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January 15, 2014

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***PERSONAL & CONFIDENTIAL***

milliman.com

Ms. Susan Collier  
Acting Director of Finance  
Town of Stratford  
2725 Main Street  
Stratford, CT 06615

Re: Town of Stratford Other Post-Employment Benefits Program

Dear Susan:

We are pleased to provide this actuarial report for the Town of Stratford Other Post-Employment Benefits Program. The report shows the financial status of the plan as of July 1, 2012 and presents cost figures for the 2013-14 fiscal year.

We have included 15 bound copies of the report and one unbound copy in case you need to make additional copies.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Becky'.

Rebecca A. Sielman, FSA  
Consulting Actuary

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# **TOWN OF STRATFORD OTHER POST-EMPLOYMENT BENEFITS PROGRAM**

**July 1, 2012 Actuarial Valuation**

**Prepared by**  
Milliman, Inc.

**Rebecca A. Sielman, FSA**  
Consulting Actuary

**Stephen Chykirda, ASA**  
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## Certification

We have performed an actuarial valuation of the Town of Stratford Other Post-Employment Benefits Program as of July 1, 2012. The results of this valuation, along with supporting data, are set forth in the following report.

Milliman has prepared this report in compliance with Government Accounting Standard No. 45. No attempt is being made to offer any accounting opinion or advice. The calculations reported herein have been made on a basis consistent with our understanding of the plan provisions. Additional determinations may be needed for purposes other than meeting accounting requirements.

In preparing this report, we relied on employee census data, asset information, claims and premium information as of the valuation date, furnished by the Town of Stratford. We performed a limited review of the information used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the financial information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate, all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices, and the methods and assumptions produced results which are reasonable. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: 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 our assignment, we did not perform an analysis of the potential range of future measurements.

The actuarial method and assumptions used in this valuation are discussed on pages 18-23 of this report. A summary of the plan provisions starts on page 24 of this report.

Milliman's work is prepared solely for the internal business use of the Town of Stratford. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s): (a) The Town of Stratford may provide a copy of Milliman's work, in its entirety, to the Town of Stratford's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Town of Stratford; and (b) The Town of Stratford may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

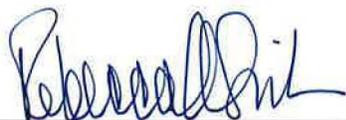
## Certification

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension and health actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

January 15, 2014



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Rebecca A. Sielman, FSA  
Consulting Actuary



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Stephen Chykirda, ASA  
Actuary

## Discussion of Experience

This valuation reflects a number of changes relative to the July 1, 2010 valuation:

### Demographic Changes from 2010 to 2012

From July 1, 2010 to July 1, 2012, the overall membership increased from 2,245 to 2,395. The total number of active members decreased from 1,095 to 1,040 and the total number of retirees and spouses of retirees increased from 1,150 to 1,355.

The average age of active members went up slightly from 44.4 to 45.2 and the average age of retired members decreased slightly from 68.0 to 67.7.

### Assumption Changes

Discount Rate: We lowered the discount rate to 6.75% (prior valuation: 7.75%) to match the assumption used in the 2013 pension valuation.

Medical and dental claims costs: We updated the medical and dental claims costs with respect to expected claims costs, based on our analysis of the claims experience and premium information provided to us for this valuation.

Medical inflation: The medical cost inflation trend used in this valuation was derived from the "Getzen Model" established by the Society of Actuaries for developing long term medical cost trends. The Getzen Model was subsequently updated to reflect the latest economic growth factors and an adjustment was made to reflect the value of the expected excise tax payable in 2018 and later. This assumption was revised to an initial inflation rate of 7.20%, grading down to an ultimate inflation rate of 4.70% over a period of 70 years for pre-65 and an initial inflation rate of 7.20% graded down to an ultimate inflation rate of 5.00% over a period of 87 years for post-65 (Prior valuation: an initial inflation rate of 6.20% graded down to an ultimate inflation rate of 4.40% over a period of 51 years).

Teachers and Administrators: Certain actuarial demographic assumptions for Teachers and Administrators are based on the assumptions used in the June 30, 2012 valuation of the Connecticut State Teachers Retirement System by Cavanaugh Macdonald Consulting, LLC. Our valuation reflects the applicable assumption changes made in their June 30, 2012 valuation.

Disability Incidence: We modified the rate of disability incidence for all Town and Board of Education participants except for Public Works.

The effect of the above changes was as follows: (1) changing the discount rate from 7.75% to 6.75% increased the Accrued Liability by about \$20.2 million and increased the Annual Required Contribution by about \$1.2 million and (2) updating the other assumptions increased the Accrued Liability by about \$8.7 million and increased the Annual Required Contribution by about \$960,000.

## Overview of GASB 43 and GASB 45

GASB 43 requires OPEB plans to disclose information about asset and liability levels and show historical contribution information. GASB 43 only applies in situations where a separate trust is established to prefund these benefits. GASB 45 requires employers to perform periodic actuarial valuations to determine annual accounting costs, and to keep a running tally of the extent to which these amounts are over or under funded. GASB 43 was effective starting in FY 2006-07 for a Phase I government, FY 2007-08 for a Phase II government, and FY 2008-09 for a Phase III government. GASB 45 was effective for the fiscal year following implementation of GASB 43.

