

November 2011

Actuarial Valuation Report as of  
June 30, 2010 for Fiscal Years Ending  
June 30, 2011 and June 30, 2012  
The Funded Retirement Plan of the Town of  
New Canaan, Connecticut

**MERCER**

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Mr. Gary Conrad  
Chief Financial Officer and Controller  
Town of New Canaan  
Finance Department – Town Hall  
77 Main Street  
New Canaan, CT 06840  
November 9, 2011

Subject: Actuarial valuation report

Dear Gary:

Submitted in this report are the June 30, 2010 actuarial valuation results for the Funded Retirement Plan of the Town of New Canaan, Connecticut (“Plan”). The purposes of this report are to:

- Present Mercer’s actuarial estimates of the Plan’s liabilities and expenses as of June 30, 2011 for the Town of New Canaan to incorporate, as the Town of New Canaan deems appropriate, in its financial statements; and
- Provide employer contribution rates for the fiscal years ending June 30, 2011 and June 30, 2012

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

Respectfully submitted,

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Principal

## 1. Report highlights

Below are highlights of the results from the June 30, 2010 valuation and a comparison to the last actuarial valuation as of June 30, 2008.

### Contributions

Contributions	Fiscal year ending		
	June 30, 2012	June 30, 2011	June 30, 2010
Annual required contribution (ARC) with interest to end of fiscal year	\$ 2,994,550	\$ 2,883,369	\$ 0

GASB permits a valuation completed in the prior 18 months to be used for a fiscal year contribution requirement. Therefore, the June 30, 2010 valuation can also be used to determine the contribution for the fiscal year ending June 30, 2012.

### Plan experience during prior plan year

During the 2008 and 2009 plan years, the plan experienced an actuarial loss of \$16,175,443. The primary driver of the plan's loss is the loss on assets of \$15,434,731 due to market returns less than assumed. Additionally, the plan's liabilities experienced a loss of \$740,712 due mostly to inactive experience being less favorable than assumed.

The funded ratio decreased from 135.0% as of June 30, 2008 to 103.7% as of June 30, 2010, based on the actuarial value of assets. On a market value of assets basis, the funded percent decreased from 125.3% as of June 20, 2008 to 89.1% as of June 30, 2010. The majority of the decrease in the funded ratios was due to a decrease in the value of assets (actuarial and market) during this period.

Due to the asset smoothing method used, the actuarial value of assets (AVA) used to determine the employer contribution rate in this valuation exceeds the market value of assets (MVA) by 16%. Absent future investment gains to offset the investment losses being smoothed, future employer contributions will increase as past investment losses become recognized. If asset smoothing methods were not used for this valuation, the employer contribution rate for the fiscal year ending June 30, 2011, based on the market value of assets, would have been \$4,506,859 rather than of \$2,883,369 for the fiscal year ending June 30, 2011.

Participant counts changed slightly from the prior valuation. Between June 30, 2008 and June 30, 2010, the number of active participants increased from 448 to 457. During the same time period, the number of retirees and beneficiaries increased from 182 to 205. The number of vested terminated participants with deferred benefits increased from 173 to 179

and the number of annuity participants who are entitled to benefits funded by the Plan decreased from 16 to 14.

## Changes in plan provisions

### ***Cost-of-living adjustment***

Effective January 1, 2010, a cost-of-living adjustment (COLA) was granted to all current retirees, beneficiaries and annuity purchase participants. The amount of the COLA is equal to the number of whole years that have elapsed since January 1, 2007, or the participant's commencement date if later, and January 1, 2009, times a COLA of 2% for the first full year and 1% for the next full year (with a maximum of 3% in total).

The COLA increased the accrued liability of the plan by \$976,338.

### ***DPW plan provisions***

Effective January 1, 2011, all active participants employed by the Department of Public Works (DPW) hired prior to the effective date will receive a 2.25% credit for each year of service going back to his or her original date of hire. The new benefit formula is as follows:

2.25% times average earnings

**times**

Credited service at retirement up to a maximum of 30 years

Additionally, effective January 1, 2011, the DPW member contributions are increased from 1% to 1.5% of earnings.

This change increased the accrued liability of the plan by \$902,648.

## Changes in actuarial assumptions

The mortality assumption was updated from the RP2000 combined healthy no collar table projected to 2010 to the same table projected to 2017 to reflect mortality improvements. This increased the actuarial accrued liability by \$939,413.

To better reflect the long term rate of return expected based on the allocation of the plan's assets, the discount rate was lowered from 7.0% to 6.5%. This change increased the accrued liability by \$5,409,740.

## Changes in actuarial methods

There have been no changes in actuarial methods since the last actuarial valuation as of June 30, 2008.

The valuation results also reflect an upgrade to the valuation software that includes several technical corrections. These corrections impacted the valuation of death benefits,

the valuation of the refund of contributions, the withdrawal benefit, and the disability benefit.

These changes increased the accrued liability by less than 1.0%.

## 2. Important notices

Mercer has prepared this report exclusively for the Town of New Canaan. Mercer is not responsible for reliance upon this report by any other party. Subject to this limitation, the Town of New Canaan may direct that this report be provided to its auditors.

The only purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses for the Town of New Canaan to incorporate, as the Town of New Canaan deems appropriate, in its financial statements.
- Provide employer contribution rates for the fiscal years ending June 30, 2011 and June 30, 2012

This report may not be used for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

The plan sponsor is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to the plan sponsor.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

To prepare the valuation report, actuarial assumptions, as described in Section 8, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At the Town of New Canaan's request, Mercer is available to perform such a sensitivity analysis.

Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely "correct" level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and

data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year's valuation.

Certain actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by the Board. The plan sponsor is responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in Sections 7 and 8. The plan sponsor is solely responsible for communicating to Mercer any changes required thereto.

To prepare this report Mercer has used and relied on financial data and participant data supplied by the Town of New Canaan and summarized in the valuation report in Sections 5 and 6. The Town of New Canaan is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of June 30, 2010 that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has also used and relied on the plan documents, including amendments, and interpretations of plan provisions, supplied by the Town of New Canaan as summarized in the valuation report in Section 9. We have assumed for purposes of this valuation that copies of any official plan document including all amendments and collective bargaining agreements as well as any interpretations of any such document have been provided to Mercer along with a written summary of any other substantive commitments. The Town of New Canaan is solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

The Town of New Canaan should notify Mercer promptly after receipt of this report if The Town of New Canaan disagrees with anything contained in the report or is aware of any information that would affect the results of the report that has not been communicated to Mercer or incorporated therein. The report will be deemed final and acceptable to The Town of New Canaan unless The Town of New Canaan promptly provides such notice to Mercer.

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

### 3. Valuation results

Under the Town's funding policy, plan contributions are 1% of payroll, subject to an actuarially determined minimum. The minimum contribution is the lesser of the amount needed to fully fund the plan or the contribution under the Entry Age Normal Method with Frozen Initial Liability (FIL contribution). Calculations relative to these items are provided below and on the following pages.

#### ***Unfunded liability***

As of January 1, 1993, the unfunded frozen initial liability was set equal to \$0 and has remained at \$0 since such time.

Effective January 1, 2010, a cost of living adjustment (COLA) was granted to current retirees. This increase in liability will be added to the unfunded liability creating a balance of \$976,338 as of June 30, 2010. This will be amortized over 15 years using a closed amortization period.

**Development of FIL contribution**

Shown below is the development of the aggregate normal cost and amortization of unfunded for the Retirement Plan as of June 30, 2010 and, for comparison purposes, as of June 30, 2008. The Normal Cost and unfunded liability are determined separately for each of the Town's departments. The exhibit following presents the liabilities, assets, and normal costs for each department.

	June 30, 2011	June 30, 2010	June 30, 2008
1. Present Value of Projected Benefits			
Active Members		\$92,381,354	\$72,698,260
Vested Terminated Members		2,488,258	2,023,405
Retired Members		<u>42,344,114</u>	<u>35,745,416</u>
Total		\$137,213,726	\$110,467,081
2. Actuarial Asset Value		107,442,090	114,454,836
3. Unfunded Liability (Retiree COLA Effective 1/1/2010)		976,338	0
4. Present Value of Future Normal Costs (1. - 2. - 3., not less than \$0)		28,795,298	0
5. Present Value of Future Employee Contributions		2,843,663	2,385,788
6. Present Value of Future Town Normal Costs (4. - 5., not less than \$0)		25,951,635	0
7. Normal Cost Percentage*		12.2739%	0.00%
8. Earnings of Active Members Under the Assumed Retirement Age		21,263,790	20,112,605
9. Normal Cost (7. x 8.)	\$2,714,285**	\$ 2,609,890	\$ 0
10. Amortization of Unfunded Liability	97,499	97,499	0
11. Contribution (9. + 10.)	\$2,811,784	\$ 2,707,389	\$ 0
12. Contribution end of year (11. * 1.065)	\$2,994,550	\$ 2,883,369	\$ 0

\*Determined separately for each subdivision and then aggregated.

\*\*Normal Cost for fiscal year beginning June 30, 2011 is based on June 30, 2010 normal cost with assumed 4% payroll growth.

**Exhibit**  
**Assets, liability and FIL contribution for Town departments**

Assets are allocated to each division based on the Present Value of Benefits less the Present Value of Future Employee Contributions.

**Fiscal year beginning June 30, 2010**

	Present value of benefits	Actuarial value of assets	Unfunded liability	Present value of future employee contributions	Normal costs	Amortization of unfunded liability	FIL annual contribution	FIL annual contribution end of year
Police	\$42,188,197	\$33,548,807	\$425,505	\$ 231,127	\$ 877,562	\$42,492	\$ 920,054	\$ 979,857
Fire	13,700,140	10,857,182	87,985	121,847	273,334	8,786	282,120	300,458
Sewer District	1,404,823	1,102,967	0	25,422	29,381	0	29,381	31,291
Board of Education	32,900,746	24,857,513	146,654	1,813,249	552,486	14,645	567,131	603,994
Library	5,431,054	4,209,406	33,129	166,654	121,952	3,308	125,261	133,402
Others	<u>41,588,766</u>	<u>32,866,215</u>	<u>283,065</u>	<u>485,364</u>	<u>755,174</u>	<u>28,267</u>	<u>783,442</u>	<u>834,365</u>
Total	\$137,213,726	\$107,442,090	\$976,338	\$2,843,663	\$2,609,890	\$97,499	\$2,707,389	\$2,883,369

**Fiscal year beginning June 30, 2011**

	Present value of benefits	Actuarial value of assets	Unfunded liability	Present value of future employee contributions	Normal costs*	Amortization of unfunded liability	FIL annual contribution	FIL annual contribution end of year
Police					\$ 912,665	\$42,492	\$ 955,156	\$ 1,017,242
Fire					284,267	8,786	293,054	312,102
Sewer District					30,557	0	30,557	32,543
Board of Education					574,585	14,645	589,230	627,530
Library					126,830	3,308	130,139	138,598
Others					<u>785,381</u>	<u>28,267</u>	<u>813,649</u>	<u>866,536</u>
Total					\$2,714,285	\$97,499	\$2,811,784	\$2,994,550

\*Normal Cost for fiscal year beginning June 30, 2011 is based on June 30, 2010 normal cost with assumed 4% payroll growth.

