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Town of Trumbull Police Retirement Income Plan

Actuarial Report for ERISA
Cash Contribution Purposes

July 1, 2010

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January 26, 2011

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Certification

This report presents the results, as of July 1, 2010, of the biennial actuarial valuation for the Town of Trumbull Police Benefit Plan. The valuation has been performed in accordance with generally accepted actuarial principles and practices. In this report we have reflected changes since the prior valuation in the actuarial cost methods.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by Bank of America. 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.

This report values the retirement benefits provided by the Town of Trumbull for its Police officers which have been included in prior actuarial valuations. It reflects the plan in accordance with negotiated contracts.

In my opinion, this valuation fairly reflects the actuarial position of the Town of Trumbull Police Benefit Plan. I certify that the funding methods and assumptions that are the basis of this valuation are reasonable, and that the assumptions represent my best estimate of anticipated experience under the Plan.

Ronald O. Schlee, F.S.A.
Enrolled Actuary (No. 08-3301)

January 26, 2011

Introduction

Purpose of the Valuation

The purpose of the valuation is to determine the range of cash contributions for the plan year.

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,

$$\boxed{\textit{ultimate cost} = \textit{benefits paid} + \textit{expenses incurred} - \textit{investment return} - \textit{employee contributions}}$$

The actuarial cost method distributes this ultimate cost over the working lifetime of current plan participants. By means of this budgeting process, costs are allocated to both past and future years, and a cost is assigned to the current year. The current year's allocated cost, or normal cost, is the building block upon which the range of annual cash contributions is developed.

Information Available in the Valuation Report

The Executive Summary and Valuation Highlights are intended to emphasize the notable results of the valuation from the perspective of the Plan Sponsor. Supporting technical detail is documented in Valuation Exhibits and Actuarial Basis. A concise summary of the principal provisions of the Plan is outlined in Plan Provisions.

Executive Summary

Police Contribution for 2010-2011

The actuarial valuation as of July 1, 2010 produces the contribution for the 2010-2011 Plan Year. The actuarially calculated contribution payable for the Police (after allowing for employee contributions) follows:

2010-2011		2008-2009	
Amount	**% of Payroll**	**Amount**	**% of Payroll**
$3,474,000	62.7%	$2,594,000*	51.6%*
(based on 2010 wages)		(based on 2008 wages)	

** Revised based on retiree corrections.*

The contribution includes an amount sufficient to amortize the Unfunded Actuarial Accrued Liability in 15 level payments.

The primary reasons for the increase in the contribution are as follows:

- the asset return, on an actuarial or "smoothed" valuation basis, being less than assumed
- the Town not contributing the calculated contribution during the past two years

The following sections discuss these and other factors in greater detail.

Asset Performance

The plan's assets provided the following rates of return during the last two plan years:

	2009-2010	2008-2009
Market value basis	11.5%	(9.5)%
Actuarial value basis*	1.7%	1.1%

** Four year moving average of realized and unrealized appreciation/depreciation.*

The Actuarial Value of assets, rather than the Market Value, is used to determine plan contributions. The use of the Actuarial Value smoothes fluctuations that are inherent in the Market Value.

The last two valuations used a long-term investment return assumption of 8.0% on the Actuarial Value of assets. Because the actual return on the Actuarial Value of assets over the last two years was less than this assumption, an actuarial loss of approximately $4.6 million resulted.

Participant Data

The valuation incorporates assumptions anticipating changes in the demographics of the participant population. Actual experience will produce greater or smaller than expected increases in the actuarial liabilities. In total, the change in participant demographics produced an actuarial gain of about $1.0 million. The gain resulted from smaller than assumed increases in compensation (and thus the post-retirement escalator) being partially offset by the low turnover and mortality experienced.

Demographic Changes

The following fully summarizes the expected and actual demographic changes during the 24-month period ending June 30, 2010:

	Expected 2008-2010	**Actual 2008-2010**	**Expected 2010-2012**
Active			
Turnover	3.9	0	2.9
Deaths	0.3	0	0.3
Disabilities	0.8	0	1.0
Retirees and beneficiaries			
Deaths	1.9	0	2.3
Terminated vesteds			
Deaths	0.0	0	0.0

Plan Changes

There were no changes made to the Plan.