GASB 43 and 45 apply to just about any benefit that is provided after retirement except for pension benefits: medical insurance, dental, vision, and hearing benefits plus life insurance and long term care insurance. The benefits provided by the Town to retirees include medical and dental insurance plus life insurance. The philosophy driving the accounting standard is that these post-employment benefits are part of the compensation that is paid to employees in return for their services, and the cost of these benefits should be recognized while the employees are providing those services, rather than after they have retired. This philosophy has already been applied for years to defined benefit pensions; GASB 43 and 45 extend the same thinking to all other post-employment benefits.

## The Valuation Process

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

**Turnover and retirement rates:** How likely is it that an employee will qualify for post-employment benefits and when will they start?

**Medical inflation and claims costs assumptions:** When an employee starts receiving post-employment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

**Mortality assumption:** How long is a retiree likely to receive the benefits?

**Discount rate assumption:** What is the present value of those future benefit payments in terms of today's dollars?

Since the liability is being recognized over the employee's whole career with the Town, the present value is divided into three pieces: the part that is attributed to past years (the "Accrued Liability" or "Past Service Liability"), the part that is being earned this year (the "Normal Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Normal Cost have been calculated, the next step is to determine an annual contribution. This consists of two pieces:

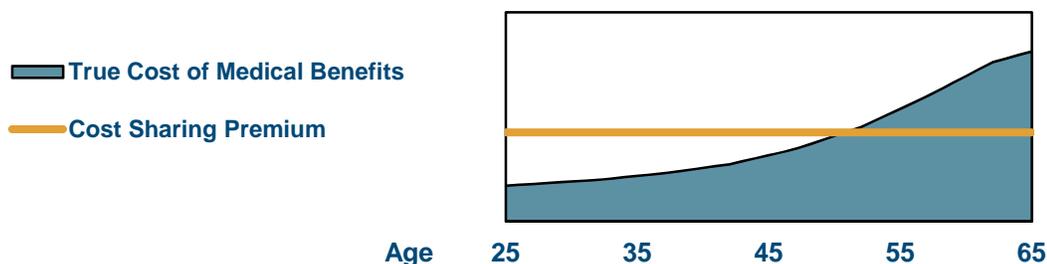
- Normal Cost – because the benefits earned each year should be paid for each year
- Past Service Cost – a catch-up payment to fund the Accrued Liability over time.

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the Town's financial statements. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

## Implicit Rate Subsidies

As part of the Other Post-Employment Benefits Program, there are situations where the cost is borne partly or entirely by retirees. In most cases, the premium that is used to split the cost is lower than the true cost of providing the medical benefits, for two reasons:

- The cost sharing premium is usually a fixed amount such as a COBRA premium that does not take into account the age of the retiree and his/her dependents. Since medical costs generally increase with age, the cost sharing premium is often lower than the true cost of the medical benefits:



- The cost sharing premium is usually a blended rate that takes into account the cost of medical benefits for active employees as well as retirees. Medical costs are generally higher for retirees than for active employees of the same age. This means that, again, the cost sharing premium is often lower than the true cost of the medical benefits.

Because of these two factors, a retiree who is paying 100% of the cost sharing premium is most likely not paying 100% of the true cost of the medical benefits. This situation is known as an "implicit rate subsidy". GASB 43 and 45 require the plan sponsor to measure the liability for this subsidy; that is, the difference between the true cost of the medical benefits and the cost sharing premiums paid by the retiree. To do this, our valuation consists of several steps:

First, we calculate the liability for the true cost of medical benefits expected to be received by retirees and their dependents. This liability is based on factors developed by Milliman's health actuaries that reflect how the cost of medical benefits varies by age and gender, as well as the other assumptions discussed on the prior page. We term this amount the "gross liability".

Next, we calculate the liability for the future premiums expected to be paid by the retiree for their own and their dependents' coverage. This liability is based on the current premium rates without adjustment for age or gender. It also is based on the terms of the retiree medical program – different retirees pay different percentages based on their union, date of retirement, age at retirement, and other factors. We term this amount the "offset liability".

Finally, the net liability for the Town is calculated as the difference between the gross liability and the offset liability.

## Summary of Liabilities as of July 1, 2012

We have calculated the Accrued Liability separately for five groups of Town employees, who are eligible for different OPEB benefits. We have broken the accrued liability for each group into several pieces: benefits that are expected to be paid prior to age 65 (i.e. prior to Medicare) and after age 65 (i.e. after Medicare) to current active members and their covered dependents after retirement, and the same figures for members who have already retired and are currently receiving benefits. In all cases, the Accrued Liability only reflects benefits that are paid for by the Town, taking into account any implicit rate subsidies.