**Full funding amount**

Under the Town's funding policy, the minimum contribution to the Retirement Plan is the lesser of the amount need to fully fund the plan or the FIL contribution developed on the prior page. The full funding amount is based on the liabilities under the Entry Age Normal Method (EAN) and is developed below.

1.	Projected liability	<b>June 30, 2011</b>
	a. Accrued liability at beginning of year	\$ 103,621,969
	b. Normal cost (accrual) for plan year	2,969,139
	c. Total liability ( <i>a. + b.</i> )	106,591,108
2.	Assets	
	a. Actuarial value	\$ 107,442,090
	b. Market value (adjusted for refunds)	92,294,520
	c. Lesser of <i>a.</i> and <i>b.</i>	92,294,520
3.	Full funding amount at beginning of year ( <i>1c. – 2c., not less than zero</i> )	\$ 14,296,588
4.	Interest adjustment	929,278
5.	Full funding amount	\$ 15,225,866

**Funding policy contribution**

Under the Town's funding policy, plan contributions are 1% of payroll, subject to an actuarially determined minimum. The minimum contribution is based on the amount needed to fully fund the plan or the contribution under the Entry Age Normal Cost Method with Frozen Initial Liability, if less. The Town's contribution for the fiscal year ending June 30, 2011 is developed below. This contribution can also be used for the fiscal year ending June 30, 2012.

<b>Contribution</b>	<u>2010 rate of pay</u>	<u>1% contribution</u>
1. Police	\$ 3,498,663	\$ 34,987
Fire	1,686,453	16,865
Sewer District	238,235	2,382
Board of Education	9,243,458	92,435
Library	1,153,816	11,538
All Others	<u>7,456,431</u>	<u>74,564</u>
Total	\$ 23,277,056	\$ 232,771
2. Minimum contribution		
a. Full funding amount		15,225,866
b. FIL contribution		2,707,389
c. Lesser of a. and b.		2,707,389
3. Plan year contribution = (1., not less than 2.c.)		2,707,389
4. Pro-rata allocation of plan year		
Contribution by budget line:		
Town ( <i>includes Public Safety</i> )		1,985,616
Sewer District		29,381
Board of Education		567,131
Library		<u>125,261</u>
Total		\$ 2,707,389

## Actuarial experience

**A. Expected assets at June 30, 2010**

1. Actuarial value of assets (AVA) at June 30, 2008	\$ 114,454,836
2. Employee contributions applicable to the 2008 plan year	278,593
3. Benefit payments applicable to the 2008 plan year	(3,553,839)
4. Net interest at 7.0% through June 30, 2009 on:	
a. Actuarial value of assets	8,011,839
b. Contributions (weighted for timing)	9,751
c. Benefit payments (weighted for timing)	(134,750)
d. Total (a. + b. + c.)	7,886,840
5. Expected AVA at June 30, 2009 (1. + 2. + 3. + 4.)	\$ 119,066,430
6. Employee contributions applicable to the 2009 plan year	284,374
7. Benefit payments applicable to the 2009 plan year	(4,618,786)
8. Net interest at 7.0% through June 30, 2010 on:	
a. Actuarial value of assets	8,334,650
b. Contributions (weighted for timing)	9,953
c. Benefit payments (weighted for timing)	(175,129)
d. Total (a. + b. + c.)	8,169,474
9. Expected AVA at June 30, 2010 (5. + 6. + 7. + 8.)	122,901,492
10. Actual AVA of assets at June 30, 2010 <sup>1</sup>	107,466,761
11. Actuarial asset gain/(loss) (10. –9.)	<b>\$ (15,434,731)</b>

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<sup>1</sup> Excluding Accrued Contributions and Unpaid Refunds.

Actuarial experience (*cont'd*)**B. Expected accrued liability at June 30, 2010**

1. Actuarial accrued liability (AAL) at June 30, 2008	\$ 84,806,594
2. Normal cost at June 30, 2008	2,341,442
3. Benefit payments applicable to the 2008 plan year	(3,553,839)
4. Net interest at 7.0% through June 30, 2009 on:	
a. Actuarial accrued liability	5,936,462
b. Normal cost	163,901
c. Benefit payments (weighted for timing)	(134,750)
d. Total (a. + b. + c.)	5,965,613
5. Expected actuarial accrued liability at June 30, 2009 (1. + 2. + 3. + 4.)	\$ 89,559,810
6. Expected normal cost at June 30, 2009	2,505,343
7. Benefit payments applicable to the 2009 plan year	(4,618,786)
8. Net interest at 7.0% through June 30, 2010 on:	
a. Actuarial accrued liability	6,269,187
b. Normal cost	175,374
c. Benefit payments (weighted for timing)	(175,129)
d. Total (a. + b. + c.)	6,269,432
9. Expected actuarial accrued liability at June 30, 2010 (5. + 6. + 7. + 8.)	\$ 93,715,799
10. Liability increases due to changes in assumptions, data, and plan provisions	
a. Plan change - COLA effective January 1, 2010	976,338
b. Plan change - New DPW plan formula	902,648
c. Assumption change - RP2017 mortality table	939,413
d. Assumption change - 6.50% discount rate	5,409,740
e. Technical updates – valuation software	937,319
f. Total (a. + b. + c. + d. + e.)	9,165,458
11. Expected actuarial accrued liability after assumption changes (9. + 10.)	102,881,257
12. Actual actuarial accrued liability	103,621,969
13. Actuarial liability gain (loss) (11. - 12.)	\$ (740,712)

