90
50	1.08	1.56
55	2.16	2.94
60	5.40	7.26

*100% of disabilities are assumed to be service related*

Prior Valuation: 3 x 1955 UAW Disability Table

Rates of disability illustrated as follows:

#### Percentage of Employees Becoming Disabled Prior to End of Year

Age	Male	Female
25	0.09%	0.15%
30	0.12	0.18
35	0.15	0.24
40	0.21	0.30
45	0.30	0.45
50	0.54	0.78
55	1.08	1.47
60	2.70	3.63

*100% of disabilities are assumed to be service related*

## Section Va

### Summary of Current Principal Police Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan - July 1, 1967. Latest Amendment - January 7, 1992.
Eligibility:	Hired by Police Dept. on or after July 1, 1967 and before April 20, 1983 <u>and</u> contributes to the plan.
Compensation:	Total salary or wages earned by a participant from the City for a particular year.
Final Compensation:	The highest-paid year of service.
Normal Retirement Age:	Age 65
Credited Service:	Latest period of continuous service during which the participant contributes.
Normal Retirement Benefit:	Two percent of Final Compensation <u>times</u> years of Credited Service. Maximum benefit equals 68% of Final Compensation.
Early Retirement:	Age 55 or 27 years of Credited Service. Normal retirement benefit formula applies.
Vesting:	15 years of service and employee contributions remain in plan.

## Section Va

### Summary of Current Principal Police Pension Plan Provisions (continued)

Employee Contributions:	4% of Compensation, no interest is credited on contribution.
Disability (service-connected):	66 <sup>2</sup> / <sub>3</sub> % of Final Compensation payable for the Participant's lifetime.
Death Benefit during Active Employment:	50% of Final Compensation paid to surviving spouse until death or remarriage.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to surviving spouse until death or remarriage.
Cost of Living:	All pension payments are to be increased to correspond to any increase in salary by members of the same grade and rank of retired member while in active service.

## Section Vb

### Summary of Current Principal Fire Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan - July 1, 1967.
Eligibility:	Hired by Fire Dept. on or after July 1, 1967 <u>and</u> contributes to the plan.
Compensation:	Total salary or wages earned by a participant from the City for a particular year.
Final Compensation:	The highest-paid year of service.
Normal Retirement Age:	Age 65
Credited Service:	Latest period of continuous service during which the participant contributes.
Normal Retirement Benefit:	Two percent of Final Compensation <u>times</u> years of Credited Service. Maximum benefit equals 68% of Final Compensation.
Early Retirement:	Age 55 or 27 years of Credited Service. Normal retirement benefit formula applies.
Vesting:	Termination prior to retirement eligibility results in forfeiture of accrued benefit.

## Section Vb

### Summary of Current Principal Fire Pension Plan Provisions (continued)

Employee Contributions:	Prior to July 1, 2012: 5% of Compensation, no interest is credited on contribution. Effective July 1, 2012: 5.5% of Compensation, no interest is credited on contribution. Effective July 1, 2013: 6% of Compensation, no interest is credited on contribution.  Prior Valuation: 5% of Compensation, no interest is credited on contribution.
Disability (service-connected):	66 <sup>2</sup> / <sub>3</sub> % of Final Compensation payable for the Participant's lifetime.
Death Benefit during Active Employment:	50% of Final Compensation paid to surviving spouse until death or remarriage.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to surviving spouse until death or remarriage.
Cost of Living:	All pension payments are to be increased to correspond to any increase in salary by members of the same grade and rank of retired member while in active service.

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August 8, 2013

Mr. David A. St. Hilaire  
Director of Finance  
City of Danbury  
155 Deer Hill Avenue  
Danbury, CT 06810

***Re: City of Danbury Post-1983 Police Pension Plan***

Dear Dave:

Enclosed is the original and three copies of the final July 1, 2012 Actuarial Valuation Report for the City of Danbury Post-1983 Police Pension Plan for distribution to any interested parties.

Please call if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Evan W. Woollacott, Jr." with a stylized flourish at the end.

