



**TOWN OF WINTHROP**

**OTHER POSTEMPLOYMENT BENEFITS PROGRAM**

**ACTUARIAL VALUATION**

**July 1, 2013**

Prepared by:

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April 8, 2014

Mr. Timothy J. Gordon  
Chief Financial Officer  
Town of Winthrop  
1 Metcalf Square  
Winthrop, MA 02152

Dear Tim:

Enclosed is our report summarizing the results of an actuarial valuation of the Town of Winthrop's Other Postemployment Benefits (OPEB) as of July 1, 2013. Our valuation was performed in accordance with the provisions contained in the GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (GASB 45).

A summary of the valuation results is shown in Section 1. The principal results of our valuation are summarized in Section 2. The Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 6 and 7, respectively. Section 8 summarizes the demographic profile of active employees and retirees.

The required disclosures under GASB 45 are presented in Section 3.

Our best estimate health care cost trend assumptions are based on recent experience and anticipated future cost increases under the Town of Winthrop medical plans. Section 5 illustrates the sensitivity of actuarial accrued liability and normal cost to a one percentage increase and decrease in the health care cost trend assumption for each future year.

Our actuarial valuation is based on a discount rate of 4.0% compounded annually. To illustrate the impact on cost of fully prefunding the Town's benefit liabilities, our report also includes valuation results based on an alternative 8.0% discount rate.

We also provide 30-year forecasts of the OPEB liability under a pay-as-you-go arrangement and a fully-funded arrangement as well as a 10-year forecast of the Annual OPEB Cost and the Net OPEB Obligation in Section 4.

Mr. Timothy J. Gordon  
April 8, 2014  
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Our calculations were based on participant census data and other information provided by the Town of Winthrop and the benefit provisions of the medical plans as described in the benefit summaries. Our valuation is also based on medical plan rates provided on the GIC website.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

We 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.

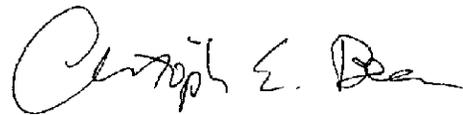
We appreciate this opportunity to be of service to the Town of Winthrop. We are available to answer any questions with respect to our valuation.

Respectfully submitted,



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Linda L. Bournival, FSA, EA, MAAA  
Member, American Academy of Actuaries  
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## ACTUARIAL CERTIFICATION

This report presents the results of the Actuarial Valuation for the Town of Winthrop Postemployment Benefits Other Than Pensions as of July 1, 2013. The report presents the accounting and financial reporting information in accordance with Statement Number 45 of the Governmental Accounting Standards Board (GASB 45).

This valuation was performed using employee data and financial information provided to us by the Town. The data required enhancements before our analysis could be performed and we obtained additional or corrected data from the Town. Judgmental adjustments were applied to the enhanced data that allowed us to perform the analysis and are disclosed in Section 7 - Actuarial Assumptions and Methods. We did not audit the data used in the valuation.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the Winthrop Contributory Retirement System and Massachusetts Teachers Retirement System's actuaries for the Retirement System pension valuations.

This report is intended for the sole use of the Town of Winthrop and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



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Linda L. Bournival, FSA, EA, MAAA  
Member, American Academy of Actuaries  
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## SECTION 1 - SUMMARY

### BACKGROUND

The Town of Winthrop provides postemployment medical benefits to Town retirees and their covered dependents. The Town provides benefits as follows:

- ◆ Group 1 employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service
- ◆ Group 1 employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service
- ◆ Group 4 employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service
- ◆ Group 4 employees hired after April 1, 2012: retire after attaining age 55

Medical coverage continues to the spouse after the death of the retiree provided the spouse makes the required contributions.

### GASB 45

The Governmental Accounting Standards Board (GASB) is responsible for establishing accounting standards for governmental entities. Calculations developed in accordance with GASB standards are required when providing financial statements.

GASB believes that postemployment benefits are a form of deferred compensation whose cost should be recognized while the employee actually renders services rather than when the actual benefits are paid, many years later. Ideally under the GASB standard the entire postemployment liability is recognized by the time an active participant begins to receive postemployment benefits. GASB 45's focus is on postemployment benefits other than pensions, such as medical, dental and life insurance benefits. Unlike pensions where sponsors are pre-funding for benefits due in the future, the impact of GASB 45 will be to significantly increase cash pay-as-you-go expense.

The effective date for GASB 45 is a function of the Town's total annual revenues in the first fiscal year ending after June 15, 1999. We understand that this is your fiscal year that ended June 30, 1999, and that your related revenues were greater than \$10 million and less than \$100 million. As a result, the Town was required to comply with GASB 45 for the fiscal year ending June 30, 2009.

### ACTUARIAL VALUATION

As of July 1, 2013, there are 456 active employees who may be eligible for benefits in the future and 391 retired employees, covered spouses and survivors who are currently receiving benefits. Coverage is for individuals and families or individuals and spouses depending on the coverage selected.

## SECTION 1 - SUMMARY

Prior to GASB 45, the annual cost recognized was the annual premiums or benefits paid plus administrative expenses less any participant contributions paid towards the coverage. Under GASB 45, an annual cost for postemployment coverage is developed for any person who is currently receiving or who is currently actively employed and may be eligible to receive benefits in the future. In developing the GASB 45 cost for the Town of Winthrop, the payment of future benefits is determined using the current schedule of premiums under the GIC plans. We have used a single unadjusted premium rate applicable to both active employees and non-Medicare-eligible retirees because the GIC would offer the same premium rates if only non-Medicare-eligible retirees from the Town of Winthrop were covered. These premiums are increased in the future under the annual healthcare cost trend rate assumptions. The per capita costs utilized in this valuation are detailed in Section 7, Actuarial Assumptions and Methods.

### SUMMARY OF PRINCIPAL RESULTS

Valuation Date	<u>July 1, 2013</u>	<u>July 1, 2010</u> *
<b>Summary of Member Data</b>		
Active Members**	456	322
Average Age	45.9	47.4
Average Service	12.5	12.3
Retired Members and Survivors	273	256
Average Age	72.9	Not Available
Covered Spouses of Retired Members	118	Not Available
<b>Discount rate</b>	4.00%	4.00%
<b>Actuarial Accrued Liability</b>	\$65,990,530	\$50,004,256
<b>Normal Cost</b>	\$1,993,379	\$1,598,233
<b>Assets</b>	\$0	\$0
<b>Unfunded Actuarial Accrued Liability</b>	\$65,990,530	\$50,004,256
<b>Annual Required Contribution</b>	\$5,890,142	\$4,361,481
<b>Expected Employer Premiums</b>	\$2,177,250	\$1,983,092

\* Based on the actuarial report prepared by Primoris.

\*\* We believe the prior report included only active employees covered under a health care plan.