#### 4. GASB disclosures

##### Annual required contribution

Government Accounting Standards Board Statement Number 25 describes the calculation of the Annual Required Contribution (ARC) as the sum of the employer's normal cost and a provision for amortizing the unfunded actuarial liability.

The ARC for the current and previous plan year are as follows, including interest to the end of the year:

	<b>Fiscal year ending</b>		
	<b>June 30, 2012</b>	<b>June 30, 2011</b>	<b>June 30, 2010</b>
Normal cost	\$2,714,285	\$2,609,890	\$0
Amortization of unfunded – 15 Year	97,499	97,499	0
Annual required contribution (ARC)	2,811,784	2,707,389	0
Annual required contribution (ARC) with interest to end of year	\$2,994,550	\$2,883,369	\$0

##### Net pension obligation

Government Accounting Standards Board Statement Number 27 describes the calculation of the Net Pension Obligation (NPO) as the sum of the plan's annual pension costs less the sum of the employer's contributions to the plan.

	<b>Fiscal year ending</b>	
	<b>June 30, 2010</b>	
NPO at BOY *	\$	0
Annual pension cost		0
Actual contributions (employer and employee)		0
NPO at EOY	\$	0

**Annual pension cost**

The Annual Pension Cost is defined as the sum of the employer's Annual Required Contribution and a provision for amortizing the Net Pension Obligation, with an adjustment for interest to the end of the year.

	<b>Fiscal year ending</b>	
	<b>June 30, 2010</b>	<b>June 30, 2009</b>
Annual required contribution at EOY	\$ 0	\$ 0
ARC adjustment (30-Year Amortization) of NPO)	0	0
Interest adjustment on NPO	0	0
Annual pension cost	\$ 0	\$ 0

**Basis of schedules of funding progress – GASB 25**

The information presented in the required Schedule of Funding Progress and Employer Contributions was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation date of June 30, 2010 follows:

<b>Valuation date</b>	<b>June 30, 2010</b>
Actuarial cost method	Entry Age Normal Frozen Initial Liability Method
Amortization method	Level dollar
Amortization period	15 years, closed
Asset valuation method	Actuarial value of assets
Actuarial assumptions:	
Investment rate of return	6.50%
Projected salary increases	Salary increases are based on age as described in Section 8.

Additional supporting information for the 2010 GASB disclosures are shown in the Appendix.

## 5. Plan assets

## Summary of investments

	<b>June 30, 2010 market value</b>	<b>June 30, 2009 market value</b>	<b>June 30, 2008 market value</b>
Cash and cash equivalents	\$ 0	\$ 323,274	\$ 7,705
Short-term investments	0	0	197,706
U.S. government securities	18,391,521	16,516,818	20,199,780
Mutual funds	73,924,310	69,718,799	66,399,664
Corporate bond	0	0	0
Common stock	0	0	0
Inflation indexed securities	0	0	19,332,392
<b>Total investments</b>	<b>\$ 92,315,831</b>	<b>\$ 86,558,891</b>	<b>\$ 106,137,247</b>
Liabilities:	(23,293)	(64,791)	0
Accrued income	\$ 26,653	\$ 26,059	\$ 84,615
<b>Total fund</b>	<b>\$ 92,319,191</b>	<b>\$ 86,520,159</b>	<b>\$ 106,221,862</b>

## Reconciliation of assets

	<b>June 30, 2010</b>	<b>June 30, 2009</b>
Market value at beginning of plan year	\$ 86,520,159	106,221,862
Adjustment to market value	0	(5,869)
Employee contributions	284,374	278,593
Investment income (loss)	10,326,849	(15,921,130)
Administrative expenses	(193,405)	(499,458)
Benefit payments	(4,618,786)	(3,553,839)
<b>Market value at end of year</b>	<b>\$ 92,319,191</b>	<b>86,520,159</b>

**Actuarial value of assets (AVA)**

The value of assets for valuation purposes is the Long-Range Yield Method and is calculated as shown below. Since the last valuation was as of June 30, 2008, development of the AVA unrecognized amount is shown for two years.