	Fire	Police	Town	BOE Certified	BOE Non-Certified	Total
<b>Current active members</b>						
Employees under age 65	\$3,545,907	\$3,938,439	\$4,361,336	\$5,672,453	\$2,433,190	\$19,951,325
Employees over age 65	3,268,427	3,668,125	9,006,635	8,030,813	6,627,301	30,601,301
Dependents under age 65	1,662,430	1,780,536	1,941,679	1,210,057	759,572	7,354,274
Dependents over age 65	<u>1,094,447</u>	<u>1,199,603</u>	<u>2,149,043</u>	<u>889,177</u>	<u>1,882,183</u>	<u>7,214,453</u>
Total	9,571,211	10,586,703	17,458,693	15,802,500	11,702,246	65,121,353
<b>Current retired members</b>						
Employees under age 65	4,362,185	4,288,444	6,023,534	2,070,403	929,093	17,673,659
Employees over age 65	6,545,044	6,699,070	15,442,609	15,533,568	7,069,444	51,289,735
Dependents under age 65	2,619,520	2,193,046	2,122,360	403,566	143,386	7,481,878
Dependents over age 65	<u>3,077,303</u>	<u>2,540,501</u>	<u>4,799,679</u>	<u>944,084</u>	<u>1,744,446</u>	<u>13,106,013</u>
Total	16,604,052	15,721,061	28,388,182	18,951,621	9,886,369	89,551,285
<b>Total Accrued Liability</b>	26,175,263	26,307,764	45,846,875	34,754,121	21,588,615	154,672,638

## Annual Required Contribution

The Annual Required Contribution (ARC) for the OPEB program consists of two pieces: a **Normal Cost** (the cost of benefits earned each year should be accrued in that year) plus a **Past Service Cost** (a catch-up accrual to amortize the Unfunded Accrued Liability).

The amortization period is 30 years starting in 2007. The amortization method produces annual payments that will increase by 4.00% annually. On this basis, the ARC is determined as follows:

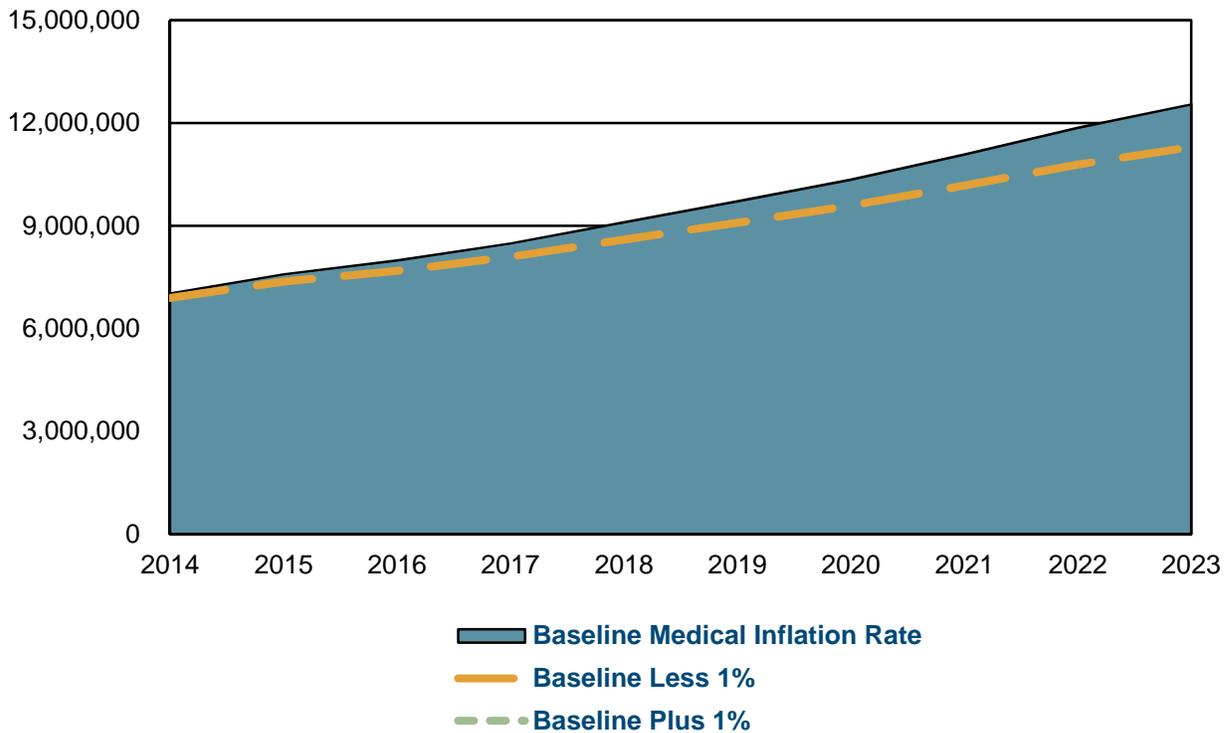
	Fire	Police	Town	BOE Certified	BOE Non- Certified	Total
Accrued Liability	\$26,175,263	\$26,307,764	\$45,846,875	\$34,754,121	\$21,588,615	\$154,672,638
Assets	321,948	323,578	563,903	531,808	330,350	2,071,587
Unfunded Accrued Liability	25,853,315	25,984,186	45,282,972	34,222,313	21,258,265	152,601,051
Amortization Period	25	25	25	25	25	25
Amortization Growth Rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Past Service Cost	1,389,718	1,396,753	2,434,139	1,839,585	1,142,716	8,202,911
<b>Total Normal Cost</b>	<b>646,394</b>	<b>700,953</b>	<b>1,116,208</b>	<b>1,089,714</b>	<b>730,951</b>	<b>4,284,220</b>
Employee Contributions	0	0	0	0	0	0
Expenses	0	0	0	0	0	0
Net Normal Cost	646,394	700,953	1,116,208	1,089,714	730,951	4,284,220
Interest	137,438	141,595	239,648	197,728	126,473	842,882
ARC for FY 2014	2,173,550	2,239,301	3,789,995	3,127,027	2,000,140	13,330,013
Expected Benefit Payouts	1,057,695	1,007,830	2,331,856	1,612,091	1,017,401	7,026,873
Net Budget Impact	1,115,855	1,231,471	1,458,139	1,514,936	982,739	6,303,140
Phase-In Factor for FY 2014	5/7	5/7	5/7	5/7	5/7	5/7
OPEB contribution for FY 2014	797,039	879,622	1,041,528	1,082,097	701,956	4,502,242

The ARC is assumed to be paid at the beginning of the Fiscal Year.