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## SECTION 1 - SUMMARY

### ACTUARIAL ASSUMPTIONS

The most important assumption for GASB 45 is the discount rate, which is used to discount future benefits to current age. GASB 45 requires that the discount rate accurately reflects the rate of return on assets dedicated to paying the retiree medical benefits. This means that a traditional pay-as-you-go system, which pays benefits from the Town's annual budget and not a dedicated trust, must use a discount rate close to the rate of return on cash. Full pre-funding by use of a dedicated trust with a mixture of stocks and bonds can employ a higher discount rate that accurately reflects the expected return on trust assets dedicated to pay retiree medical benefits. For the Town of Winthrop, we selected a 4.0% discount rate to reflect a pay-as-you-go system with an expected return close to the rate of return on cash.

### CHANGES

Some assumptions used in this valuation have changed from those used in the July 1, 2010 valuation and are detailed in Section 7. The major assumption changes are summarized below:

- ◆ the plan participation rate was changed from 100% to 70% to reflect active participation in health care plans as well as anticipated coverage upon retirement.
- ◆ the trend rates were changed from 8% in year 1, decreasing by 1% per year to an ultimate rate of 5%, to 9% in year one, decreasing by 1% per year to an ultimate rate of 5%.
- ◆ the mortality table was changed from the RP-2000 Mortality Table (no projection for mortality improvement) to the RP-2000 Mortality Table projected to 2013 using Scale AA.
- ◆ the termination rates were changed in this valuation to reflect the rates used by the Winthrop Retirement System and the Massachusetts Teachers Retirement System for the Retirement System pension valuations, including rates applicable to public safety employees and teachers.
- ◆ disability rates were incorporated in this valuation to reflect the rates used by the Winthrop Retirement System and the Massachusetts Teachers Retirement System for the Retirement System pension valuations.

### RESULTS

We have provided results based on a discount rate of 4.0%. As shown in Table 4.3 of Section 4, the Annual OPEB Cost for the fiscal year ending June 30, 2014 under GASB 45 is \$5,667,465 and the estimated Annual OPEB Cost for the fiscal year ending June 30, 2015 under GASB 45 is \$5,832,296.

The accumulated Net OPEB Obligation as of June 30, 2014 is \$15,974,312 and the estimated Net OPEB Obligation as of June 30, 2015 is \$19,383,964.

The Actuarial Accrued Liability (AAL) as of July 1, 2013 is \$65,990,530. The AAL by status breakdown is shown below:

Actives:	\$35,282,712
Retirees, Beneficiaries and Surviving Spouses:	30,707,818
Total:	\$65,990,530

## SECTION 1 - SUMMARY

### ACTUARIAL GAIN/LOSS ANALYSIS

In performing the actuarial valuation, various assumptions are made regarding future premium rates, mortality, retirement, disability and withdrawal rates as well as investment returns. A comparison of the results of the current valuation and the prior valuation is made to determine how closely actual experience relates to expected. Below is the development of the estimated Actuarial Gain/(Loss) for the current period:

	<u>July 1, 2010</u>	<u>July 1, 2011</u>
Actuarial Accrued Liability, beginning of year	\$50,004,256	\$51,644,224
Normal Cost	1,598,233	1,662,162
Expected Employer Premiums	1,983,092	2,096,751
Interest	2,024,827	2,090,732
Expected Actuarial Accrued Liability, end of year	\$51,644,224	\$53,300,367
		<u>July 1, 2012</u>
Actuarial Accrued Liability, beginning of year		\$53,300,367
Normal Cost		1,728,649
Expected Employer Premiums		2,158,236
Interest		2,158,419
Expected Actuarial Accrued Liability, end of year		\$55,029,198
Actual Actuarial Accrued Liability		\$65,990,530
Gain/(Loss)		(\$10,961,332)

The actuarial loss of \$10,961,332 was mostly comprised of the following:

- ◆ gain as a result of demographic and premium changes from the prior valuation

### REIMBURSEMENT FOR HEALTHCARE PREMIUM CONTRIBUTIONS

Whenever the service of a retired employee is attributable to service in more than one Massachusetts governmental unit and the retired employee receives a healthcare premium contribution, Section 9A1/2 of M.G.L. Section 32B provides for reimbursement by other governmental units for the portion of healthcare premium contributions that corresponds to the percentage of the retiree's creditable service that is attributable for each governmental unit. The other governmental units shall be charged based on the Town of Winthrop's contribution rate or the contribution rate of the first employer, whichever is lower.

For purposes of this valuation, we have not taken into account any prior service rendered at other Massachusetts entities for current or future retirees for the Town of Winthrop nor have we taken into account any service rendered by former Town of Winthrop employees currently working at or retired from other Massachusetts entities that may notify the Town of Winthrop of reimbursement due for former Town of Winthrop employees.

Town of Winthrop Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2013

## SECTION 2 - PRINCIPAL VALUATION RESULTS

Section 20 of M.G.L. Chapter 32 allows municipal entities to establish an OPEB trust for purposes of accumulating assets to prefund the OPEB liabilities. We understand that the Town of Winthrop has not established an irrevocable trust for the purpose of prefunding OPEB liabilities.

The Actuarial Value of Plan Assets is equal to the market value. The asset activity during the 2-year period July 1, 2012 through June 30, 2014 follows:

**TABLE 2.1 - OPEB TRUST ASSETS**

<b>Market Value of Assets</b>		
<b>Fiscal Year Ending</b>	<b><u>6/30/2014</u></b>	<b><u>6/30/2013</u></b>
Assets as of Beginning of Year	\$0	\$0
Contributions Receivable	\$0	\$0
Assets as of Beginning of Year	\$0	\$0
Employer Contributions		
Paid Premiums*	\$2,082,000	\$2,031,235
OPEB Trust Deposits	0	0
Total Employer Contributions	\$2,082,000	\$2,031,235
Benefits Paid	(2,082,000)	(\$2,031,235)
Expenses	0	0
Investment Earnings	0	0
Assets as of End of Year	\$0	\$0

\* Paid premiums for the fiscal year ending June 30, 2013 were provided by the Town of Winthrop. Paid premiums for the fiscal year ending June 30, 2014 were estimated based on the retiree data submitted by the Town.

## SECTION 2 - PRINCIPAL VALUATION RESULTS

The Actuarial Accrued Liability is the portion of the Actuarial Present Value of Future Benefits which is allocated to all periods prior to a valuation year and therefore is not provided for by future Normal Costs. Below is the Actuarial Accrued Liability assuming a discount rate of 4.0%, the rate of return on cash, and 8.0%, the rate of return on a dedicated trust if the Town were to fully pre-fund benefits:

**TABLE 2.2 - ACTUARIAL ACCRUED LIABILITY**

	Pay-As-You-Go	Full Pre-Funding
<b>Discount Rate</b>	<b>4.0%</b>	<b>8.0%</b>
<b>Current Active Employees</b>		
Pre-Medicare Gross Benefit	\$11,578,070	\$7,085,312
Pre-Medicare Participant Contributions	1,677,856	1,039,943
Net Pre-Medicare Benefit	\$9,900,214	\$6,045,369
Post - Medicare Gross Benefit	\$29,842,014	\$12,458,663
Post - Medicare Participant Contributions	4,459,516	1,873,281
Net Post - Medicare Benefit	\$25,382,498	\$10,585,382
<b>Total Current Active Employees</b>	<b>\$35,282,712</b>	<b>\$16,630,751</b>
<b>Current Retirees</b>		
Pre-Medicare Gross Benefit	\$4,660,511	\$4,127,128
Pre-Medicare Participant Contributions	619,753	545,930
Net Pre-Medicare Benefit	\$4,040,758	\$3,581,198
Post - Medicare Gross Benefit	\$30,778,264	\$20,169,006
Post - Medicare Participant Contributions	4,111,204	2,696,999
Net Post - Medicare Benefit	\$26,667,060	\$17,472,007
<b>Total Current Retirees</b>	<b>\$30,707,818</b>	<b>\$21,053,205</b>
<b>Total Actuarial Accrued Liability (AAL)</b>	<b>\$65,990,530</b>	<b>\$37,683,956</b>

## SECTION 2 - PRINCIPAL VALUATION RESULTS

The Normal Cost is the portion of the Actuarial Present Value of Future Benefits which is attributed to services rendered by active employees in the current year. Below is the Normal Cost assuming a discount rate of 4.0%, the rate of return on cash, and 8.0%, the rate of return on a dedicated trust if the Town were to fully pre-fund benefits:

**TABLE 2.3 - NORMAL COST**

	Pay-As-You-Go	Full Pre-Funding
<b>Discount Rate</b>	<b>4.0%</b>	<b>8.0%</b>
<b>Current Active Employees</b>		
Pre-Medicare Gross Benefit	\$723,591	\$323,222
Pre-Medicare Participant Contributions	100,507	45,662
Net Pre-Medicare Benefit	\$623,084	\$277,560
Post - Medicare Gross Benefit	\$1,606,443	\$478,672
Post - Medicare Participant Contributions	236,148	71,313
Net Post - Medicare Benefit	\$1,370,295	\$407,359
<b>Total Current Active Employees</b>	<b>\$1,993,379</b>	<b>\$684,919</b>
<b>Current Retirees</b>		
Pre-Medicare Gross Benefit	\$0	\$0
Pre-Medicare Participant Contributions	0	0
Net Pre-Medicare Benefit	\$0	\$0
Post - Medicare Gross Benefit	\$0	\$0
Post - Medicare Participant Contributions	0	0
Net Post - Medicare Benefit	\$0	\$0
<b>Total Current Retirees</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Normal Cost (NC)</b>	<b>\$1,993,379</b>	<b>\$684,919</b>

## SECTION 2 - PRINCIPAL VALUATION RESULTS

Under GASB 45, the Annual Required Contribution (ARC) of the employer equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed level dollar amortization over the maximum acceptable amortization period of 30 years. For the period beginning July 1, 2013, the ARC, calculated under the parameters of this actuarial valuation, would be:

**TABLE 2.4 - ANNUAL REQUIRED CONTRIBUTION and ANNUAL OPEB COST**

	Pay-As-You-Go	Full Pre-Funding
<b>Discount Rate</b>	<b>4.0%</b>	<b>8.0%</b>
1. Normal Cost	\$1,993,379	\$684,919
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$65,990,530	\$37,683,956
b. Actuarial Value of Plan Assets	\$0	\$0
c. Unfunded Actuarial Accrued Liability	\$65,990,530	\$37,683,956
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$65,990,530	\$37,683,956
b. Amortization Period in years	30	30
c. Factor Increasing Rate	0.0%	0.0%
d. Amortization Factor	17.98	12.16
e. Amortization Amount (3.a. / 3.d.)	\$3,670,219	\$3,099,010
4. Interest on 1. and 3.e.	\$226,544	\$302,714
5. Annual Required Contribution (1. + 3.e. + 4.)	\$5,890,142	\$4,086,643
6. Net OPEB Obligation / (Asset) beginning of year	\$12,484,097	Not Applicable
7. Interest on Net OPEB Obligation at 4.00%	\$499,364	Not Applicable
8. Adjustment to Annual Required Contribution at 4.00%	\$722,041	Not Applicable
9. Annual OPEB Cost (5. + 7. - 8.)	\$5,667,465	Not Applicable

Town of Winthrop Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2013

## SECTION 3 - GASB 45 ACCOUNTING DISCLOSURE

GASB 45 requires disclosure of the annual OPEB cost, the Net OPEB Obligation and the Schedule of Funding Progress. In addition, information about the Actuarial Methods and Assumptions used in the valuation and a summary of the Substantive Plan Provisions are disclosed, which are provided in Section 6 and Section 7, respectively.

<b>Annual OPEB Cost and Net OPEB Obligation</b>			
Fiscal Year Ending	<u>6/30/2014</u>	<u>6/30/2013</u>	<u>6/30/2012</u>
Discount rate	4.00%	4.00%	4.00%
Annual Required Contribution	\$5,890,142	\$4,496,321	\$4,418,412
Interest on Net OPEB Obligation	499,364	402,131	309,268
Adjustment to annual required contribution	(722,041)	(309,376)	(309,376)
Annual OPEB cost/(expense)	\$5,667,465	\$4,589,076	\$4,418,304
Employer contributions (including subsidy)	(2,177,250)	(2,158,236)	(2,096,751)
Change in Net OPEB Obligation	\$3,490,215	\$2,430,840	\$2,321,553
Net OPEB Obligation (Asset) - beginning of year	\$12,484,097	\$10,053,257	\$7,731,704
Net OPEB Obligation (Asset) - end of year	\$15,974,312	\$12,484,097	\$10,053,257

<b>Plan History</b>				
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation	
6/30/2014	5,667,465	38.4%	15,974,312	
6/30/2013	4,589,076	47.0%	12,484,097	
6/30/2012	4,418,304	47.5%	10,053,257	

<b>Schedule of Funding Progress</b>						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) / c)
7/1/2013	0	65,990,530	65,990,530	0.00%	20,795,753	317.3%
7/1/2010	0	50,004,256	50,004,256	0.00%	Not Available	Not available
7/1/2008	0	49,693,455	49,693,455	0.00%	Not Available	Not available

Town of Winthrop Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2013

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## SECTION 4 - FORECASTS

### OVERVIEW

In Section 4, we have provided 30-year forecasts of the annual funding requirements, accrued liability, assets and unfunded actuarial accrued liability under a pay-as-you-go scenario and a fully-funded funding scenario. The entries in Tables 4.1 and 4.2 are based on the assumptions stated below:

- ◆ Expected Employer Premiums are developed in the actuarial valuation and are based on the assumptions detailed in Section 7.
- ◆ Normal Cost with interest is assumed to increase annually by 4%.
- ◆ Assets are assumed to grow annually at the selected discount rate plus Additional Funding amounts made at the end of each fiscal year.
- ◆ Actuarial Accrued Liability (AAL), end of year, equals AAL, beginning of year, plus Normal Cost less Expected Employer Premiums plus interest on these items.
- ◆ Unfunded Actuarial Accrued Liability (UAAL) equals the AAL less Assets.
- ◆ the Annual Required Contribution (ARC) is the sum of the Normal Cost with Interest and the Amortization Amount with Interest.