1. Market value of assets at June 30, 2008	\$ 106,221,862
2. Contributions during the year	
a. Employer contribution during the year	0
b. Employee contributions during the year	278,593
3. Benefit payments during the year	3,553,839
4. Average market value of assets	104,436,162
5. Expected return (4. * 7.00%)	7,310,531
6. Expected market value	110,257,147
7. Actual market value at June 30, 2009	86,520,159
8. Net change (7. – 6.)	(23,736,988)
9. Unrecognized past experience	

<u>Year incurred</u>	<u>Initial amount</u>	<u>Amortizations</u>	<u>Percent remaining</u>	<u>Unrecognized amount this year</u>	
2009	\$(23,736,988)	\$(4,747,398)	80%	\$(18,989,590)	
2008	(12,645,622)	(2,529,124)	60%	(7,587,373)	
2007	3,795,523	759,105	40%	1,518,209	
2006	(2,208,134)	(441,627)	20%	(441,627)	
Total		\$(6,959,044)		\$(25,500,381)	\$ (25,500,381)

<b>10. Preliminary actuarial value of assets on June 30, 2009</b>	<b>\$ 103,824,191</b>
= (7.– 9.) Not less than 80% of 7. and not greater than 120% of 7.	
<b>11. Less: due and unpaid termination refunds</b>	<b>0</b>
<b>12. Final actuarial value of assets June 30, 2009</b>	<b>\$ 103,824,191</b>
= (10. – 11.)	
Effective yield	(6.52)%

1. Market value of assets at June 30, 2009	\$ 86,520,159
2. Contributions during the year	
a. Employer contribution during the year	0
b. Employee contributions during the year	284,374
3. Benefit payments during the year	4,618,786
4. Average market value of assets	84,160,504
5. Expected return (4. * 7.00%)	5,891,235
6. Expected market value	88,076,982
7. Actual market value at June 30, 2010	92,319,191
8. Net change (7. – 6.)	4,242,209
9. Unrecognized past experience	

<u>Year incurred</u>	<u>Initial amount</u>	<u>Amortizations</u>	<u>Percent remaining</u>	<u>Unrecognized amount this year</u>	
2010	\$4,242,209	\$848,442	80%	\$3,393,767	
2009	(23,736,988)	(4,747,398)	60%	(14,242,193)	
2008	(12,645,622)	(2,529,124)	40%	(5,058,249)	
2007	3,795,523	759,105	20%	759,105	
Total		<u>\$(5,668,975)</u>		<u>\$(15,147,570)</u>	\$ (15,147,570)

<b>10. Preliminary Actuarial Value of Assets on June 30, 2010</b>	<b>\$ 107,466,761</b>
= (7.– 9.) Not less than 80% of 7. and not greater than 120% of 7.	
<b>11. Less: Due and Unpaid Termination Refunds</b>	<b>24,761</b>
<b>12. Final Actuarial Asset Value on June 30, 2010</b>	<b>\$ 107,442,090</b>
= (10. – 11.)	

Effective yield 7.85%

## 6. Participant data as of June 30, 2010

## Participant statistics

	Plan year beginning	
	July 1, 2010	July 1, 2008
<b>Participants included in valuation</b>		
▪ Active	457	448
▪ Deferred with vested benefits	179	173
▪ Inactive with immediate benefits	205	182
▪ Annuity Participants	14	16
▪ Total	855	819
<b>Active statistics</b>		
▪ Average age	48.89	48.50
▪ Average years of service	10.01	9.41
▪ Total pay	\$ 23,277,057	\$ 21,577,646
▪ Average pay	50,934	48,164
<b>Deferred with vested benefit statistics</b>		
▪ Average age	45.49	44.52
▪ Total monthly benefits	\$ 33,950	35,238
▪ Average monthly benefits	190	204
<b>Inactive immediate statistics</b>		
▪ Average age	72.60	71.87
▪ Total monthly benefits	\$ 361,428	312,810
▪ Average monthly benefits	1,763	1,719
<b>Annuity participants*</b>		
▪ Average age	88.36	86.75
▪ Total monthly benefits	\$ 5,628	5,449
▪ Average monthly benefits	402	341

\*Annuity participants are those participants who had an annuity purchased for them in the past. These participants are also currently receiving pension benefits payable from the Town, and only the Town's portion of the liability is included in the statistics above.

Distribution of active participants (Fire and Police Divisions)

Attained age	Completed years of service as of June 30, 2010									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20										
20 - 24	1									1
25 - 29	4	2								6
30 - 34	5	8	3							16
35 - 39	5	4	2	1						12
40 - 44	1		4	2	4					11
45 - 49	2	2		2	5					11
50 - 54				1	2	1	2			6
55 - 59					1		1			2
60 - 64					1				2	3
65 - 69									1	1
70 - 74										
75+										
<b>TOTAL</b>	18	16	9	6	13	1	3	0	3	69 75,147

In each cell, the top number is the count of active participants for each age/service combination. The lower number is the average annual compensation based on the July 1, 2010 pay rates for the active participants in that group. Earnings in cells with fewer than 20 members have been suppressed in order to preserve confidentiality.

Total earnings: \$5,185,117  
 Average age: 41.00  
 Average service: 12.88

## Distribution of active participants (All Other Divisions)

Attained age	Completed years of service as of June 30, 2010									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20										0
20 - 24	5									5
25 - 29	19	4								23 30,562
30 - 34	8	7	1							16
35 - 39	14	7	4	1						26 43,158
40 - 44	16	11	4	5	2					38 46,650
45 - 49	19	11	12	2	8	2				54 52,920
50 - 54	30 40,770	16	13	7	7	8	2	1		84 46,525
55 - 59	12	19	12	7	1	2	1	4		58 50,969
60 - 64	9	16	10	1	5	1	2			44 48,023
65 - 69	4	11	6	3	1		2			27 47,346
70 - 74	1		2	1		1		2		7
75+		1	2	1	1			1		6
TOTAL	137 38,484	103 42,118	66 55,585	28 52,540	25 54,261	14	7	8	0	388 46,629

In each cell, the top number is the count of active participants for each age/service combination. The lower number is the average annual compensation based on the July 1, 2010 pay rates for the active participants in that group. Earnings in cells with fewer than 20 members have been suppressed in order to preserve confidentiality.