Evan W. Woollacott, Jr., FCA, MAAA, EA

/mmh  
Enclosure



HOOKER & HOLCOMBE, INC.  
Benefit Consultants and Actuaries

65 LaSalle Road  
West Hartford, CT 06107-2397  
860-521-8400 tel  
860-521-3742 fax  
www.hhconsultants.com

# City of Danbury Post-1983 Police Pension Plan

Actuarial Valuation Report

July 1, 2012

Evan W. Woollacott, Jr., FCA,  
MAAA, Enrolled Actuary  
Consulting Actuary

Robert P. Lessard, ASA  
Senior Pension Analyst

August 8, 2013

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<b>Executive Summary</b>		
	<b>2012</b>	<b>2010</b>
<b>Number of participants</b>		
Active	131	132
Terminated vested	1	2
Vested in employee contributions only	11	12
Retired	<u>22</u>	<u>17</u>
Total	165	163
<b>Total annual plan salaries</b>	\$9,312,330	\$9,025,333
<b>Average plan salary</b>	71,086	68,374
<b>Actuarial present value of future benefits</b>	49,208,261	39,100,855
<b>Asset value</b>		
Market	18,619,478	14,602,015
Actuarial	21,352,085	17,189,830
<b>Normal cost - City</b>	1,068,209	809,856
<b>Unfunded actuarial accrued liability</b>	10,934,701	6,104,609
<b>Contributions for next two fiscal years</b>		
1 <sup>st</sup> Fiscal Year	2,081,000	1,602,000
2 <sup>nd</sup> Fiscal Year	2,114,000	1,639,000

## Section I

### Introduction

#### A. Purposes of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year. The information found in Section II of the report has been developed for this purpose.

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 service to reduce the cost of plan benefits and expenses. Thus,

<i>City's ultimate</i>	=	<i>benefits</i>	+	<i>expenses</i>	-	<i>investment</i>	-	<i>employee</i>
<i>cost</i>		<i>paid</i>		<i>incurred</i>		<i>return</i>		<i>contributions</i>

#### B. Contribution for Fiscal Year 2014 and 2015

Based on the data and assets as of July 1, 2012, the City's Actuarially Determined Employer Contribution (ADEC) is \$2,081,000 for fiscal 2014. The City's ADEC for fiscal 2015 will be \$2,114,000. Please see Section II-E for the development of these figures.

The Normal Cost is calculated by assuming covered payroll increases by 3% and the Normal Cost as a percentage of payroll remains the same. The amortization amount is assumed to stay the same.

#### C. Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$10,934,701 as of July 1, 2012. This represents an increase of approximately \$4,830,000 over the past two years. The plan experienced a net actuarial loss of \$1,428,984 over the two year period ending on July 1, 2012. The net loss resulted from a loss of \$1,031,000 due to investment results that were less than assumed, a gain of \$802,000 due to salary increases that were less than expected and a loss of \$1,199,984 due mostly to more disabled retirees than expected.

The actuarial value of assets earned a return of about 6.0% in the year ended 2011 and 4.4% in the year ended 2012, compared to an expected rate of return of 8.0% per year. This shortfall resulted in a loss. The market value of assets returned about 14.7% in 2011 and lost about 2.7% in 2012. Employees that were active participants during the last valuation and this valuation earned an average salary increase of about 2.6% compared to the expected increase of 4.0%. This difference resulted in an experience gain. The plan experienced four disabilities during the two year period. This resulted in an actuarial experience loss.

## Section I

### Introduction

(continued)

#### D. Valuation Contribution

The valuation contribution increased from approximately \$1,564,000 to \$2,049,000 this year. A table with the sources of the increase is below.

