



**TOWN OF WINTHROP, MASSACHUSETTS**

**OTHER POSTEMPLOYMENT BENEFITS PROGRAM**

**ACTUARIAL VALUATION**

**as of**

**July 1, 2015**

**FINANCIAL REPORTING AND DISCLOSURES UNDER**

**GASB 45 and GASB 74**

**as of**

**June 30, 2017**

KMS Actuarial, LLC  
814 Elm Street, Suite 204  
Manchester, NH 03101

March, 2018



March 23, 2018

Mr. Michael Perez  
Chief Financial Officer  
Town of Winthrop  
1 Metcalf Square  
Winthrop, MA 02152

Dear Michael:

We are pleased to present the enclosed report of the July 1, 2015 actuarial valuation of the retiree health care benefits for the Town of Winthrop. The valuation was prepared in accordance with, and for the purpose of financial reporting and disclosures as of June 30, 2017, under the following Government Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (GASB 45)
- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)

The Principal Valuation Results, including assets, liabilities and the development of future contributions, are provided in Section 1. The Notes to the Financial Statements and the Required Supplementary Information are provided in Sections 2 and 3, respectively. Employer Reporting Amounts Under GASB 45 are provided in Section 4. The Summary of Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 5 and 6, respectively. Section 7 summarizes the demographic profile of active members and retired members, covered spouses and survivors. Finally, a Glossary of Terms is provided in Section 8.

Our calculations are based on member census data and other information provided by the Town of Winthrop as well as health plan rates provided by the Town as of July 1, 2016. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Mr. Michael Perez

March 23, 2018

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Liabilities presented in this report are based on a discount rate of 3.58%, a long-term investment return rate of 7.5% and a municipal bond rate of 3.58%.

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.

Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

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.

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.

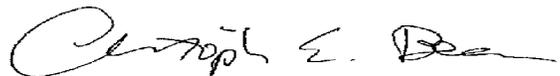
The expected claims, cost trend rates, and analysis of regulatory changes have been developed based on the expertise of the undersigned health and welfare actuary, Christopher E. Bean, ASA, MAAA. The undersigned credentialed actuaries are Members of the American Academy of Actuaries and meet the Qualification 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  
Member, American Academy of Actuaries  
(603) 792-9494



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Christopher E. Bean, ASA, MAAA  
Member, American Academy of Actuaries  
(508) 628-9022

K M S A C T U A R I E S

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## EXECUTIVE SUMMARY

This report presents the results of the actuarial valuation of the Town of Winthrop's retiree health care benefits as of July 1, 2015. The valuation was prepared in accordance with, and for the purpose of financial reporting and disclosures as of June 30, 2017, under the following Government Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (GASB 45)
- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)

The results as of the measurement date are based on a roll forward of the liabilities developed in the most recent actuarial valuation.

### **New Accounting Standards**

In June 2015, the GASB approved two related Statements that significantly changed the way other postemployment benefits (OPEB) plans and governments account and report OPEB liabilities. Effective for plans with fiscal years beginning after June 15, 2016, GASB Statement No. 74 (GASB 74), Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, replaced the requirements of Statement No. 43 and effective for employers with fiscal years beginning after June 15, 2017, GASB Statement No. 75 (GASB 75), Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, replaced the requirements of Statement No. 45.

GASB 74 requires OPEB plans to present a statement of fiduciary net position (OPEB plan assets) and a statement of changes in fiduciary net position. Further, the statement requires that notes to financial statements include descriptive information such as the types of benefits provided, the classes of plan members covered and the authority under which benefit terms are established or may be amended. Finally, GASB 74 requires OPEB plans to present in required supplementary information the sources of the changes in the net OPEB liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 74 and GASB 75 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects:

- (1) a long-term expected rate of return on OPEB plan investments *to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB plan assets are expected to be invested using a strategy to achieve that return and*
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

GASB 75 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and OPEB expense by state and local governments.

## EXECUTIVE SUMMARY

### Town of Winthrop Other Postemployment Benefits Program

The effective date for GASB 74 is for plan years beginning after June 15, 2016, which is the fiscal year ending June 30, 2017 for the Town of Winthrop. The effective date for GASB 75 is for fiscal years beginning after June 15, 2017, which is the fiscal year ending June 30, 2018 for the Town of Winthrop.

### GASB 45 and GASB 74

A summary of principal results from the current and prior measurement dates follows:

Measurement Date	June 30, 2017	June 30, 2016	Increase/ (Decrease)
<b>Membership Data</b>			
Active Members	439	N/A	
Inactive Plan Members	273	N/A	
Total Plan Members	712	N/A	
<b>Valuation Results (GASB 45)</b>			
Annual Required Contribution	\$6,531,965	\$6,010,571	8.7%
Net OPEB Obligation	\$26,134,454	\$22,004,557	18.8%
<b>Valuation Results (GASB 74)</b>			
Total OPEB Liability	\$78,519,883	\$85,116,698	(7.8%)
Fiduciary Net Position	\$175,778	\$50,232	249.9%
Net OPEB Liability	\$78,344,105	\$85,066,466	(7.9%)
Discount rate	3.58%	2.85%	

### Experience Gain and Loss

In developing the Total OPEB Liability, various assumptions are made regarding future premium rates, mortality, retirement, disability and turnover rates. A comparison of the results of the current and prior measurements is made to determine how closely actual experience relates to expected. For the current measurement period, there is no experience gain or loss as the Total OPEB liability was developed from a roll forward of results of the most recent valuation.