Total earnings: \$18,091,940

Average age: 50.29

Average service: 9.50

## 7. Actuarial methods and policies

### Actuarial cost method

The costs and liabilities have been determined under an adjusted Entry Age Normal-Frozen Initial Liability Method, the principle elements of which are defined as follows:

1. Present value of projected benefits: The single sum amount required as of the valuation date to provide plan benefits expected to be paid to all current members.
2. Unfunded frozen initial liability: The accrued liability under the entry age normal method as of the effective date of the plan, adjusted for plan amendments that increase retiree benefits. Assumption changes, and plan amendments that apply only to active participants, are funded through future normal costs.
3. Unfunded liability: The Unfunded Frozen Initial Liability with interest to the date of valuation less past service contributions with interest.
4. Present value of future employee contributions: The value of expected employee contributions from attained age to assumed retirement age.
5. Present value of future Town normal costs: The excess of the Present Value of Projected Benefits over the sum of Assets, the Unfunded Liability and the Present Value of Future Employee Contributions.
6. Normal cost: The portion of the Present Value of Future Town Normal Costs assigned to the current Plan Year. It is determined as a level percentage of payroll

### Asset valuation method

The actuarial value of assets is equal to the market value of the plan's assets, with gains and losses subtracted/added at the rate described as follows:

- (i) 80% of the prior year's gain/loss,
- (ii) 60% of the second preceding year's gain/loss
- (iii) 40% of the third preceding year's gain/loss
- (iv) 20% of the fourth preceding year's gain/loss

The results are subject to a 20% corridor around the market value.

For this purpose, a gain/loss is determined by comparing the expected value of the assets with the market value of the assets. The expected value of the assets is the market value of the assets at the beginning of the previous plan year brought forward

with interest at the valuation interest rate to the end of the plan year plus contributions minus benefit disbursements, all adjusted with interest to the end of the plan year. This expected value is then compared to the market value of the assets at the end of the prior plan year to determine the resultant gain/loss.

This asset valuation method was effective January 1, 2005. The first determination of gain/loss under this method was for the year ended December 31, 2004. Any unrecognized gain/loss that existed under the prior method as of January 1, 2004, was recognized ratably over the period ended December 31, 2007.

## 8. Summary of actuarial assumptions

The following assumptions were used in valuing the liabilities and benefits under the Plan. The plan sponsor is responsible for selecting the assumptions used for this valuation.

Mortality: RP2000 combined healthy no collar mortality table, projected to 2017, with separate tables for males and females. Representative rates are shown on the next page. *(Previously, the mortality table was projected to 2010.)*

Interest to be earned by the fund: 6.50%, net of investment and administrative expenses. *(Previously, 7.00%)*

Employee terminations, Police & Fire: 10% for each of the first two years of employment, then experience is assumed to follow the representative rates on the next page, modified to assume no terminations after ten years of service.

Employee terminations, other employees: 30% for the first year of employment, 10% per year for the next four years, then experience is assumed to follow the representative rates on the next page, modified to assume no terminations after eligibility for retirement.

Earnings: For members of the Plan will increase at the rate illustrated by the representative rates shown on the next page.

Payroll growth: Assumed to be 4% annually

Retirement: Will be at the attainment of a member's Normal Retirement Date. Department of Public Works Employees, Police Officers, and Firefighters are assumed to retire at the following rates:

Department of Public Works		Police Officers and Firefighters	
Age*	Percent retiring	Age*	Percent retiring
60	10%	50	50%
61	20%	51	25%
62	100%	52	25%
*With 25 years of service		53	50%
		54	50%
		55	50%
		56	75%
		57	100%

\*With 20 years of service

Spouse's benefits: 80% of active members are assumed to be married. Wives are assumed to be 3 years younger than their husbands. Inactive members are valued using their current spouse's information.

Social Security: Benefits are based on the law in effect on the valuation date. It has been assumed that nationwide average earnings will increase at the rate of 4% per annum affecting the indexing of covered earnings, the wage base and the dollar "breakpoint" in the Social Security benefit formula. In addition, it has been assumed that the CPI will increase at the rate of 3% per annum, affecting benefit increases.

Disability: For Police and Fire, the 1985 Pension Disability Study Class 4 Unisex Table. For all other employees, the 1985 Pension Disability Study Class 2 Male Table. Representative rates are shown below.

Mortality among disabled lives: The 1985 Pension Disability Table – Disabled Mortality for Males and Females Representative rates are shown below.

### **Representative Rates**

AGE	RP2000 projected to 2017 mortality deaths per 10,000		Terminations per 10,000	Rate of earnings increase	Public		Mortality among disabilities, deaths per 10,000	
	Male	Female			Safety	Other	Male	Female
25	3	2	398	6.50%	26	9	181	185
30	4	2	293	6.00%	36	13	179	198
35	7	4	213	5.50%	51	20	214	217
40	9	5	156	5.00%	69	31	268	240
45	12	9	111	4.62%	94	51	347	289
50	16	13	72	4.47%	135	83	454	336
55	26	24	42	4.32%	229	150	569	370
60	51	46	20	4.17%	343	227	692	412
65	100	89	N/A	4.00%	N/A	N/A	822	453
70	172	154	N/A	4.00%	N/A	N/A	930	506
75	298	245	N/A	4.00%	N/A	N/A	1,120	635

## 9. Summary of plan provisions

Following is a summary of the major plan provisions used in the valuation of this report. The Town is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report. Moreover, these plan provisions may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

Effective date: July 1, 1962 as restated effective July 1, 2010.