1. July 1, 2010 valuation contribution	\$1,564,000
2. Increase due to assets	115,800
3. Increase due to liabilities	44,700
4. Expected increase	68,900
5. Increase due to assumption changes	522,900
6. Decrease due to contribution timing change	(140,800)
7. Change in unfunded liability amortization period	(203,000)
8. Miscellaneous increase	<u>76,500</u>
9. July 1, 2012 valuation contribution	\$2,049,000

#### E. Changes Since The Last Valuation

The interest rate assumption was reduced from 8% to 7.25%. The salary scale changed from 4% to a scale that is graded by age. In addition, the rates of disability were adjusted to more closely match actual experience. Also, the City decided to begin contributing at the beginning of each year rather than at the end of the year. Finally, the City decided to use a 20 year schedule to amortize its unfunded liability. These changes increased the unfunded actuarial accrued liability by approximately \$3,241,000. The increase to the ADEC was approximately \$148,000.

## Section I

### Introduction

(continued)

#### F. New Accounting Standards

In June of 2012, The Government Accounting Standards Board (GASB) issued statements 67 and 68. GASB 67 is a new standard that pertains to financial reporting for pension plans. In general, it replaces GASB 25 and it is effective for fiscal years beginning after June 15, 2013. GASB 68 is a new standard that pertains to accounting and financial reporting for pensions. In general, it replaces GASB 27 and it is effective for fiscal years beginning after June 15, 2014. Both statements replace the relevant provisions of GASB 50.

Currently, your annual financial report tracks the Net Pension Obligation (NPO) and the NPO is displayed in the footnote section of the annual financial report. With GASB 68, the NPO will no longer be tracked. A new item called Net Pension Liability (NPL) will be displayed not as a footnote but directly on your balance sheet. For both standards, liabilities are calculated using the Entry Age Normal Cost Method. In general, the NPL is EAN Accrued Liability less the Market Value of Assets. A table that displays the NPL for the Post-1983 Police pension plan is below.

<u>Valuation Date</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Market Value Of Assets</u>	<u>Net Pension Liability</u>
July 1, 2008	20,447,225	13,627,466	6,819,759
July 1, 2010	27,070,047	14,602,015	12,468,032
July 1, 2012	35,537,543	18,619,478	16,918,065

In addition to replacing the NPO with NPL, the Annual Required Contribution (ARC) will also be eliminated. Even though the ARC will be eliminated, we will work with you to develop a contribution policy. The new term for this is called the Actuarially Determined Employer Contribution (ADEC). One possible ADEC is to use the same concepts that were used to develop the ARC which would mean no change in the present funding policy.

Under the prior standards the ARC served as both the contribution policy and the accounting expense. As noted above the ARC is eliminated and replaced with ADEC with regard to the funding policy. The new pension expense will be quite different from the ARC and it has several components (including normal cost, interest cost, amortization components, actual return and plan changes). The new pension expense will help reconcile the change in the Net Pension Liability each year. In addition, it will be more volatile than the ADEC and so not suitable for use as a contribution policy.

If the City wants to see how the pension expense works, please let us know and we will prepare a sample exhibit. Like the Net Pension Liability, the calculation of the pension expense is based upon the Entry Age Normal Cost Method and will no longer be a footnote but reported directly in the annual financial report.

## Section I

### Introduction

(continued)

#### G. Certification

This report presents the results of the July 1, 2012 Actuarial Valuation for the City of Danbury Post-1983 Police Pension Plan (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Employer Contribution (ADEC) for the fiscal year ending June 30, 2014. 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 City, and on asset and contribution information provided by the City. 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 Actuarial Cost 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.

HOOKER & HOLCOMBE, INC.



Evan W. Woollacott, Jr., FCA, MAAA, EA  
11-04513

August 8, 2013

## Section II

### Results of the Valuation

#### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	July 1, 2012	July 1, 2010
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits for:		
Active Employees	\$41,846,372	\$34,169,369
Disabled Pensioners	6,074,114	4,240,274
Retired Pensioners	1,183,533	573,406
Terminated Vested Members	<u>104,242</u>	<u>117,806</u>
TOTAL	\$49,208,261	\$39,100,855
<b>Source of Funds</b>		
1. Plan Assets	\$21,352,085	\$17,189,830
2. Unfunded Accrued Liability	10,934,701	6,104,609
3. Present Value of Future Employee Contributions	4,133,996	4,298,193
4. Present Value of Future City Normal Cost Contributions	<u>12,787,479</u>	<u>11,508,223</u>
5. TOTAL = (1) + (2) + (3) + (4)	\$49,208,261	\$39,100,855