## Projected Payouts

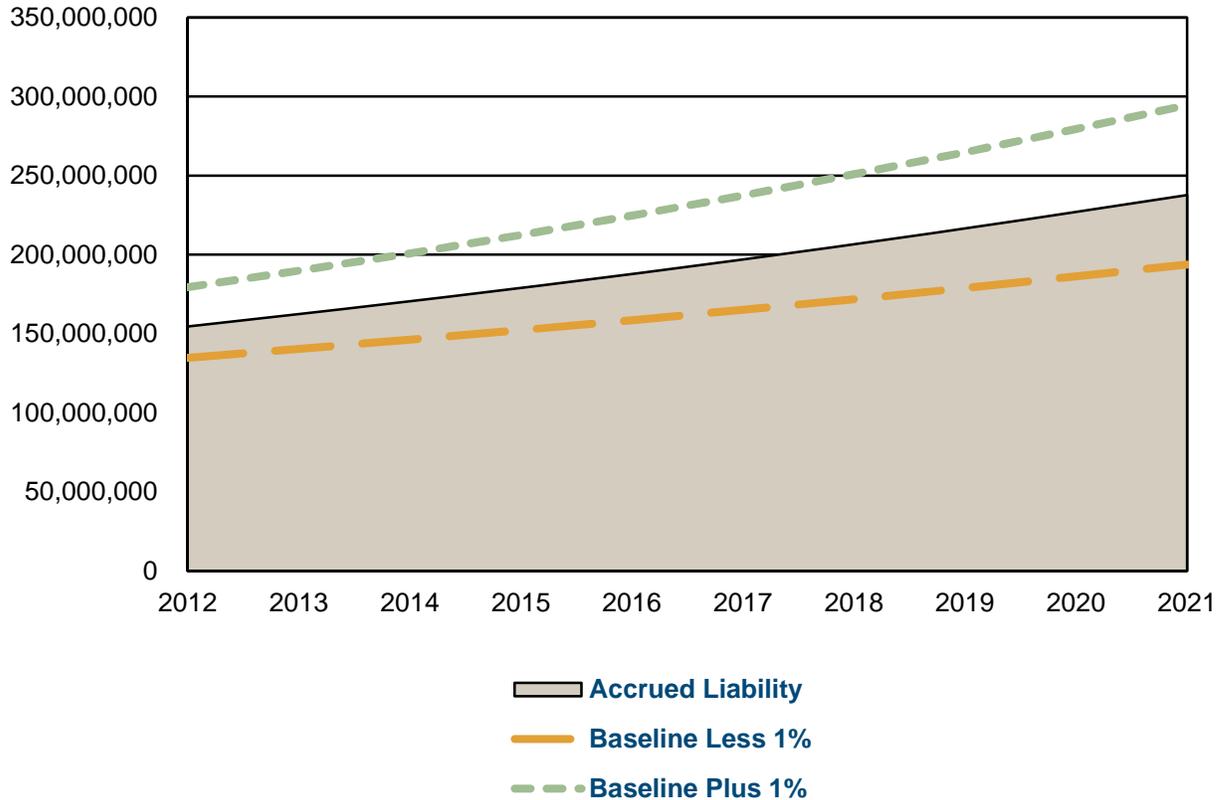
The table and graph below show the expected annual payments for OPEB benefits for the next 10 years.

Fiscal Year	Baseline Less 1%	Baseline Medical Inflation Rate	Baseline Plus 1%
2014	\$6,895,966	\$7,026,873	\$7,159,013
2015	7,373,675	7,585,352	7,801,040
2016	7,690,188	7,986,578	8,291,452
2017	8,093,566	8,486,154	8,893,831
2018	8,599,209	9,102,938	9,631,018
2019	9,094,844	9,719,867	10,381,351
2020	9,589,628	10,346,432	11,154,991
2021	10,178,703	11,086,196	12,064,911
2022	10,792,993	11,866,489	13,035,144
2023	11,304,476	12,546,593	13,911,574



## Projected Liabilities

The graph below shows how the Town's accrued liability for OPEB benefits is expected to grow over the next 10 years.



## GASB 45 Schedule of Funding Progress

The following information is required to be disclosed in the Town's financial statement.

(\$ 000s)						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Accrued Liability (b)	Unfunded Accrued Liability (UAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAL as a Percentage of Covered Payroll ((b - a) / c)
<b><u>Town Groups</u></b>						
7/1/2007	\$0	\$55,487	\$55,487	0%	N/A	N/A
7/1/2008	0	58,760	58,760	0%	N/A	N/A
7/1/2010	630	67,290	66,660	1%	N/A	N/A
7/1/2012	1,209	98,330	97,120	1%	N/A	N/A
<b><u>BOE Groups</u></b>						
7/1/2007	\$0	\$42,562	\$42,562	0%	N/A	N/A
7/1/2008	0	63,155	63,155	0%	N/A	N/A
7/1/2010	287	44,046	43,759	1%	N/A	N/A
7/1/2012	862	56,343	55,481	2%	N/A	N/A

## GASB 45 Schedule of Employer Contributions

The following information is required to be disclosed in the Town's financial statement.