Assumption and Method Changes

There have been no changes made in the following:

- Actuarial assumptions
- Actuarial cost method
- Asset valuation method

Valuation Highlights

	July 1, 2010	July 1, 2008
Number of participants		
Active	72	71
Terminated vested	0	0
Retired and beneficiaries	44	43*
Total	116	114*
Total plan salaries	$5,542,000	$5,029,000
Average plan salary	76,970	70,830
Actuarial present value of future benefits	66,423,800	59,723,000*
Asset value		
Market	32,573,000	32,867,760
Actuarial	33,497,000	33,154,094
Normal cost**		
In dollars	1,207,000	934,000
As percentage of payroll	21.8%	18.6%
Contribution		
In dollars	3,474,000	2,594,000*
As percentage of payroll	62.7%	51.6%*

* *Revised based on retiree corrections*

** *Net of participant contributions*

Exhibit A

Participant Data

Participant Data					
	Active	**Terminated Vested**	**Retired**	**Beneficiaries**	**Total**
Total participants July 1, 2008	71	0	30	9	110
Adjustments	0	0	+5*	-1	+4
Retirements	-1	0	+1	0	0
Terminations					
Vested	0	0	N/A	N/A	0
Non-vested	0	N/A	N/A	N/A	0
Deaths					
Without death benefit	0	0	0	0	0
With death benefit	0	0	-1	0	-1
New beneficiaries	N/A	0	N/A	+1	+1
Rehires	0	0	N/A	0	0
New entrants	+2	N/A	0	N/A	+2
Total participants July 1, 2010	72	0	35	9	116
Vested status					
Fully vested	47				
Not vested	25				
Total annual plan salaries					
July 1, 2010**	$5,542,476				
July 1, 2008*	5,028,754				
Total annual benefits					
July 1, 2010		$0	$1,561,656	$275,056	
July 1, 2008		0	1,325,972	246,990	

* *Buckley, Feller, Paoletti, Timchak, Collins*
** *Includes 4.92% increase for holiday pay*

Town of Trumbull Police
Age/Service Chart (as of 6/30/2010)

	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	
Attained Age	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	Total
Under 25											
25 to 29		5	1								6
30 to 34		4	6	1							11
35 to 39			3	6	2						11
40 to 44			3	3	2	4					12
45 to 49					1	8	1				10
50 to 54						4	10	1			15
55 to 59											
60 to 64								1	3	1	5
65 to 69								1		1	2
70 & over											
Total		9	13	10	5	16	11	3	3	2	72

Exhibit B

Actuarial Balance Sheet

The key elements of the actuarial funding process are illustrated in the Actuarial Balance Sheet. The format of the balance sheet captures the essential purpose of an actuarial cost method - the determination of assets sufficient to provide for pension benefits. The valuation components illustrated below are for the Projected Unit Credit Cost Method.

The actuarial present value of current and prospective plan benefits is the liability that must be balanced by current and prospective assets. The Present Value of Future Employer Normal Cost Contributions is the balancing item. It represents the prospective assets from contributions that will be made for costs allocated to the future.

	July 1, 2010	**July 1, 2008**
1. Liabilities		
Actuarial present value of future benefits		
a. Active participants	$42,137,066	$36,360,693
b. Terminated vested participants	0	0
c. Retired participants and beneficiaries	24,286,741	23,362,141*
d. Total	66,423,807	59,722,834*
2. Assets		
a. Actuarial value of assets	$33,497,118	$33,154,094
b. Prospective valuation assets		
i. Unfunded Actuarial Accrued Liability	20,959,186	15,346,241*
ii. Present Value of Future Employer Normal Costs	9,793,297	9,164,460*
iii. Present Value of Future Employee Normal Costs	2,174,206	2,058,039
c. Total	66,423,807	59,722,834*

* *Revised*

Exhibit C

Development of Asset Values

The Actuarial Value of assets is used in the determination of plan contributions. It phases in recognition of gains and losses. 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 smoothing is accomplished by recognizing gains and losses over a four-year period at 25% per year.