Eligibility: First of month following employment. Prior to January 1, 1988, individuals hired after the maximum eligibility age were not participants. The maximum eligibility age for Police Officers and Firefighters was 45. For all other employees, it was age 60.

Employees of the Board of Education classified as Aides must work for one full year before entering the plan.

Member contributions: For Police Officers and Firefighters, the contribution rate is  $\frac{3}{4}\%$  of earnings with no contribution after 30 years of service. For Department of Public Works employees, the contribution rate is 1% of earnings. For Library, Board of Education, and Bargained Groups other than Fire, Police, or DPW, the contribution rate is 2% of earnings. All town employees not represented by a Bargaining Unit and not employed with the Board of Education or Library, the contribution rate is  $\frac{1}{4}\%$  of earnings. Member contributions are made on a post-tax basis unless an election is made upon plan entry (or March 15, 1996, if later) to contribute on a pre-tax basis. Once an election is made, the contribution basis cannot be changed.

Effective January 1, 2011, members employed by the Department of Public Works will contribute 1.5% of earnings.

Normal retirement date: For members other than a Police Officer or Firefighter or Department of Public Works Employee, first of month coinciding with or next following 65th birthday, provided not less than 5 years of service have been completed. For Police Officers, the later of age 50 or completion of 20 years of service. For Firefighters, age 50 with 20 years of service. For Department of Public Works employees, age 60 and 25 years of service. For those employees vested solely due to a 401(h) transfer, first of the month coinciding with or next following 65th birthday.

Normal retirement benefit: The benefit formula is as follows:

For Public Works and Non-bargained Town employees:

2% times Average Annual Compensation

**times**

Credited service at retirement up to a maximum of 30 years  
(effective with July 1, 2006 bargaining agreement)

For all others:

2-1/2% times Average Annual Compensation

**minus**

0.65% of average earnings up to Covered Compensation  
(Offset applicable only to members covered under the Social Security Act)

**times**

Credited Service at retirement up to a maximum of 30 years  
(previously, all groups were covered under this formula)

Effective January 1, 2011, all active members employed by the Department of Public Works hired prior to the effective date will be receiving a 2.25% credit for each year of service going back to his or her original date of hire. The new benefit formula is as follows:

2.25% times Average Annual Compensation

**times**

Credited service at retirement up to a maximum of 30 years

Average annual compensation: Highest 3-year average of January 1st compensation rates out of the last 10 years of employment. Effective July 1, 1999, upon attainment of age 55, the highest 1-year average is used for Police Officers who retire on or after July 1, 1997. Effective July 1, 1997, the highest 1-year average is also used for Firefighters.

Effective July 1, 2006, the Average Annual Compensation for Police, Fire, Public Works and Non-bargained Town employees will be based on the rate of pay in effect upon termination.

Effective with the January 1, 2007 valuation, Average Annual Earnings for Public Works and non-bargained Town employees will be the highest 1-year average out of the last 10 years.

Credited service: Includes completed months of employment. Effective January 1, 2001, a Member shall be credited with a full month of Credited Service if his or her date of hire is the first working day in a month or the date of termination is the last working day of the month.

Non-bargained Town members may sell back unused paid sick days to the Town for a 0.5% increase in retirement benefit for each block of ten days. This provision only applies to unused paid sick days over 110 days and up to 180 days. Additionally, non-bargained Town members may sell back unused vacation days for a 0.5% increase in retirement benefit for each block of ten days. Members that sell back both the maximum number of unused paid sick days and vacation days will receive an additional 0.5% increase in retirement benefit.

Police department members may sell back unused paid sick days to the Town for a 0.5% increase in retirement benefit for each block of ten days. This provision only applies to unused paid sick days over 110 days and up to 190 days. Additionally, Police department members may sell back up to 48 unused vacation days for a 0.5% increase in retirement benefit for each block of ten days. Members that sell back both the maximum number of unused paid sick days (180) and vacation days (48) will receive an additional 0.5% increase in retirement benefit.

Fire department members may sell back unused paid sick days to the Town for a 0.05% increase in retirement benefit, payable at 50%, for each block of one day. This provision only applies to unused paid sick days over 110 days and up to 190 days. Additionally, Fire department members may sell back up to 44 unused vacation days for a 0.05% increase in retirement benefit for each block of one day. Members that sell back both the maximum number of unused paid sick days (40) and vacation days (44) will receive an additional 0.8% increase in retirement benefit.

Department of Public Works members may sell back unused paid sick days to the Town for a 0.05% increase in retirement benefit, up to 25 days. Additionally, Fire department members may sell back up to 50 unused vacation days for a 0.05% increase in retirement benefit for each block of one day. Members that sell back both the maximum number of unused paid sick days (25) and vacation days (50) will receive an additional 0.5% increase in retirement benefit.