(\$ 000s)

Year Ended June 30	Annual Required Contribution	Actual Contribution Made	Percentage Contributed
<b><u>Town Groups</u></b>			
2008	\$4,811	\$2,695	56.0%
2009	5,164	2,875	55.7%
2010	8,617	3,113	36.1%
2011	9,172	3,266	35.6%
2012	6,511	3,516	54.0%
2013	6,965	3,927	56.4%
2014	8,203	N/A	N/A
<b><u>BOE Groups</u></b>			
2008	\$3,972	\$1,960	49.4%
2009	5,084	1,883	37.0%
2010	5,404	2,019	37.4%
2011	5,749	2,074	36.1%
2012	4,390	3,002	68.4%
2013	4,678	3,085	65.9%
2014	5,127	N/A	N/A

## Summary of Census Data

The following were included in our analysis based on information provided as of July 1, 2012 by the Town.

	Fire	Police	Town	BOE Certified	BOE Non- Certified	Total
<b>Number of members</b>						
Active	94	97	204	507	138	1,040
Retired members	85	133	297	361	99	975
Spouses of retirees	60	51	103	124	42	380
Total	239	281	604	992	279	2,395
<b>Average age</b>						
Active	40.6	41.3	47.1	44.4	51.2	45.2
Retired members	62.5	61.8	67.2	70.6	71.3	67.7
<b>Average retirement age</b>						
Active	56.3	56.4	57.2	60.6	59.2	59.0
Retired	51.4	51.8	56.0	65.9	63.8	59.5
<b>Expected lifetime</b>						
Active [to retirement]	15.7	15.1	10.1	16.2	8.0	13.8
Retired [lifetime]	21.8	22.0	18.9	17.9	16.8	19.0

The retiree census data excludes post 65 Medicare eligible retired members who are paying 100% of the premium.

Where complete census data was not available, we have made assumptions which we believe to be reasonable.

## Current Premiums

Based on information provided by the Town regarding current plan elections, the following weighted average blended actual premiums were used:

2012 - 2013 Monthly Premiums		Employee	Spouse
Medical - Town	Pre 65	\$637.90	\$727.59
	Post 65	411.22	407.07
Medical - BOE	Pre 65	615.59	666.33
	Post 65	355.01	338.52
Dental - BOE		36.83	54.33

## Health Cost Adjustment Factors

Milliman's Health Cost Guidelines were used to develop the expected relationship of the true cost of health benefits across age and gender. Representative factors are shown below.

Age	Town - Medical		BOE - Medical	
	Employee	Spouse	Employee	Spouse
40	3.41%	1.31%	1.50%	3.10%
45	4.56%	2.87%	3.04%	4.33%
50	5.15%	4.01%	4.13%	5.01%
55	5.43%	3.67%	3.88%	5.22%
60	4.70%	3.90%	3.99%	4.61%
65	2.16%	1.92%	1.95%	2.14%
70	2.28%	2.07%	2.09%	2.26%
75	1.66%	1.26%	1.31%	1.62%
80	0.98%	1.39%	1.34%	1.03%

Age	BOE - Dental	
	Employee	Spouse
40	1.37%	1.61%
45	1.06%	1.42%
50	0.57%	0.75%
55	0.06%	0.28%
60	0.12%	0.15%
65	-0.09%	-0.19%
70	0.00%	0.00%
75	0.00%	0.00%
80	0.00%	0.00%

## Glossary

The following is an explanation of many of the terms referenced by the Statement of the Governmental Accounting Standards Board, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions".

**Actuarial Cost Method** - This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost. The Statement assumes a closed group of employees and other participants unless otherwise stated; that is, no new entrants are assumed. Six methods are permitted – Unit Credit, Entry Age Normal, Attained Age, Aggregate, Frozen Entry Age, and Frozen Attained Age.

**Accrued Liability** - This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

**Actuarial Assumptions** - With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the discount rate, medical cost inflation, and rates of mortality, turnover and retirement.

**Actuarial Present Value of Benefits** - This is the value, as of the applicable date, of future payments for benefits and expenses under the Plan, where each payment is: a) Multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) Discounted at the assumed discount rate.

**Actuarial Value of Assets** - This is the value of cash, investments and other property belonging to the Plan, as used by the actuary for the purpose of an Actuarial Valuation.

**Amortization Payment** - This is the amount of the contribution required to pay interest on and to amortize over a given period the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability. A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each actuarial valuation date.

**Annual Required Contribution ("ARC")** - This is the employer's periodic required contribution to a defined benefit OPEB plan, calculated in accordance with the set of requirements for calculating actuarially determined OPEB information included in financial reports.

**Attribution Period** - The period of an employee's service to which the expected postretirement benefit obligation for that employee is assigned. The beginning of the attribution period is the employee's date of hire and costs are spread across all employment.

**Benefit Payments** - The monetary or in-kind benefits or benefit coverage to which participants may be entitled under a post employment benefit plan, including health care benefits and life insurance not provided through a pension plan.

## Glossary

**Discount Rate** - GASB 45 requires that the interest rate used to discount future benefit payments back to the present day be based on the expected rate of return on any investments set aside to pay for these benefits. If no funds are set aside for this purpose, the discount rate would be based on the expected return of the employer's general funds.