Relationship of Actuarial Value to Market Value

1. Market value 7/1/2010	$	32,572,998
2. Capital appreciation not recognized in actuarial value 7/1/2010		(924,120)
3. Preliminary actuarial value 7/1/2010: (1)-(2)		33,497,118
4. Preliminary actuarial value as a percentage of market value: (3)÷(1)		102.8%
5. Capital appreciation recognized for corridor min/max		N/A
6. Actuarial value 7/1/2010 after corridor min/max: (3)+(5)		33,497,118
7. Actuarial value as a percentage of market value: (6)÷(1)		102.8%

Recognition of Capital Appreciation in Actuarial Value

Year	(a) Capital appreciation	(b) Recognized as of 7/1/2009	(c) Recognized in current year: 25% of (a)	(d) Total recognized as of 7/1/2010: (b)+(c)	(e) Not recognized as of 7/1/2010: (a)–(d)
2006-2007	$ 3,098,108	$ 2,323,581	$ 774,527	$ 3,098,108	$ 0
2007-2008	(2,649,349)	(1,324,674)	(662,337)	(1,987,011)	(662,338)
2008-2009	(4,266,986)	(1,066,747)	(1,066,747)	(2,133,494)	(2,133,492)
2009-2010	2,495,614	0	623,904	623,904	1,871,710
Total			(330,653)		(924,120)

Exhibit C
continued

Asset Development

	2009-2010	2008-2009
1. Market Value of Assets, July 1	$29,424,393	$32,867,760
2. Adjustment	0	0
3. Income, July 1 to June 30		
a. Employer contributions	1,250,000	1,150,000
b. Employee contributions	305,956	304,393
c. Investment income	999,132	1,256,943
d. Net realized and unrealized gains/(losses)	2,495,614	(4,266,986)
e. Total income: (a) + (b) + (c) + (d)	5,050,702	(1,555,650)
4. Outgo, July 1 to June 30		
a. Annuity benefits paid	1,806,604	1,797,596
b. Refunds	0	0
c. Expenses – Investment related	95,458	90,116
d. Expenses – Administrative	35	5
e. Foreign taxes	0	0
f. Total outgo: (a) + (b) + (c) + (d) + (e)	1,902,097	1,887,717
5. Market value of assets, June 30: (1) + (2) + (3) – (4)	32,572,998	29,424,393
6. Accrued contribution	N/A	N/A
7. Total	32,572,998	29,424,393

Development of Asset Values

Rate of Return on Market Value of Assets				
	Average Annual Effective Rate of Return			
Period Ending June 30	1 Year	3 Years	5 Years	10 Years
1994	1.8%			
1995	16.2%			
1996	14.7%			
1997	19.9%			
1998	18.0%			
1999	12.0%			
2000	0.8%			
2001	5.7%			
2002	-3.6%			
2003	3.3%			
2004	12.4%			
2005	5.4%			
2006	5.8%			
2007	14.1%			
2008	-3.5%			
2009	-9.5%			
2010	11.5%	-0.9%	3.3%	3.9%

Rate of Return on Actuarial Value of Assets				
	Average Annual Effective Rate of Return			
Period Ending June 30	1 Year	3 Years	5 Years	10 Years
1994	8.1%			
1995	10.3%			
1996	18.5%			
1997	14.2%			
1998	17.4%			
1999	15.7%			
2000	0.8%			
2001	8.5%			
2002	3.2%			
2003	0.9%			
2004	3.9%			
2005	4.5%			
2006	6.9%			
2007	9.6%			
2008	5.8%			
2009	1.1%			
2010	1.7%	2.8%	5.0%	4.6%

Exhibit D

Development of Unfunded Accrued Liability and Funded Ratio

	July 1, 2010	July 1, 2008
Accrued liability		
Active Members	$30,169,563	$25,138,195
Terminated Vested Members	0	0
Retired Members and beneficiaries	24,286,741	23,362,141*
TOTAL	54,456,304	48,500,335*
Plan Assets - Actuarial Value	33,497,118	33,154,094
Unfunded Accrued Liability	20,959,186	15,346,241
Funded Ratio (Plan Assets divided by Total Accrued Liability)	61.5%	68.4%

* *Revised*

Exhibit E

Contribution

Based on the employee data and asset information furnished us, and the plan provisions and the actuarial methods and assumptions outlined later in the report, we have developed the contribution for the Police as shown below:

	July 1, 2010		July 1, 2008	
		% of Covered Payroll		% of Covered Payroll
1. Total normal cost	$1,540,000	27.8%	$1,236,000	24.6%
2. Total trust expenses	0	0.0%	0	0.0%
3. Estimated employee contributions*	333,000	6.0%	302,000	6.0%
4. Town's net normal cost: (1)+(2)-(3)	1,207,000	21.8%	934,000	18.6%
5. Annual amortization payment				
a. Towards unfunded actuarial liability	2,267,000	40.9%	1,660,000*	33.0%**
b. Years in amortization period	15		15	
6. Town's total contribution: (4)+(5a)	3,474,000	62.7%	2,594,000*	51.6%**
7. Covered payroll (all members)	5,542,000		5,029,000	

Percentages indicate contribution expressed as a percent of the covered payroll shown in item 7.