**Table 4.1** is based on funding the expected Employer share of premiums on a pay-as-you-go basis.

- ◆ The assumed discount rate is 4%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 4% on an open amortization basis. The open amortization period is 30 years, recalculated at each valuation date.

**Table 4.2** is based on fully funding the Annual Required Contribution (ARC) each year.

- ◆ The assumed discount rate is 8%.
- ◆ Amortization Amount with Interest is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 8% on a closed amortization basis. The closed amortization period is 30 years at year one declining to zero after 30 years. This method fully funds the UAL at the end of 30 years.
- ◆ Assumes Additional Funding of the excess of the ARC over the Expected Employer Premiums.

## SECTION 4 - FORECASTS

**TABLE 4.1 - ANNUAL REQUIRED CONTRIBUTIONS**

FYE June 30	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Assets, BOY	(4) Unfunded Actuarial Accrued Liability (2) - (3)	(5) Expected Employer Premiums	(6) Employer Contributions	(7) Amortization Amount	(8) Interest	(9) ARC (1) + (7) + (8)
2014	1,993,379	65,990,530	-	65,990,530	2,177,250	2,177,250	3,670,219	226,544	5,890,142
2015	2,073,114	68,482,897	-	68,482,897	2,422,644	2,422,644	3,808,837	235,278	6,117,229
2016	2,156,039	70,907,630	-	70,907,630	2,649,133	2,649,133	3,943,695	243,989	6,343,723
2017	2,242,281	73,284,620	-	73,284,620	2,550,452	2,550,452	4,075,897	252,727	6,570,905
2018	2,331,972	75,947,017	-	75,947,017	2,683,794	2,683,794	4,223,972	262,238	6,818,182
2019	2,425,251	78,673,205	-	78,673,205	2,794,052	2,794,052	4,375,595	272,034	7,072,880
2020	2,522,261	81,493,010	-	81,493,010	2,849,909	2,849,909	4,532,425	282,187	7,336,873
2021	2,623,151	84,469,534	-	84,469,534	2,929,366	2,929,366	4,697,972	292,845	7,613,968
2022	2,728,077	87,589,014	-	87,589,014	3,030,796	3,030,796	4,871,469	303,982	7,903,528
2023	2,837,200	90,838,957	-	90,838,957	3,131,767	3,131,767	5,052,222	315,577	8,204,999
2024	2,950,688	94,229,415	-	94,229,415	3,242,046	3,242,046	5,240,791	327,659	8,519,138
2025	3,068,716	97,761,056	-	97,761,056	3,323,817	3,323,817	5,437,211	340,237	8,846,164
2026	3,191,465	101,473,322	-	101,473,322	3,409,496	3,409,496	5,643,678	353,406	9,188,549
2027	3,319,124	105,374,361	-	105,374,361	3,483,769	3,483,769	5,860,643	367,191	9,546,958
2028	3,451,889	109,488,464	-	109,488,464	3,546,343	3,546,343	6,089,459	381,654	9,923,002
2029	3,589,965	113,841,393	-	113,841,393	3,589,042	3,589,042	6,331,557	396,861	10,318,383
2030	3,733,564	118,468,493	-	118,468,493	3,624,284	3,624,284	6,588,904	412,899	10,735,367
2031	3,882,907	123,394,081	-	123,394,081	3,659,324	3,659,324	6,862,852	429,830	11,175,589
2032	4,038,223	128,636,275	-	128,636,275	3,657,513	3,657,513	7,154,409	447,705	11,640,337
2033	4,199,752	134,251,532	-	134,251,532	3,655,515	3,655,515	7,466,715	466,659	12,133,126
2034	4,367,742	140,261,427	-	140,261,427	3,616,015	3,616,015	7,800,969	486,748	12,655,459
2035	4,542,452	146,726,710	-	146,726,710	3,570,040	3,570,040	8,160,551	508,120	13,211,123
2036	4,724,150	153,679,188	-	153,679,188	3,545,918	3,545,918	8,547,230	530,855	13,802,235
2037	4,913,116	161,123,331	-	161,123,331	3,525,292	3,525,292	8,961,253	554,975	14,429,344
2038	5,109,641	169,082,799	-	169,082,799	3,483,542	3,483,542	9,403,938	580,543	15,094,122
2039	5,314,027	177,607,608	-	177,607,608	3,495,755	3,495,755	9,878,065	607,684	15,799,776
2040	5,526,588	186,673,516	-	186,673,516	3,468,762	3,468,762	10,382,287	636,355	16,545,230
2041	5,747,652	196,350,651	-	196,350,651	3,450,041	3,450,041	10,920,503	666,726	17,334,881
2042	5,977,558	206,663,870	-	206,663,870	3,432,573	3,432,573	11,494,097	698,866	18,170,521
2043	6,216,660	217,646,534	-	217,646,534	3,354,853	3,354,853	12,104,924	732,863	19,054,447

Town of Winthrop Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2013

30 years open, 4.0% discount rate.