**Funding Excess** - This is the excess of the Actuarial Value of Assets over the Actuarial Accrued Liability.

**Health Cost Trend** - This is the rate at which health costs are assumed to increase over time.

**Implicit Rate Subsidy** - This is the excess of the expected health care cost per retired member over the gross premium charged for that coverage. In most cases, the gross premium charged to a retiree is less than the expected health care cost, since the premium is a blended average rate that does not fully reflect the above-average, increasing costs by age that apply during retirement.

**Normal Cost** - This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

**Net OPEB Obligation** - This is the cumulative difference since the effective date of this statement between the annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

**Other Post-employment Benefits ("OPEB")** - This refers to post-employment benefits other than pension benefits, including healthcare benefits regardless of the type of plan that provides them, and all other post-employment benefits provided separately from a pension plan, excluding benefits defined as termination benefits or offers.

**Past Service Cost** - This is a catch-up payment to fund the Unfunded Actuarial Accrued Liability over time (generally 10 to 30 years). Also known as the **Amortization Payment**.

**Return on Plan Assets** - This is the actual investment return on plan assets during the fiscal year.

**Substantive Plan** - The terms of the postretirement benefit plan as understood by an employer that provides postretirement benefits and the employees who render services in exchange for those benefits. The substantive plan is the basis for the accounting for the plan.

**Unfunded Actuarial Accrued Liability** - This is the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

## Actuarial Method

The actuarial funding method used is the **Projected Unit Credit Cost Method**. Recommended annual contributions consist of two pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability.

The **Accrued Liability** is determined directly as the present value of benefits accrued to date, where the accrued benefit for each Member is the pro-rata portion (based on service to date) of the **projected** benefit payable at death, disability, retirement or termination.

The **Normal Cost** is similarly determined as the present value of the portion of the **projected** benefit attributable to the current year.

The **Unfunded Accrued Liability** is the Accrued Liability less the value of any plan assets.

## Actuarial Assumptions

**Discount Rate** Current Valuation: 6.75%  
Prior Valuation: 7.75%

**Amortization Growth Rate** 4.00%

**Healthy Mortality** **Teachers** and **Administrators\***: RP-2000 projected forward 19 years using Scale AA, with a two-year age setback. This assumption includes a margin for mortality improvement beyond the valuation date.

**All Others:**

**Pre-Retirement:** 1994 Group Annuity Mortality. 80% of deaths among active Firefighters and Police are assumed to occur in the line of duty. 5% of deaths among all others are assumed to occur in the line of duty.

**Post-Retirement:** RP-2000 Combined Healthy Mortality Table with generational projection per Scale AA, with separate tables for males and females. This assumption includes a margin for mortality improvement beyond the valuation date.

**Disabled Mortality** **Teachers** and **Administrators\***: RP-2000 projected forward 19 years using scale AA, with an eight-year age set forward for males and females. This assumption includes a margin for mortality improvement beyond the valuation date.

**All Others:** 1983 Railroad Retirement Board Disabled Mortality Table.

**Turnover** **Teachers** and **Administrators\***: rates based on gender and length of service for the first ten years and gender and age thereafter:

Service	Male	Female
0-1	14.00%	12.00%
1-2	8.50%	9.00%
2-3	5.50%	7.00%
3-4	4.50%	6.00%
4-5	3.50%	5.50%
5-6	2.50%	5.00%
6-7	2.40%	4.50%
7-8	2.30%	3.50%
8-9	2.20%	3.00%
10+	2.10%	2.50%

Age	Male	Female
25	1.20%	3.50%
35	1.20%	3.50%
45	1.26%	1.30%
55	2.76% (PV: 3.36%)	1.60%

## Actuarial Assumptions

**Turnover (continued)**      **Police and Firefighters:** 10% in first five years of service, none thereafter.

**All Others:** Rates based on age per Crocker-Sarason T7 Table:

Age	Rate
20	9.94%
25	9.68%
30	7.31%
35	8.72%
40	7.77%
45	6.38%
50	4.25%
55	1.57%
60	0.15%

**Retirement**      Rates based on age, eligibility for pension benefits, and group:

**Teachers and Administrators\*:**

Current:

Age	Unreduced		Proratable		Reduced	
	Male	Female	Male	Female	Male	Female
50 – 51	27.50%	15.00%			2.00%	2.00%
52	27.50%	15.00%			3.00%	4.00%
53	27.50%	15.00%			3.00%	4.50%
54	27.50%	15.00%			5.00%	5.50%
55	38.50%	30.00%			5.00%	7.50%
56	38.50%	30.00%			7.00%	8.50%
57	38.50%	30.00%			10.00%	9.50%
58	38.50%	30.00%			11.00%	10.00%
59	38.50%	30.00%			12.00%	10.00%
60	22.00%	20.00%	6.00%	5.40%		
61	25.30%	22.50%	6.00%	7.20%		
62	25.30%	22.50%	15.00%	9.90%		
63-64	27.50%	22.50%	10.00%	7.20%		
65	36.30%	30.00%	20.00%	13.50%		
66	27.50%	30.00%	20.00%	10.80%		
67	27.50%	30.00%	20.00%	13.50%		
68	27.50%	30.00%	20.00%	10.80%		
69	27.50%	30.00%	35.00%	10.80%		
70-73	100.00%	40.00%	35.00%	10.80%		
74	100.00%	40.00%	35.00%	18.00%		
75 – 79	100.00%	40.00%	40.00%	18.00%		
80	100.00%	100.00%	40.00%	18.00%		