* *No contribution is assumed for employees at or beyond the latest Assumed Retirement Age (later of age 65 with 25 years of service).*

** *Revised*

Accounting Information

The following information provided is based on the Opinion No. 8 of the Accounting Principles Board on "Accounting for the Cost of Pension Plans. GASB #25 and #27 have replaced the requirements of APB No. 8. Nevertheless, we provide this information as a consistent comparison with information provided in prior valuations. This section, together with the rest of the Valuation Report, should supply sufficient information to Auditors.

A requirement of APB No. 8 is to disclose the amount of your Unfunded Actuarial Vested Liability. The actuarially computed value of vested benefits represents the present value, at the date of determination, of the sum of (a) benefits payable to retired and disabled employees; and (b) the benefits expected to become payable to former employees who have terminated service with vested rights, at the date of determination; and (c) the benefits, based on service rendered prior to the date of determination, expected to become payable at future dates to present employees who meet vesting eligibility requirements, taking into account the probable time that employees will retire.

	July 1, 2010	**July 1, 2008**
Actuarial present value of vested benefits		
Retired employees and beneficiaries	$24,286,741	$23,362,141*
Terminated vested employees	0	0
Active employees with vested interest including accumulated employee contributions for non-vesteds	21,033,297	16,754,684
Total	45,320,038	40,116,825*
Actuarial present value of non-vested benefits	4,184,796	3,069,336
Actuarial present value of accumulated plan benefits	49,504,834	43,186,161*
Market Value of Assets (includes accrued contribution)	32,572,998	32,867,760
Unfunded actuarial liability	16,931,836	10,318,401*
Ratio of assets to total actuarial liability	65.8%	76.1%*

* *Revised.*

Assumptions were the same as those used on the respective July 1 actuarial valuation (see page 16).

Description of Actuarial Methods

Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in recognition of capital appreciation, i.e., realized and unrealized gains and losses. Capital appreciation is recognized over a four-year period at 25% per year for assets held in Equity Accounts. The Actuarial Value will also fall within the range of 90% to 110% of the Market Value of Assets.

Actuarial Cost Method

Description of Current Actuarial Cost Method:

1. Basic cost method: Projected Unit Credit Actuarial Cost Method for all benefits except vesting. The allocation of projected benefits between past years and future years is in proportion to the applicable rates of benefit accrual under the Plan.

2. The costs of benefits associated with anticipated vested terminations is approximated as a percentage of the cost of anticipated normal retirement benefits.

Description of Actuarial Assumptions

Investment return

Valuation

Pre-retirement

8.0% per year.
(Net of investment management fees.)

Post-retirement

8.0% per year.
(Net of investment management fees.)

Salary increases

For determination of benefits

4.5% per year.

Entry date

First of the month coincident with or next following Date of Hire.

Retirement age

Age*	**Rates**
47	30%
48 – 54	20%
55 – 59	25%
60 – 64	30%
65+	100%

** Assumes 25+ years of service at each age.*

Mortality

1994 Uninsured Pensioners Mortality Table, with rates projected to 2012 (separate rates for males and females).

Termination prior to retirement

Age	**Sample Rates**
20	7.5%
25	6.4
30	5.4
35	4.3
40	3.2
45	2.1
50	1.1
55	0.0

Cost of living adjustment	
Retirees	4.5% per year compounded annually.
Actives	4.5% per year compounded annually.
Disability	Annual rates of disablement equal to ½ of the 1985 Pension Disability Table Class 4 rates for males and females (shown at sample ages):

Rate of Disablement

Age	Male	Female
20	.000885	.000520
30	.001830	.001495
40	.003465	.003175
50	.006770	.006635
60	.017170	.012345

Expenses	Trust expenses have been added to the Normal Cost.
Termination before retirement	Costed directly. 50% of anticipated terminations assumed to withdraw own contributions; 50% assumed to leave contributions in the plan and receive retirement benefit.
Percent married	80%.
Age of spouse	Spouse 3 years younger than officer.
Other	75% of deaths and disablements are assumed to be occupational and 25% are assumed to be non-occupational.