## SECTION 4 - FORECASTS

**TABLE 4.2 - Funding the Annual Required Contribution (ARC)**

(1) FYE June 30	(2) Expected Employer Premiums	(3) AAL at Beginning of Year	(4) Assets at Beginning of Year	(5) Normal Cost with Interest	(6) Amortization Amount with Interest	(7) ARC (5) + (6)	(8) Additional Funding (7) - (2)	(9) Assets at End of Year	(10) AAL at End of Year	(11) UAAL at End of Year (10) - (9)
2014	2,177,250	37,683,956	-	739,713	3,346,930	4,086,643	1,909,393	-	39,175,720	39,175,720
2015	2,422,644	39,175,720	-	769,301	3,511,185	4,280,486	1,857,842	1,762,801	40,561,394	38,798,593
2016	2,649,133	40,561,394	1,762,801	800,073	3,509,420	4,309,494	1,660,361	3,460,258	41,853,318	38,393,060
2017	2,550,452	41,853,318	3,460,258	832,076	3,510,966	4,343,042	1,792,590	5,429,614	43,383,153	37,953,539
2018	2,683,794	43,383,153	5,429,614	865,359	3,512,410	4,377,769	1,693,975	7,452,671	44,930,084	37,477,413
2019	2,794,052	44,930,084	7,452,671	899,973	3,510,460	4,410,434	1,616,382	9,555,655	46,520,801	36,965,145
2020	2,849,909	46,520,801	9,555,655	935,972	3,511,201	4,447,173	1,597,265	11,805,569	48,216,725	36,411,156
2021	2,929,366	48,216,725	11,805,569	973,411	3,511,076	4,484,487	1,555,121	14,190,215	50,003,188	35,812,973
2022	3,030,796	50,003,188	14,190,215	1,012,348	3,509,801	4,522,149	1,491,353	16,697,886	51,866,095	35,168,209
2023	3,131,767	51,866,095	16,697,886	1,052,842	3,510,320	4,563,162	1,431,395	19,342,251	53,813,597	34,471,346
2024	3,242,046	53,813,597	19,342,251	1,094,955	3,512,175	4,607,130	1,365,084	22,127,528	55,844,406	33,716,878
2025	3,323,817	55,844,406	22,127,528	1,138,753	3,511,497	4,650,251	1,326,434	25,093,770	57,996,501	32,902,731
2026	3,409,496	57,996,501	25,093,770	1,184,304	3,511,359	4,695,662	1,286,167	28,253,681	60,277,272	32,023,591
2027	3,483,769	60,277,272	28,253,681	1,231,676	3,511,216	4,742,892	1,259,123	31,636,429	62,710,692	31,074,262
2028	3,546,343	62,710,692	31,636,429	1,280,943	3,510,482	4,791,424	1,245,082	35,273,300	65,323,022	30,049,722
2029	3,589,042	65,323,022	35,273,300	1,332,180	3,512,305	4,844,486	1,255,443	39,209,808	68,151,202	28,941,394
2030	3,624,284	68,151,202	39,209,808	1,385,468	3,511,989	4,897,457	1,273,174	43,477,584	71,222,300	27,744,716
2031	3,659,324	71,222,300	43,477,584	1,440,886	3,508,699	4,949,586	1,290,262	48,102,495	74,558,089	26,455,594
2032	3,657,513	74,558,089	48,102,495	1,498,522	3,510,079	5,008,601	1,351,088	53,158,297	78,220,260	25,061,963
2033	3,655,515	78,220,260	53,158,297	1,558,463	3,510,625	5,069,088	1,413,573	58,681,126	82,237,421	23,556,295
2034	3,616,015	82,237,421	58,681,126	1,620,801	3,509,076	5,129,877	1,513,862	64,747,620	86,679,343	21,931,723
2035	3,570,040	86,679,343	64,747,620	1,685,633	3,509,076	5,194,709	1,624,669	71,412,044	91,589,229	20,177,185
2036	3,545,918	91,589,229	71,412,044	1,753,059	3,509,076	5,262,134	1,716,216	78,702,116	96,984,400	18,282,284
2037	3,525,292	96,984,400	78,702,116	1,823,181	3,513,321	5,336,502	1,811,211	86,671,197	102,902,742	16,231,545
2038	3,483,542	102,902,742	86,671,197	1,896,108	3,513,040	5,409,148	1,925,606	95,393,838	109,410,867	14,017,029
2039	3,495,755	109,410,867	95,393,838	1,971,953	3,512,388	5,484,340	1,988,586	104,876,790	116,502,794	11,626,004
2040	3,468,762	116,502,794	104,876,790	2,050,831	3,507,286	5,558,117	2,089,355	115,220,207	124,269,005	9,048,798
2041	3,450,041	124,269,005	115,220,207	2,132,864	3,515,360	5,648,224	2,198,183	126,500,660	132,758,001	6,257,341
2042	3,432,573	132,758,001	126,500,660	2,218,178	3,501,517	5,719,696	2,287,123	138,773,175	142,029,586	3,256,411
2043	3,354,853	142,029,586	138,773,175	2,306,906	3,516,924	5,823,830	2,468,977	152,212,393	152,212,393	-

30-years closed, 8.0% discount rate.

Town of Winthrop Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2013

## SECTION 4 - FORECASTS

**TABLE 4.3 - ANNUAL OPEB COST and NET OPEB OBLIGATION**

FYE June 30	ARC	Interest on Net OPEB Obligation	ARC Adjustment	Amortization Factor	Annual OPEB Cost	Employer Contributions	Change in Net OPEB Obligation	Net OPEB Obligation Balance
								12,484,097
2014	5,890,142	499,364	722,041	17.29	5,667,465	2,177,250	3,490,215	15,974,312
2015	6,117,229	638,972	923,905	17.29	5,832,296	2,422,644	3,409,652	19,383,964
2016	6,343,723	775,359	1,121,108	17.29	5,997,974	2,649,133	3,348,841	22,732,805
2017	6,570,905	909,312	1,314,795	17.29	6,165,422	2,550,452	3,614,970	26,347,776
2018	6,818,182	1,053,911	1,523,874	17.29	6,348,219	2,683,794	3,664,425	30,012,201
2019	7,072,880	1,200,488	1,735,813	17.29	6,537,555	2,794,052	3,743,503	33,755,704
2020	7,336,873	1,350,228	1,952,325	17.29	6,734,776	2,849,909	3,884,867	37,640,572
2021	7,613,968	1,505,623	2,177,014	17.29	6,942,577	2,929,366	4,013,211	41,653,783
2022	7,903,528	1,666,151	2,409,126	17.29	7,160,553	3,030,796	4,129,757	45,783,540
2023	8,204,999	1,831,342	2,647,978	17.29	7,388,363	3,131,767	4,256,596	50,040,136

Notes:

1. ARC and Employer Contributions are from 30-Year Forecast of Annual Required Contributions (Table 4.1).
2. Interest on Net OPEB Obligation is computed on the prior year Net OPEB Obligation Balance.
3. ARC Adjustment is the prior year Net OPEB Obligation Balance amortized over 30 years.
4. OPEB Cost is the ARC plus Interest on Net OPEB Obligation less ARC Adjustment.
5. Change in Net OPEB Obligation is the difference between the OPEB Cost and Employer Contributions.
6. Net OPEB Obligation is the prior year Net OPEB Obligation Balance plus Change in Net OPEB Obligation.
7. Year one Interest on Net OPEB Obligation and ARC Adjustment computed at prior discount rate of 4.00%.
8. Subsequent years' Interest on Net OPEB Obligation and ARC Adjustment computed at current discount rate of 4.00%.

## SECTION 5 - SENSITIVITY TO HEALTH CARE COST TREND RATE

Below we illustrate the sensitivity of Actuarial Accrued Liability to a one percentage increase and decrease in health care cost trend assumption for each future year:

**TABLE 5.1 - ACTUARIAL ACCRUED LIABILITY**

	<u>Assumed Trend</u>	<u>Trend +1%</u>	<u>Trend -1%</u>
<b>Discount Rate</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>
<b>Current Active Employees</b>			
Pre-Medicare Gross Benefit	\$11,578,070	\$13,232,818	\$10,191,206
Pre-Medicare Participant Contributions	1,677,856	1,912,029	1,481,100
Net Pre-Medicare Benefit	\$9,900,214	\$11,320,789	\$8,710,106
Post - Medicare Gross Benefit	\$29,842,014	\$38,232,338	\$23,589,765
Post - Medicare Participant Contributions	4,459,516	5,699,422	3,533,619
Net Post - Medicare Benefit	\$25,382,498	\$32,532,916	\$20,056,146
<b>Total Current Active Employees</b>	<b>\$35,282,712</b>	<b>\$43,853,705</b>	<b>\$28,766,252</b>
<b>Current Retirees</b>			
Pre-Medicare Gross Benefit	\$4,660,511	\$4,790,882	\$4,537,145
Pre-Medicare Participant Contributions	619,753	638,106	602,434
Net Pre-Medicare Benefit	\$4,040,758	\$4,152,776	\$3,934,711
Post - Medicare Gross Benefit	\$30,778,264	\$34,590,340	\$27,550,448
Post - Medicare Participant Contributions	4,111,204	4,618,395	3,681,823
Net Post - Medicare Benefit	\$26,667,060	\$29,971,945	\$23,868,625
<b>Total Current Retirees</b>	<b>\$30,707,818</b>	<b>\$34,124,721</b>	<b>\$27,803,336</b>
<b>Total Actuarial Accrued Liability (AAL)</b>	<b>\$65,990,530</b>	<b>\$77,978,426</b>	<b>\$56,569,588</b>