## Section II

### Results of the Valuation (continued)

#### B. Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2012	July 1, 2010
<b>Accrued Liability</b>		
<u>Inactive Employees:</u>		
Disabled Pensioners	\$ 6,074,114	\$ 4,240,274
Retired Pensioners	1,183,533	573,406
Terminated Vested Members	<u>104,242</u>	<u>117,806</u>
	\$ 7,361,889	\$ 4,931,486
<u>Active Employees:</u>	<u>24,924,897</u>	<u>18,362,953</u>
Total Accrued Liability	32,286,786	23,294,439
Assets (Actuarial Value)	<u>21,352,085</u>	<u>17,189,830</u>
Unfunded Accrued Liability	10,934,701	6,104,609
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	66%	74%

## Section II

### Results of the Valuation (continued)

#### C. Determination of Actuarial Gain/(Loss)

The Actuarial Gain/(Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability, without regard to any plan changes or changes in methods or actuarial assumptions. Such a gain (loss) is also referred to as an Experience Gain/(Loss), since it reflects the difference between what was expected and what was actually experienced.

<b>Actuarial Gain (Loss)</b>	
<b>1. Expected unfunded actuarial accrued liability July 1, 2012</b>	
a. Expected unfunded actuarial accrued liability July 1, 2011	
i. Unfunded actuarial accrued liability July 1, 2010	\$6,104,609
ii. Normal cost July 1, 2010	1,186,652
iii. Interest at 8.0% to July 1, 2011	583,301
iv. Contributions for 2011	1,489,507
v. Interest at 8.0% to July 1, 2011 on (iv)	58,434
vi. Expected unfunded actuarial accrued liability July 1, 2011 (i) + (ii) + (iii) - (iv) - (v)	6,326,621
b. Expected unfunded actuarial accrued liability July 1, 2012	
i. Expected unfunded actuarial accrued liability July 1, 2011	6,326,621
ii. Estimated normal cost July 1, 2011	1,234,118
iii. Interest at 8.0% to July 1, 2012	604,859
iv. Contributions for 2012	1,828,965
v. Interest at 8.0% to July 1, 2012 on (iv)	71,751
vi. Expected unfunded actuarial accrued liability July 1, 2012 (i) + (ii) + (iii) - (iv) - (v)	6,264,882
<b>2. Actual unfunded liability at July 1, 2012, prior to plan and assumption changes</b>	7,693,866
<b>3. Actuarial Gain/(Loss): (1.b.vi) - (2)</b>	(1,428,984)
<b>4. Sources of Gain/(Loss)</b>	
a. Gain/(Loss) due to salary increases	802,000
b. Gain/(Loss) due to return on assets	(1,031,000)
c. Gain/(Loss) due to other sources, primarily disability retirement	<u>(1,199,984)</u>
d. Total Gain/(Loss): (a) + (b) + (c)	(1,428,984)

## Section II

### Results of the Valuation (continued)

#### D. Valuation Results - July 1, 2012

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, the results of the July 1, 2012 valuation are:

	July 1, 2012		July 1, 2010	
	Cost	Percentage of Payroll	Cost	Percentage of Payroll
<b>Annual Contribution</b>				
a) Normal Cost	1,455,321	15.6%	1,186,652	13.2%
b) Estimated Administrative Expenses	7,500	0.1%	7,500	0.1%
c) Estimated Employee Contributions	<u>(394,612)</u>	<u>(4.2%)</u>	<u>(384,296)</u>	<u>(4.3%)</u>
d) City's Normal Cost: (a) + (b) + (c)	1,068,209	11.5%	809,856	9.0%
e) Amortization of unfunded liability*	<u>981,165</u>	<u>10.5%</u>	<u>638,592</u>	<u>7.0%</u>
f) City's contribution at beginning of period (d) + (e)	2,049,374	22.0%	1,448,448	16.0%
g) Interest to End of Plan Year**	<u>0</u>	<u>0.0%</u>	<u>115,876</u>	<u>1.3%</u>
h) City's contribution*** (f) + (g)	2,049,374	22.0%	1,564,324	17.3%
<b>Unfunded accrued liability</b>	10,934,701		6,104,609	
<b>Expected Covered Payroll</b>	9,312,330		9,025,333	
<b>Average Pay</b>	71,086		68,374	
<b>Average Age per Active participant</b>	42.6 years		40.9 years	
<b>Average Service per Active participant</b>	14.1 years		12.5 years	

\* Amortized over 16 years at July 1, 2010; 20 years at July 1, 2012.