Outline of Principal Plan Provisions

Latest contract agreement:	July 1, 2007 – June 30, 2011.
Employees covered:	Each employee covered by the collective bargaining agreement between the Town of Trumbull and Trumbull Police Union Local 1745, Council #15, AFSCME, AFL-CIO.
Eligibility:	Any covered employee.
Employee contributions:	6% of salary. Interest of 5.5% per year compounded semi-annually.
Service:	Continuous employment with the Town.
Normal retirement:	
Eligibility:	Effective July 1, 1992: Age 47 and 25 years of Service.
Benefit (effective 11/2008):	2% of base salary plus holiday pay multiplied by years of Service for the first 25 years of Service, plus an additional 1.25% for each full 3 months of Service after 25 years up to a maximum of 75% of base salary plus 12 days of holiday pay.
Post-retirement escalator:	Each year the benefit will be increased by an annual amount equal to 50% of the increase in the annual pay of an active member in the same position held by said retired member at time of his/her retirement. If less than 25 years at retirement, the escalator will be pro-rated.
Late retirement:	
Eligibility:	Past normal retirement date.
Benefit:	Normal Retirement Benefit based on Service and pay at actual retirement date.

Job related disability:

Eligibility:	Permanently disqualified for active duties of the Police Department through mental or physical disability incurred in the discharge of job-related duties. Members are transferred to an honorary grade of the Veteran Reserve.
Benefit (effective 11/2008):	Benefit shall be the greater of 50% of annual base salary at the time of retirement plus holiday pay or 2% of annual base salary plus holiday pay per year of service with the department. The post retirement escalator above applies to this benefit also. Benefit commences at date of disability.
Post-retirement escalator:	Each year the benefit shall be increased by an annual amount equal to 50% of each increase in the annual pay of an active member in the same position held by said retired member at time of his/her retirement.

Non-job related disability benefit:

Eligibility:	Total and permanent disability and completed 10 years of Service.
Benefit (effective 11/2008):	2% of base salary plus holiday pay multiplied by years of service. Benefit commences at date of disability.

Vesting:

Eligibility:	10 years of Service.
Benefit (effective 11/2008):	At Normal Retirement Date, Normal Retirement Benefit based on base salary, 12 days of holiday pay and Service to date of termination. Employee contributions must remain in the Plan or Vesting Benefit will be lost. Cash refund of contribution, with credited interest to date of termination, for non-vested terminations and vested terminations who agree to forfeit retirement benefit.

	If a vested employee dies prior to benefit commencement, the surviving spouse shall receive 50% of the employee's accrued pension payable for life beginning on the date the member would first have been eligible to retire.
Death benefits:	
Pre-retirement:	On-line: Widow's/widower's benefit equal to one-half of the benefit determined as if the employee had been disabled on the day before death occurred. Payments continue until death or re-marriage. Upon death of widow/widower before remarriage or, if there is no widow/widower, the benefit is payable to children under 18. (If no children, the Board may award the benefit to dependent parents or blood relations of the first degree, provided the employee was the sole support.) Off-job: If more than 10 years of Service, widow/widower's benefit equals the full benefit determined as if the employee had been disabled on the day before death occurred. Payments continue until death or remarriage. Upon death of widow/widower before marriage or if there is no widow/widower, the benefit is payable to children under the age of 18.
Post-retirement:	Widow's/Widower's benefit equal to one-half of the pension of the retiree (Payments continue until death or remarriage then continued to children under the age of 18, if any.)
Active military service buyback:	
Eligibility:	Within 60 days of signing of agreement, any employee with honorable active Military Service.
Benefit:	A maximum of four (4) years additional service credit to be applied ***after*** the completion of 25 years of service and age 47. Additional pension benefits are equal to 1½% for each year purchased, subject to the maximum pension of 75%.
Contributions:	Buyback through payroll deduction or a one-time bulk payment. Buyback contributions refunded with interest if employee terminates before the required 25 years and age 47.