## SECTION 5 - SENSITIVITY TO HEALTH CARE COST TREND RATE

Below we illustrate the sensitivity of Normal Cost to a one percentage increase and decrease in health care cost trend assumption for each future year:

**TABLE 5.2 - NORMAL COST**

	<u>Assumed Trend</u>	<u>Trend +1%</u>	<u>Trend -1%</u>
<b>Discount Rate</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>
<b>Current Active Employees</b>			
Pre-Medicare Gross Benefit	\$723,591	\$895,759	\$587,716
Pre-Medicare Participant Contributions	100,507	124,062	81,886
Net Pre-Medicare Benefit	\$623,084	\$771,697	\$505,830
Post - Medicare Gross Benefit	\$1,606,443	\$2,247,682	\$1,163,297
Post - Medicare Participant Contributions	236,148	329,188	171,643
Net Post - Medicare Benefit	\$1,370,295	\$1,918,494	\$991,654
<b>Total Current Active Employees</b>	<b>\$1,993,379</b>	<b>\$2,690,191</b>	<b>\$1,497,484</b>
<b>Current Retirees</b>			
Pre-Medicare Gross Benefit	\$0	\$0	\$0
Pre-Medicare Participant Contributions	0	0	0
Net Pre-Medicare Benefit	\$0	\$0	\$0
Post - Medicare Gross Benefit	\$0	\$0	\$0
Post - Medicare Participant Contributions	0	0	0
Net Post - Medicare Benefit	\$0	\$0	\$0
<b>Total Current Retirees</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Normal Cost</b>	<b>\$1,993,379</b>	<b>\$2,690,191</b>	<b>\$1,497,484</b>

## SECTION 6 - PLAN PROVISIONS

**Eligibility:**

Group 1 employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service

Group 1 employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service

Group 4 employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service

Group 4 employees hired after April 1, 2012: retire after attaining age 55

**Medical Premium Rates:**

The total monthly cost by plan are shown below:

<u>Non-Medicare Plans - July 1, 2013</u>	<u>Individual</u>	<u>Family</u>
Fallon Direct Care	\$471.78	\$1,132.26
Fallon Select Care	\$593.45	\$1,424.28
HP Independence Plan	\$680.75	\$1,661.01
HP Primary Choice	\$544.59	\$1,328.81
Health New England	\$459.40	\$1,138.95
NHP Care (Neighborhood Health Plan)	\$457.91	\$1,213.45
Tufts Health Plan Navigator	\$627.17	\$1,521.18
Tufts Health Plan Spirit	\$505.07	\$1,223.25
UniCare Basic with CIC	\$920.94	\$2,149.50
UniCare Basic without CIC	\$879.28	\$2,052.87
UniCare Community Choice	\$428.78	\$1,029.06
UniCare PLUS	\$624.55	\$1,490.51
<u>Medicare Plans - July 1, 2013</u>		
Fallon Senior	\$274.86	
HP Medicare Enhanced	\$395.19	
Health NE MedPlus	\$363.49	
Tufts Medicare Complement	\$385.92	
Tufts Medicare Preferred	\$254.27	
UniCare OME w/CIC	\$381.22	
UniCare OME w/o CIC	\$370.28	

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## SECTION 6 - PLAN PROVISIONS

- Participant Contributions:** Retired employees contribute between 10% and 35% of the total medical premium rates, as follows:
- Teachers who retired before July 1, 2008 contribute 10%.  
All others enrolled in UniCare State Indemnity plans contribute 35%.  
All others contribute 15%.
- Continuation of Coverage to Spouse After Death of Retiree:** Surviving spouse may continue coverage for lifetime by paying required medical premium rates.
- Life Insurance Benefit:** Retirees are eligible for a \$2,000 life insurance benefit.
- Life Insurance Premium:** The total monthly cost is \$3.22.
- Life Insurance Contributions:** Retired employees contribute \$1.61 per month for life insurance.
- PPACA Excise Tax:** The Patient Protection and Affordable Care Act (PPACA) applies a 40% excise tax to the cost of plan benefits in excess of statutory thresholds beginning in 2018. The 2018 thresholds are assumed to be \$10,200 for individual and \$27,500 for family coverage and increase by CPI in future years. The annual limits are increased by \$1,650 for individual and \$3,450 for family coverage for retirees not eligible for Medicare benefits.

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Valuation Date:** July 1, 2013

**Discount Rates:** 4.00% pay-as-you-go.  
8.00% full pre-funding.

**Amortization Method:** Level dollar amount over thirty (30) years on an open amortization period for pay-as-you-go.  
Level dollar amount over thirty (30) years on a closed amortization period for full pre-funding.

**Health Care Cost Trend Rates:**

Year	Current	Prior
1	9.00%	8.00%
2	8.00%	7.00%
3	7.00%	6.00%
4	6.00%	5.00%
5	5.00%	5.00%
Ultimate	5.00%	5.00%

**CPI:** 3% per year.

**Mortality Table:** RP-2000 Healthy Annuitant Table, projected to 2013, using Scale AA.

**Turnover Rates:**

Groups 1 and 2		Group 4	
Service	Rate	Service	Rate
0	15.00%	0-10	1.50%
1	12.00%	11+	0.00%
2	10.00%		
3	9.00%		
4	8.00%		
5-9	7.60%		
10-14	5.40%		
15-19	3.30%		
20-24	2.00%		
25-29	1.00%		
30+	0.00%		

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Turnover Rates: (continued)**

*Teachers:*

<u>Age</u>	<u>Service</u>					
	0		5		10+	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	12.0%	10.0%	4.5%	9.0%	1.0%	5.0%
30	11.4%	12.0%	4.5%	9.0%	1.0%	5.0%
40	9.7%	11.0%	5.4%	6.5%	1.7%	2.9%
50	10.0%	8.2%	4.8%	4.2%	2.2%	2.1%

**Disability Rates:**

<b>Groups 1 and 2</b>		<b>Group 4</b>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	0.01%	20	0.10%
30	0.03%	30	0.30%
40	0.10%	40	0.30%
50	0.19%	50	1.25%