## Actuarial Assumptions

**Retirement (continued) Teachers and Central Office Administrators<sup>#</sup>:** rates based on age, eligibility for pension benefits, and gender:

Prior:

Age	Unreduced		Proratable		Reduced	
	Male	Female	Male	Female	Male	Female
50 – 51	27.50%	15.00%			2.00%	2.00%
52	27.50%	15.00%			3.00%	4.00%
53	27.50%	15.00%			3.00%	4.50%
54	27.50%	15.00%			5.00%	5.50%
55	38.50%	30.00%			5.00%	7.50%
56	38.50%	30.00%			7.00%	8.50%
57	38.50%	30.00%			10.00%	9.50%
58	38.50%	30.00%			11.00%	10.00%
59	38.50%	30.00%			12.00%	10.00%
60	22.00%	20.00%	6.00%	5.40%		
61	25.30%	22.50%	6.00%	7.20%		
62	25.30%	22.50%	15.00%	9.90%		
63-64	27.50%	22.50%	10.00%	7.20%		
65	36.30%	30.00%	20.00%	13.50%		
66	27.50%	30.00%	20.00%	10.80%		
67	27.50%	30.00%	20.00%	13.50%		
68	27.50%	30.00%	20.00%	10.80%		
69	27.50%	30.00%	35.00%	10.80%		
70-73	100.00%	40.00%	35.00%	10.80%		
74	100.00%	40.00%	35.00%	18.00%		
75 – 79	100.00%	40.00%	40.00%	18.00%		
80	100.00%	100.00%	40.00%	18.00%		

## Actuarial Assumptions

**Retirement (continued) Police and Firefighters:**

40% are assumed to retire at 25 years of service, 5% at years 26-29, 40% at 30 years, and 10% at years thereafter; 100% are assumed to retire by age 65.

**All Others:**

Age	Rate
<55	1%
55-59	5%
60	20%
61	10%
62-64	15%
65	40%
66-69	25%
70	100%

**Disability**

Current:

	Age	Male	Female
<b>Teachers and BOE Administrators*</b>	20	0.0455%	0.0500%
	30	0.0455%	0.0410%
	40	0.0715%	0.0720%
	50	0.3250%	0.2630%
	60	1.2805%	0.5000%
<b>Police, Fire and Public Works In Line of Service</b>	20	0.0068%	0.0086%
	30	0.0085%	0.0119%
	40	0.0148%	0.0237%
	50	0.0453%	0.0536%
	60	0.1313%	0.1059%
<b>Police, Fire and Public Works Not In Line of Service</b>	20	0.0068%	0.0086%
	30	0.0085%	0.0119%
	40	0.0148%	0.0237%
	50	0.0453%	0.0536%
	60	0.1313%	0.1059%
<b>All Others In Line of Service</b>	20	0.0035%	0.0035%
	30	0.0042%	0.0042%
	40	0.0058%	0.0058%
	50	0.0120%	0.0120%
	60	0.0423%	0.0423%
<b>All Others Not In Line of Service</b>	20	0.0665%	0.0665%
	30	0.0798%	0.0798%
	40	0.1096%	0.1096%
	50	0.2280%	0.2280%
	60	0.8010%	0.8010%

## Actuarial Assumptions

Disability	Prior:			
		Age	Male	Female
<b>Police and Fire In Line of Service</b>		20	0.0547%	0.0687%
		30	0.0680%	0.0954%
		40	0.1186%	0.1897%
		50	0.3631%	0.4307%
		60	1.0596%	0.8530%
<b>Police and Fire</b>		20	0.2185%	0.2745%
		30	0.2717%	0.3810%
		40	0.4735%	0.7567%
		50	1.4446%	1.7117%
		60	4.1716%	3.3687%
<b>All Others In Line of Service</b>		20	0.1297%	0.1629%
		30	0.1613%	0.2261%
		40	0.2810%	0.4489%
		50	0.8564%	1.0144%
		60	2.4654%	1.9927%
<b>All Others Not In Line of Service</b>		20	0.0068%	0.0086%
		30	0.0085%	0.0119%
		40	0.0148%	0.0237%
		50	0.0453%	0.0536%
		60	0.1313%	0.1059%

**Future Retiree Coverage** All current active members are assumed to elect coverage at retirement. 15% of **Teachers** are assumed to drop retiree coverage at age 65.

**Cost Blending** In order to dampen the volatility of the premium changes, this valuation is based on 75% expected costs/premiums plus 25% of actual costs/premiums.

**Future Dependent Coverage** Current active members are assumed to elect dependent coverage at retirement as follows. All female spouses are assumed to be 3 years younger than males.

Group	Male	Female
<b>All BOE Groups</b>	80%	40%
<b>Police and Fire</b>	60%	50%
<b>All Other Town</b>	60%	15%

\* Certain actuarial demographic assumptions for Teachers and Administrators are based on the assumptions used in the June 30, 2012 valuation of the Connecticut State Teachers Retirement System by Cavanaugh, Macdonald Consulting, LLC.