\*\* The City decided to make contributions at the beginning of each fiscal year in the future.

\*\*\* This contribution can never be less than the amount contributed by the police officers for the prior fiscal year.

## Section II

### Results of the Valuation (continued)

#### E. Employer Contribution for Fiscal Years 2014 and 2015

Based on the valuation results in the section D, the City's contribution will be as follows:

	July 1, 2013 - June 30, 2014	July 1, 2014 - June 30, 2015
a) Normal Cost as a percent of payroll*	11.5%	11.5%
b) Estimated covered payroll	9,591,700	9,879,451
c) City's Normal Cost	1,100,255	1,133,263
d) Amortization of unfunded liability	<u>981,165</u>	<u>981,165</u>
e) City's contribution at beginning of period**	2,081,420	2,114,428
f) Round to nearest thousand	2,081,000	2,114,000

\* *The number that has been displayed is rounded.*

\*\* *The City's contribution can never be less than the amount contributed by the plan participants for the prior fiscal year. This is not reflected in the contribution amounts shown above.*

## Section III

### Supporting Exhibits

#### A. Membership Data

##### Employee Participation: July 1, 2010 - July 1, 2012

The data reported by the Plan Sponsor for this valuation includes 131 active employees who met the Plan's minimum age and service requirements as of July 1, 2012.

<b>Participant Data</b>				
	<b>Active</b>	<b>Terminated Vested</b>	<b>Retired</b>	<b>Total</b>
<b>Total Participants July 1, 2010</b>	<b>132</b>	<b>14</b>	<b>17</b>	<b>163</b>
Adjustments	0	0	0	0
Retirements	-4	-1	+5	0
Terminations				
Vested	0	0	N/A	0
Contributions returned	-3	N/A	N/A	-3
Deaths				
Without death benefit	0	0	0	0
With death benefit	0	0	0	0
New beneficiaries	N/A	0	0	0
Rehires	+1	-1	0	0
New entrants	<u>+5</u>	<u>N/A</u>	<u>N/A</u>	<u>+5</u>
<b>Total Participants July 1, 2012</b>	<b>131</b>	<b>12*</b>	<b>22**</b>	<b>165</b>
<b>Total annual plan salaries</b>				
July 1, 2010	\$8,678,205			
July 1, 2012	8,963,877			
<b>Total annual benefits</b>				
July 1, 2010		\$27,180	\$454,140	
July 1, 2012		16,500	619,493	

\* Includes 11 participants who are only vested in their employee contributions.

\*\* Includes an Alternate Payee under a QDRO.

**Section III**  
**Supporting Exhibits**  
(continued)

<b>Age, Service, Salary Information for 2012</b>																						
<b>City of Danbury Post-1983 Police Pension Plan</b>																						
<b>Completed Years of Credited Service</b>																						
<b>Attained Age</b>	<b>Under 1</b>		<b>1 to 4</b>		<b>5 to 9</b>		<b>10 to 14</b>		<b>15 to 19</b>		<b>20 to 24</b>		<b>25 to 29</b>		<b>30 to 34</b>		<b>35 to 39</b>		<b>40 and over</b>		<b>All years</b>	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	1	11,082																			1	11,082
25 to 29	2	11,066	4	64,314	1	68,736															7	49,732
30 to 34	1	21,354	3	66,605	9	68,649															13	64,539
35 to 39			2	68,490	11	66,536	5	75,432	3	79,499											21	70,692
40 to 44	1	19,987	2	66,813	9	68,482	9	73,337	12	75,854	4	79,642									37	71,859
45 to 49					2	38,544	2	71,400	3	78,392	12	77,511	8	84,524							27	76,348
50 to 54					2	62,594	4	70,619	3	74,414	1	72,456	9	79,463							19	74,660
55 to 59					1	121,937			1	72,246	3	79,437									5	86,499
60 to 64																						
65 to 69													1	58,357							1	58,357
70 & over																						
All ages	5	14,911	11	66,152	35	67,401	20	73,123	22	76,337	20	77,974	18	80,540							131	71,086