*Teachers:*

<u>Age</u>	<u>Rate</u>
20	0.004%
30	0.006%
40	0.010%
50	0.050%
60	0.100%

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates:**

<u>Age</u>	<u>Groups 1 and 2</u>		<u>Group 4</u>
	Male	Female	All
45	0.00%	0.00%	1.00%
46	0.00%	0.00%	1.00%
47	0.00%	0.00%	1.00%
48	0.00%	0.00%	1.00%
49	0.00%	0.00%	1.00%
50	1.00%	1.50%	2.00%
51	1.00%	1.50%	2.00%
52	1.00%	2.00%	2.00%
53	1.00%	2.50%	5.00%
54	2.00%	2.50%	7.50%
55	2.00%	5.50%	15.00%
56	2.50%	6.50%	10.00%
57	2.50%	6.50%	10.00%
58	5.00%	6.50%	10.00%
59	6.50%	6.50%	15.00%
60	12.00%	5.00%	20.00%
61	20.00%	13.00%	20.00%
62	30.00%	15.00%	25.00%
63	25.00%	12.50%	25.00%
64	22.00%	18.00%	30.00%
65	40.00%	15.00%	100.00%
66	25.00%	20.00%	
67	25.00%	20.00%	
68	30.00%	25.00%	
69	30.00%	20.00%	
70	100.00%	100.00%	

## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates: (continued)** *Teachers:*

<u>Age</u>	<u>Years of Service</u>					
	Less than 20		20-30		30+	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
45	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
50	0.0%	0.0%	1.0%	1.5%	2.0%	2.0%
55	3.0%	2.0%	3.0%	3.0%	6.0%	6.0%
60	15.0%	20.0%	20.0%	16.0%	50.0%	35.0%
62	20.0%	25.0%	30.0%	30.0%	40.0%	40.0%
65	40.0%	30.0%	40.0%	30.0%	50.0%	35.0%
69	40.0%	30.0%	30.0%	30.0%	50.0%	30.0%
70	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Medical Plan Participation:** 70% of eligible retirees will elect to participate.

**Life Insurance Participation:** 70% of eligible retirees will elect to participate.

**Dependent Status:** Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee.

50% of employees are assumed to retire with a covered spouse.

For current retirees, the actual census information provided is used.

**Medical Per Capita Costs:** Annual per capita costs for the fiscal year beginning July 1, 2013 are as follows:

<u>Age</u>	<u>Cost</u>
Under 65	\$9,905
65 and Over	\$4,664

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## SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retiree Contributions:** Annual per capita participant contributions for the fiscal year beginning July 1, 2013 are as follows:

<u>Age</u>	<u>10%</u>	<u>15%</u>	<u>35%</u>
Under 65	\$991	\$1,486	\$3,467
65 and older	\$466	\$700	\$1,632

**Excise Tax:** For purposes of estimating the excise tax, per capita plan costs are developed for individual and family coverage for both Medicare and non-Medicare members. These plan costs are compared to the thresholds stipulated in the Patient Protection and Affordable Care Act (PPACA). Beginning in 2018, a 40% excise tax is applied on the excess of the plan costs over the thresholds, which increase annually by CPI.

**Actuarial Cost Method:** Projected Unit Credit. The costs of each employee's postemployment benefits are allocated on a pro rata basis from the employee's date of hire to the date the employee is fully eligible for benefits.

**Employee Data:** Employee and retiree data were submitted by the Town. We made reasonable adjustments for missing or invalid data.

We assumed female spouses were three years younger than retired male teachers with family coverage and male spouses were three years older than retired female teachers with family coverage as no spouses' birth dates were provided in the data.

Submitted data for retired Teachers did not contain gender or birth dates. We assumed that retired Teachers enrolled in pre-Medicare plans were age 60 as of the valuation date and that retired Teachers enrolled in Medicare plans were age 75 as of the valuation date. Gender codes were assigned based on names provided.

## SECTION 8 - PLAN MEMBER INFORMATION

**TABLE 8.1 - ACTIVE EMPLOYEES BY AGE and YEARS OF SERVICE AS OF JULY 1, 2013**

Age	Years of Service									Total	Percent
	<u>0 to 4</u>	<u>5 to 9</u>	<u>10 to 14</u>	<u>15 to 19</u>	<u>20 to 24</u>	<u>25 to 29</u>	<u>30 to 34</u>	<u>35 to 39</u>	<u>40 &amp; up</u>		
Under 25	14	1	0	0	0	0	0	0	0	15	3%
25 to 29	42	4	2	0	0	0	0	0	0	48	11%
30 to 34	31	21	6	0	0	0	0	0	0	58	13%
35 to 39	11	17	7	1	0	0	0	0	0	36	8%
40 to 44	12	9	19	4	3	1	0	0	0	48	11%
45 to 49	6	19	14	11	12	1	0	0	0	63	13%
50 to 54	6	13	13	10	5	11	0	0	0	58	13%
55 to 59	9	2	8	12	11	8	11	1	0	62	13%
60 to 64	2	6	5	9	6	8	3	3	2	44	10%
65 to 69	1	2	1	2	3	3	0	0	3	15	3%
70 & up	0	0	2	1	2	1	1	0	2	9	2%
Total	134	94	77	50	42	33	15	4	7	456	
Percent	29%	21%	17%	11%	9%	7%	3%	1%	2%		100%
	Average Age: 45.9			Average Service: 12.5							

## SECTION 8 - PLAN MEMBER INFORMATION

**TABLE 8.2 - RETIRED PLAN PARTICIPANTS, COVERED SPOUSES and SURVIVORS AS OF JULY 1, 2013**

Non-Medicare Plans:

Age	HP Independence Plan	HP Primary Choice	Tufts Health Plan Navigator	Tufts Health Plan Spirit	UniCare Basic with CIC	UniCare Community Choice	Fallon Senior	HP Medicare Enhanced	Tufts Medicare Complement	Tufts Medicare Preferred	UniCare OME w/CIC	Life Only	Total
Under 40	0	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 49	1	0	0	0	0	0	0	0	0	0	0	0	1
50 to 54	2	0	1	0	0	0	0	0	0	0	0	0	3
55 to 59	2	0	0	0	0	0	0	1	0	0	0	1	4
60 to 64	31	4	3	1	15	1	0	6	0	0	0	1	62
65 to 69	7	0	0	0	0	0	0	13	0	0	1	2	23
70 to 74	5	1	0	0	6	0	0	24	2	2	0	5	45
75 to 79	1	0	0	0	0	0	1	39	0	0	51	2	94
80 to 84	0	0	0	0	0	0	0	12	0	0	0	2	14
85 to 89	0	0	0	0	0	0	0	11	0	0	0	4	15
90+	0	0	0	0	0	0	0	12	0	0	0	0	12
<b>Total</b>	<b>49</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>21</b>	<b>1</b>	<b>1</b>	<b>118</b>	<b>2</b>	<b>2</b>	<b>52</b>	<b>17</b>	<b>273</b>
<b>Covered Spouses</b>	<b>31</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>47</b>	<b>1</b>	<b>1</b>	<b>23</b>		<b>118</b>

Town of Winthrop Postemployment Benefits Other Than Pensions  
Actuarial Valuation as of July 1, 2013

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## SECTION 9 - GASB 45 GLOSSARY OF TERMS

**Actuarial Accrued Liability** – The portion of the Actuarial Present Value of future benefits which is allocated to all periods prior to a valuation year and therefore is not provided by future Normal Costs.

**Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, disablement and retirement; changes in compensation and Government provided pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

**Actuarial Present Value of Future Benefits** – The present value of the cost to finance all benefits payable in the future, discounted to reflect the probability of payment and the time value of money.