Covered compensation: The average of the Social Security taxable wage bases during the 35 year period ending with the last day of the calendar year in which the Member attains (or will attain) Social Security retirement age. The taxable wage base for any year subsequent to the date of benefit determination up to Social Security retirement age is assumed to be the same as the taxable wage base for the year of determination. For participants reaching age 65 in 2010, Covered Compensation is \$61,884.

Credited interest: Prior to July 1, 1982, 3% per year was credited to Member Contributions. Effective July 1, 1982, the rate was increased to 5% per year. Effective July 1, 1985, the rate is 7% per year.

Early retirement date: First of any month after 55th birthday and after completion of 15 years of service. For Police Officers, eligibility is age 50 and 20 years of service. For Firefighters, eligibility is age 50 with 20 years of service.

Early retirement benefit: Accrued benefit payable at Normal Retirement Date or accrued benefit actuarially reduced, payable at Early Retirement Date.

Deferred retirement benefit: Normal Retirement Benefit based on Average Annual Earnings and Credited Service to date of actual retirement.

Disability retirement date: First of month following certification of disablement.

Disability retirement benefit: 50% (40% for Public Works employees) of Average Annual Compensation immediately prior to date of disablement minus 50% of Social Security disability benefits and minus Workers' Compensation Benefits if disablement occurs during the first 5 years of employment (50% with no Social Security deduction for Police Officers and Firefighters). If a person becomes disabled after five years of service, there is no reduction for Workers' Compensation benefits. The sum of the disability benefit, Workers' Compensation benefit, and Social Security benefit cannot exceed compensation before disablement.

Disability Retirement Benefits stop at Normal Retirement Date, at which time Normal Retirement Benefits, based on salary and service to Disability Retirement Date, commence.

Vested benefit: After 5 years of service, benefit accrued to date of termination deferred to Normal Retirement Date. Participants who are not Police Officers or Firefighters may elect to receive an actuarially reduced benefit payable at their Early Retirement Date if they meet the service requirements stated above. Non-vested terminations receive their Member Contributions plus any former Plan allocation, including Credited Interest. As of June 30, 2009, all members active as of this date are 100% vested in their accrued benefit due to a 401(h) transfer.

Death benefit: Upon death prior to retirement, a lump sum equal to the excess of Member Contributions plus former Plan allocation, including Credited Interest over any Special Death Benefit payments.

Special death benefits: Payable to spouse or dependent children of member upon death after 5 (previously 10) years of continuous service while an active or retired employee or if the death is service connected regardless of service. Benefit equal to 50% (60% if Police or Fire) of Average Annual Compensation immediately prior to date of death but not greater than existing retirement benefit in the case of the death of a retired member. Benefits cease at remarriage of spouse or when last dependent child attains age 18.

Normal form of benefits: Life Annuity with a guaranteed return of former Plan allocations plus Member Contributions, including Credited Interest. In addition, special death benefits, as described above, may be payable on the death of the participant.

Cost-of-living adjustments (COLAs): Periodically, the Town may grant COLAs for retirees and beneficiaries receiving benefits as of the effective date. COLAs are as follows:

- Beginning January 1, 2001 – COLA equal to 2% for each full year the member and/or beneficiary have been receiving payment from the Plan since January 1, 1993, limited to eight years
- Beginning January 1, 2004 - COLA equal to 2% for each full year the member and/or beneficiary have been receiving payment from the Plan since January 1, 2001
- Beginning January 1, 2007 - COLA equal to 2% for each full year the member and/or beneficiary have been receiving payment from the Plan since January 1, 2004
- Beginning January 1, 2010 - COLA equal to 2% for each full year the member and/or beneficiary have been receiving payment from the Plan since January 1, 2007, plus an additional 1% for each full year the member and/or beneficiary have been receiving payment from the Plan since January 1, 2008, for a maximum of 3% total

## 10. Appendix - GASB 25 and 27

## Schedule of funding progress

Actuarial valuation date	Actuarial value of assets (a)	Actuarial accrued liability (AAL) entry age (b)	Unfunded AAL(UAAL) (b - a)	Funded ratio (a/b)	Covered payroll (c)	UAAL as a percentage of covered payroll ((b - a)/c)
12/31/2001	\$83,953,185	\$48,121,862	\$(35,831,323)	174.5%	\$13,744,497	-260.70%
12/31/2002	83,014,760	50,808,617	(32,206,143)	163.4%	14,433,030	-223.14%
12/31/2003	85,493,457	58,690,207	(26,803,250)	145.7%	15,886,626	-168.72%
12/31/2004	92,905,161	66,151,007	(26,754,154)	140.4%	16,871,127	-158.58%
12/31/2005	99,764,661	69,315,132	(30,449,529)	143.9%	18,427,713	-165.24%
12/31/2006	107,261,695	76,219,839	(31,041,856)	140.7%	18,937,113	-163.92%
6/30/2008	114,454,836	84,806,594	(29,648,242)	135.0%	20,112,605	-147.41%
6/30/2010	107,442,090	103,621,969	(3,820,121)	103.7%	21,263,790	-17.97%

## Schedule of employer contributions

Employer fiscal year	Annual pension cost	Fiscal year actual contribution	Percentage contributed	Net pension obligation
6/30/2005	0	0	100.0%	0
6/30/2006	0	0	100.0%	0
6/30/2007	0	0	100.0%	0
6/30/2008	0	0	100.0%	0
6/30/2009	0	0	100.0%	0
6/30/2010	0	0	100.0%	0

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