## Section III

### Supporting Exhibits (continued)

#### B. Assets

#### Development of Asset Market Values (Valuation Exhibit C)

<b>Summary of Fund Activity</b>		
	<b>July 1, 2010 - June 30, 2011</b>	<b>July 1, 2011 - June 30, 2012</b>
<b>1. Beginning market value</b>		
a. Trust assets	\$ 14,602,015	\$ 17,837,814
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a) + (b) - (c)	14,602,015	17,837,814
<b>2. Contributions</b>		
a. City Contributions during year	1,047,000	1,420,288
b. Employee contributions during year	442,507	408,677
c. Change in accrued contribution	0	0
d. Total for plan year	1,489,507	1,828,965
<b>3. Disbursements</b>		
a. Benefit payments during year	474,785	556,689
b. Change in benefits payable	0	0
c. Total for plan year	474,785	556,689
<b>4. Net investment return</b>		
a. Interest and dividends	280,618	332,830
b. Realized & Unrealized gain (loss)	1,995,802	(762,608)
c. Expenses	(55,343)	(60,834)
d. Total	2,221,077	(490,612)
<b>5. Ending market value</b>		
a. Trust assets: (1a) + (2a) + (2b) - (3a) + (4d)	17,837,814	18,619,478
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Net: (a) + (b) - (c)	17,837,814	18,619,478
<b>6. Approximate rate of return</b>	14.7%	-2.7%

## Section III

### Supporting Exhibits (continued)

#### B. Assets (continued)

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

The Actuarial Value will be adjusted (if necessary) to be within 70% to 130% of Market Value.

<b>Determination of the Actuarial Value of Assets</b>		
1.	Actuarial value of assets at July 1, 2010	\$ 17,189,830
2.	Contributions for 2011	1,489,507
3.	Disbursements during 2011	(474,785)
4.	Expected return during 2011	<u>1,373,920</u>
5.	Expected actuarial asset value at July 1, 2011	19,578,472
6.	Market value July 1, 2011	17,837,814
7.	Appreciation (depreciation) capitalized 20% x [(6) - (5)]	(348,132)
8.	Actuarial asset value at July 1, 2011 (5) + (7)	19,230,340
9.	Contributions for 2012	1,828,965
10.	Disbursements during 2012	(556,689)
11.	Expected return during 2012	<u>1,532,621</u>
12.	Expected actuarial asset value at July 1, 2012	22,035,237
13.	Market value July 1, 2012	18,619,478
14.	Appreciation (depreciation) capitalized 20% x [(13) - (12)]	(683,152)
15.	Actuarial asset value at July 1, 2012	21,352,085
16.	Actuarial value as a percent of market value	114.7%
	2010-2011 Year return on Actuarial Value of Assets	6.0%
	2011-2012 Year return on Actuarial Value of Assets	4.4%

## **Section IV**

### **Actuarial Cost Methods and Assumptions**

#### **A. Actuarial Cost Methods**

##### **Asset Valuation Method**

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. The Actuarial Value is adjusted, if necessary, to be within the range of 70% to 130% of the Market Value of assets.

##### **Actuarial Funding Method**

The actuarial valuation method used in the cost calculations is the Projected Unit Credit Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of two pieces:

- a. Normal Cost - The actuarial cost to fund benefit units earned during the year.
- b. Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial liability.