**Actuarial Valuation** – the determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets and related Actuarial Present Values for an OPEB plan.

**Actuarial Value of Assets** – The value of plan assets used in an actuarial valuation. The Actuarial Value of Assets may reflect smoothing techniques intended to dampen year-to-year fluctuations in the market value of assets.

**Annual OPEB Cost** - The accrual basis annual cost for the OPEB plan sponsored by the employer. In the year of implementation of GASB 45, the Annual OPEB Cost equals the ARC. In subsequent years, if an employer has a Net OPEB Obligation, Annual OPEB Cost equals the ARC plus one year's interest on the Net OPEB Obligation plus an adjustment to the ARC.

**Annual Required Contribution (ARC)** – Includes the employer's Normal Cost and a provision for amortizing the Unfunded Actuarial Accrued Liability.

**Explicit Subsidy** – The difference between (a) the blended rates based on combined active and retired member experience and (b) actual cash contributions made by the employer.

**Funded Ratio** – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

**Health Cost Trend Rate** – The rate of change in per capita health claims cost over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

**Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group and (b) the blended rates based on combined active and retired member experience.

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## SECTION 9 - GASB 45 GLOSSARY OF TERMS

**Net OPEB Obligation** – The cumulative excess since adoption of GASB 45 of Annual OPEB Cost over the employer's contributions to the plan.

**Normal Cost** – The portion of the Actuarial Present Value of Future Benefits which is allocated to a valuation year.

**OPEB** – Other Postemployment Benefits including medical, dental, vision, hearing and life insurance benefits.

**Plan Assets** – Investments segregated and restricted in a trust or similar arrangement under which:

- employer contributions to the trust are irrevocable,
- assets are dedicated to providing plan benefits, and
- assets are legally protected from creditors.

**Pay-As-You-Go** – A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

**Present Value of Future Benefits** – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

**Projected Unit Credit Actuarial Cost Method** – A method under which the projected benefits of each individual included in an Actuarial Valuation are allocated by a consistent formula to valuation years. Projected Unit Credit is one of the actuarial cost methods allowed and most often used for developing liabilities under GASB 45.

**Substantive Plan** – The terms of an OPEB plan as understood by the employer and plan members.

**Unfunded Actuarial Accrued Liability** – The excess of Actuarial Accrued Liability over the Actuarial Value of Assets.

## SECTION 10 - RESULTS BY SUBGROUP

Unit	<u>Town</u>	<u>School</u>	<u>Recreation</u>	<u>Rink</u>	<u>Total</u>
<b>Summary of Member Data</b>					
Active Members	223	229	3	1	456
Average Age	49.5	42.4	44.2	55.6	45.9
Average Service	13.5	11.5	11.7	0.4	12.5
Retired Members and Survivors	142	131	0	0	273
Average Age	75.0	70.6	0.0	0.0	72.9
<b>Actuarial Accrued Liability - July 1, 2013</b>					
Active Employees	18,933,643	16,154,336	193,196	1,537	35,282,712
Retired Employees and Survivors	12,716,711	17,991,107	0	0	30,707,818
Total	31,650,354	34,145,443	193,196	1,537	65,990,530
<b>Actuarial Value of Plan Assets - July 1, 2013</b>					
	0	0	0	0	0
<b>Unfunded Actuarial Accrued Liability</b>					
	31,650,354	34,145,443	193,196	1,537	65,990,530
<b>Annual Required Contribution (ARC) for FYE 2014</b>					
Normal Cost	882,750	1,090,818	15,985	3,826	1,993,379
Amortization of UAL	1,760,309	1,899,080	10,745	85	3,670,219
Interest	105,722	119,597	1,069	156	226,544
<b>Total</b>	<b>2,748,781</b>	<b>3,109,495</b>	<b>27,799</b>	<b>4,067</b>	<b>5,890,142</b>
<b>Annual OPEB Cost for FYE 2014</b>					
Annual Required Contribution	2,748,781	3,109,495	27,799	4,067	5,890,142
Interest on Net OPEB Obligation	233,041	263,621	2,357	345	499,364
Adjustment to annual required contribution	(336,958)	(381,176)	(3,408)	(499)	(722,041)
Annual OPEB cost/(expense)	2,644,864	2,991,940	26,748	3,913	5,667,465
Expected Employer premiums	(939,471)	(1,237,779)	0	0	(2,177,250)
OPEB Trust contributions	0	0	0	0	0
Employer contributions (including subsidy)	(939,471)	(1,237,779)	0	0	(2,177,250)
Change in Net OPEB Obligation	1,705,393	1,754,161	26,748	3,913	3,490,215
Net OPEB Obligation (Asset) - beginning of year*	5,826,013	6,590,544	58,920	8,620	12,484,097
Net OPEB Obligation (Asset) - end of year	7,531,406	8,344,705	85,668	12,533	15,974,312

Town of Winthrop Postemployment Benefits Other Than Pensions  
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## SECTION 10 - RESULTS BY SUBGROUP

Unit	<u>Town</u>	<u>School</u>	<u>Recreation</u>	<u>Rink</u>	<u>Total</u>
<b>Actuarial Accrued Liability - July 1, 2014</b>					
Total	32,876,352	35,383,419	217,548	5,578	68,482,897
<b>Actuarial Value of Plan Assets - July 1, 2014</b>	0	0	0	0	0
<b>Unfunded Actuarial Accrued Liability</b>	32,876,352	35,383,419	217,548	5,578	68,482,897
<b>Annual Required Contribution (ARC) for FYE 2015</b>					
Normal Cost	918,060	1,134,451	16,624	3,979	2,073,114
Amortization of UAL	1,828,495	1,967,933	12,099	310	3,808,837
Interest	109,862	124,095	1,149	172	235,278
<b>Total</b>	<b>2,856,417</b>	<b>3,226,479</b>	<b>29,872</b>	<b>4,461</b>	<b>6,117,229</b>
<b>Annual OPEB Cost for FYE 2015</b>					
Annual Required Contribution	2,856,417	3,226,479	29,872	4,461	6,117,229
Interest on Net OPEB Obligation	301,256	333,788	3,427	501	638,972
Adjustment to annual required contribution	(435,593)	(482,632)	(4,955)	(725)	(923,905)
Annual OPEB cost/(expense)	2,722,080	3,077,635	28,344	4,237	5,832,296
Expected Employer premiums	(1,043,752)	(1,378,892)	0	0	(2,422,644)
OPEB Trust contributions	0	0	0	0	0
Employer contributions (including subsidy)	(1,043,752)	(1,378,892)	0	0	(2,422,644)
Change in Net OPEB Obligation	1,678,328	1,698,743	28,344	4,237	3,409,652
Net OPEB Obligation (Asset) - beginning of year	7,531,406	8,344,705	85,668	12,533	15,974,312
Net OPEB Obligation (Asset) - end of year	9,209,734	10,043,448	114,012	16,770	19,383,964

\* The Net OPEB Obligation as of June 30, 2012 is allocated to each subgroup based on the Annual Required Contribution as of June 30, 2013.