## Summary of Plan Provisions

This summary is intended only to describe our understanding of the essential features of the benefits that will be provided to future retirees based on copies of bargaining agreements, applicable personnel rules and the benefits being currently provided to retired members. All eligibility requirements and benefit amounts shall be determined in strict accordance with the relevant plan documents. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

### Police

Eligibility - Retire with 25 years of service.

Medical Benefit - Town pays 100% of the cost for the retiree and 50% of the cost for the dependents.

Life Insurance - \$5,000 until age 65.

### Firefighters

Eligibility - Retire with 25 years of service.

Medical Benefit -

- Retire prior to July 1, 1987: Benevolent Society pays 100% of the cost for the retiree and 50% of the cost for the dependents.
- Retire after July 1, 1987 and prior to July 1, 1989: Town pays 50% of the cost for the retiree and 50% of the cost for the dependents.
- Retire on or after July 1, 1989: Town pays 100% of the cost for the retiree and 50% of cost for the dependents.

Life Insurance - Retire after July 1, 1989: \$5,000 until age 65.

### Town Hall

Eligibility - 23 years of Continuous Service and, if hired after 7/1/1977, age 50, or 5 years of service and age 55.

Medical Benefit -

- Retire prior to July 1, 1986: Town pays 100% of the cost for the retiree and 50% of the cost for the dependents.
- Retire after July 1, 1986 and prior to signing of 1987-1990 collective bargaining agreement: Town pays 75% of the cost for
- Retire after signing of 1987-1990 collective bargaining agreement: Town pays 100% of the cost for the retiree and 50% of the cost for

Life Insurance - Retire before September 1, 1999: \$5,000 until age 65. Retire after September 1, 1999: \$25,000 until age 70, \$5,000 thereafter.

## Summary of Plan Provisions

### Public Works

Eligibility - 23 years of Continuous Service and, if hired after 7/1/1985, age 50, or 5 years of service and age 55.

Medical Benefit -

- Retire prior to July 1, 1985: Town pays 50% of the cost for the retiree and 50% of the cost for the dependents.
- Retire after July 1, 1985 and prior to July 1, 1986: Town pays 100% of the cost for the retiree and 50% of the cost for the dependents.
- Retire after July 1, 1986 and prior to July 1, 1987: Town pays 75% of the cost for the retiree and 50% of the cost for the dependents.
- Retire on or after July 1, 1987: Town pays 100% of the cost for the retiree and 50% of cost for the dependents.

Life Insurance - \$5,000 until age 65.

### Supervisors

Eligibility - 23 years of Continuous Service and, if hired after 4/1/1985, age 50, or 5 years of service and age 55.

Medical Benefit -

- Retire prior to July 2, 1985: Town pays 50% of the cost for the retiree and 50% of the cost for the dependents.
- Retire after July 2, 1985 and prior to March 31, 1986: Town pays 100% of the cost for the retiree and 50% of the cost for the dependents.
- Retire after April 1, 1986 and prior to September 4, 1987: Town pays 75% of the cost for the retiree and 50% of the cost for the dependents.
- Retire on or after September 4, 1987: Town pays 100% of the cost for the retiree and 50% of cost for the dependents.

Life Insurance - Retire after August 2, 1985: \$5,000 until age 65.

## Summary of Plan Provisions

### **BOE Custodians**

Eligibility – 23 years of Continuous Service and, if hired after 4/1/1985, age 50, or 5 years of service and age 55.

Medical and Dental Benefit – Board pays 100% of the cost for the retiree and 50% of the cost for the dependents.

Life insurance - \$15,000.

### **BOE Administrators**

Eligibility - An Administrator retiring under the Connecticut State Teachers Retirement System shall be eligible to receive health benefits for self and spouse.

Normal Retirement for Administrators is the earliest of age 60 with 20 years of service, or completion of 35 years of service regardless of age. Early Retirement is the earliest of age 60 with 10 years of service, any age with 25 years of service, or age 55 with 20 years of service.

Medical and Dental Benefit – Board pays 50% of the cost for the retiree only.

### **BOE Nurses**

Eligibility – 23 years of Continuous Service and, if hired after 7/1/1977, age 50, or 5 years of service and age 55.

Medical and Dental Benefit - Board pays 50% of the cost for the retiree only.

### **BOE Paraprofessionals & Cafeteria Workers**

Eligibility – 23 years of Continuous Service and, if hired after 4/1/1985, age 50, or 5 years of service and age 55. No benefits if hired after July 1, 2011.

Medical and Dental Benefit – Board pays 100% of the cost for the retiree and 50% of the cost for the dependents.

Life insurance - \$7,000.

### **BOE Secretaries**

Eligibility – 23 years of Continuous Service and, if hired after 4/1/1985, age 50, or 5 years of service and age 55.

Medical and Dental Benefit – Board pays 100% of the cost for the retiree, and 50% of the cost for the dependents.

Life insurance - \$15,000.

## Summary of Plan Provisions

### Teachers

Eligibility - A Teacher retiring under the Connecticut State Teachers Retirement System shall be eligible to receive health benefits for self and spouse.

Normal Retirement for Teachers is the earliest of age 60 with 20 years of service, or completion of 35 years of service regardless of age. Early Retirement is the earliest of age 60 with 10 years of service, any age with 25 years of service, or age 55 with 20 years of service.

Medical and Dental Benefit – Board pays 50% of the cost for the retiree only.

### All BOE Groups

For retirees electing coverage under the High Deductible Health Plan, the BOE fully funds the annual deductible in addition to the cost sharing described above.