##### **Process**

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City contributions for the fiscal years ending in 2014 and 2015. To accomplish this objective, we apply the City's Normal Cost Accrual Rate from the valuation year, to the estimated payroll for the target year to determine the Normal Cost for that year. We assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions

Changes in Actuarial Assumptions as of July 1, 2012:

The valuation reflects changes in the actuarial assumptions listed below. (The assumptions used before and after these changes are more fully described in the subsequent pages.)

- Interest
- Salary Scale
- Employee Disability

The actuarial assumptions used in the determination of costs and liabilities are as follows:

Interest: 7.25% compounded annually, net of investment expenses.

Prior Valuation: 8% compounded annually, net of investment expenses.

Mortality: Active/Regular Retirement:

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.

Disabled:

RP-2000 Disabled Mortality Table with separate male and female rates, with no collar adjustment.

Mortality Improvement: Active/Regular Retirement:

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

Disabled:

None.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions (continued)

Salary Scale: Graded scale 5% at age 20 down to 3% at age 60 and beyond.

Prior Valuation: It is assumed that salaries will increase by 4% per annum (compounded) from present age to Normal Retirement Age.

Employee Turnover: Table T-1 by Crocker, Sarason and Straight

Rates of termination illustrated as follows:

Percentage of Employees Terminating  
Prior to End of Year

<u>Age</u>	<u>Rate</u>
25	4.89%
30	3.70
35	2.35
40	1.13
45	0.27
50	0.00

Retirement Age: Earlier of age 65 or hire age plus 32.

Expense Loading: We have included the estimated actuarial fees in the Normal Cost each year.

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions (continued)

Cost-of-Living: Pension payments are assumed to increase 2% per year payable starting the first of the month following the completion of:

Five years of retirement or

One year of retirement for service connected disability.

Employee Disability: 6 x 1955 UAW Disability Table

Rates of disability illustrated as follows:

#### Percentage of Employees Becoming Disabled Prior to End of Year

Age	Male	Female
25	0.18%	0.30%
30	0.24	0.36
35	0.30	0.48
40	0.42	0.60
45	0.60	0.90
50	1.08	1.56
55	2.16	2.94
60	5.40	7.26

*100% of disabilities are assumed to be service related*

## Section IV

### Actuarial Cost Methods and Assumptions (continued)

#### B. Actuarial Assumptions (continued)

Employee Disability: Prior Valuation: 3 x 1955 UAW Disability Table

Rates of disability illustrated as follows:

#### Percentage of Employees Becoming Disabled Prior to End of Year

Age	Male	Female
25	0.09%	0.15%
30	0.12	0.18
35	0.15	0.24
40	0.21	0.30
45	0.30	0.45
50	0.54	0.78
55	1.08	1.47
60	2.70	3.63

*100% of disabilities are assumed to be service related*

## Section V

### Summary of Current Principal Pension Plan Provisions

*This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.*

Effective Date:	Original Plan - April 20, 1983.
Eligibility:	Hired by Police Department after April 20, 1983 and contributing to the Plan
Compensation:	Total straight-time wages paid by the City.
Average Compensation:	The average annual compensation during the three highest-paid years of service.
Normal Retirement Age:	Age 65
Credited Service:	Latest period of continuous service during which the participant contributes.
Normal Retirement Benefit:	Effective March 19, 2007, three percent of Average Compensation per year of service for the final five years of service, and two percent of Average Compensation per year of service prior to the final five years, but in no case greater than sixty-eight percent of pay.
Early Retirement:	25 years of Credited Service or Age 55. Normal Retirement Benefit formula applies.
Vesting:	15 years of service and employee contributions remain in plan.
Employee Contributions:	4.5% of Compensation, refundable upon death or termination. These contributions do not receive any interest credit.

## Section V

### Summary of Current Principal Pension Plan Provisions (continued)

Disability (service-connected):	50% of Average Compensation offset by Workers' Compensation that exceeds 50% of Average Compensation.
Death Benefit during Active Employment:	50% of Average Compensation payable to widow until death or remarriage.
Death Benefit after Retirement:	50% of the annuitant's retirement benefit payable to widow until death or remarriage.
Cost of Living	2% per year after the completion of five years of retirement or one year of disability retirement.

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