### Changes of Assumptions

The discount rate changed from 2.85% as of June 30, 2016 to 3.58% as of June 30, 2017. All other assumptions were the same as those used in the previous measurement.

### Changes of Benefit Terms

As this is the first year of recognizing the Total OPEB Liability under GASB 74, there are no changes in Benefit Terms.

### Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2017, is \$78,519,883. The Total OPEB Liability as of the prior measurement date, June 30, 2016, was \$85,116,698. The development of the Total OPEB Liability for the current and prior measurement dates is shown in Section 1, Exhibit 1.2.

Town of Winthrop Postemployment Benefits Other Than Pensions  
Financial Reporting and Disclosures Under GASB 45 and GASB 74 as of June 30, 2017

## EXECUTIVE SUMMARY

### Fiduciary Net Position

The Fiduciary Net Position is equal to the market value of assets and as of the current measurement date, June 30, 2017, is \$175,778. The Fiduciary Net Position as of the prior measurement date, June 30, 2016, was \$50,232. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

### Discount Rate

As of the June 30, 2017 measurement date, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the 3.58% municipal bond rate was applied to all periods to determine the total OPEB liability.

### ACTUARIAL VALUATION

A summary of principal valuation results from the current valuation and the prior valuation follows. Changes in actuarial assumptions and methods and Plan provisions are discussed below, as well as changes in census data and asset information.

Valuation Date	<u>July 1, 2015</u>	<u>July 1, 2013</u>	<u>Increase/ (Decrease)</u>
<b>Membership Data</b>			
Active Members	444	415	7.0%
Average Age	43.8	45.8	(4.3%)
Average Service	10.2	11.5	(11.0%)
Covered Payroll	Not available	\$19,953,536	
Retired Members and Survivors	276	274	0.7%
Average Age	71.7	72.1	(0.6%)
Covered Spouses	94	114	(17.5%)
<b>Valuation Results (GASB 45)</b>			
Actuarial Accrued Liability	\$72,148,595	\$62,958,152	14.6%
Market Value of Assets	\$50,232	\$0	0.0%
Unfunded Actuarial Accrued Liability	\$72,098,363	\$62,958,152	14.5%
Funded Ratio	0.1%	0.0%	0.0%
Normal Cost	\$2,015,894	\$1,873,039	7.6%
Expected Benefit Payments	\$1,812,906	\$2,134,857	(15.1%)
Annual Required Contribution	\$6,266,854	\$5,589,589	12.1%

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## EXECUTIVE SUMMARY

### **Actuarial Gain / Loss Analysis**

In performing the actuarial valuation, various assumptions are made regarding future premium rates, mortality, retirement, disability and turnover 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. The various sources of gains and losses for the **current two-year period** on account of assumption and method changes are described on page 5 of the Actuarial Valuation report dated August 4, 2017.

### **Actuarial Assumptions and Methods**

Some of the Actuarial Assumptions and Methods, including the mortality tables, pre-retirement decrements, participation rates, and payroll increase rate have been changed since last valuation. The Actuarial Assumptions and Methods utilized in this valuation are detailed in Section 6, Actuarial Assumptions and Methods.

### **Plan Provisions**

All of the Plan provisions used in this valuation are the same as those used in the last valuation and are detailed in Section 5, Summary of Plan Provisions.

### **Census Data**

As of July 1, 2015, there are 444 active members who may be eligible for benefits in the future and 370 retired members, covered spouses and survivors. Summaries of the active members and retired members, covered spouses and survivors are included in Section 7, Plan Member Information.

### **Assets**

This valuation is based upon asset information provided by the Town. The market value of assets increased from \$0 as of July 1, 2013 to \$50,232 as of July 1, 2015.

### **Employer Future Period Contributions**

The Town does not currently have a formal funding policy.

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.1 - OPEB Trust Assets

Section 20 of M.G.L. Chapter 32B 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 established an irrevocable trust for this purpose. Plan assets segregated and restricted in an OPEB trust must be dedicated to providing plan benefits to retirees and beneficiaries in accordance with the terms of the plan and must be legally protected from creditors of the employer. Further, employer contributions to the trust must be irrevocable. Asset information for the current and prior fiscal years was provided by the Town and is presented below:

Fiscal Year Ended June 30	2017	2016
<b>Trust Fund Composition at Fiscal Year-End</b>		
Cash and Equivalents	\$175,778	\$50,232
Total Market Value of Assets	\$175,778	\$50,232
<b>Asset Activity</b>		
Market value, beginning of year	\$50,232	\$50,116
Employer Premiums	1,934,575	1,812,906
OPEB Trust Contributions	125,000	-
Benefit Payments	(1,934,575)	(1,812,906)
Expenses	-	-
Investment Return	546	116
Market value, end of year	\$175,778	\$50,232
<b>Money-Weighted Rate of Return</b>	0.44%	
<b>(Gain) / Loss on OPEB Plan Investments</b>		
Projected earnings	\$8,455	
Actual earnings	546	
(Gain) / Loss on OPEB plan investments	\$7,909	

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.2 - Total OPEB Liability

The Total OPEB Liability, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The total OPEB liability as of the June 30, 2017 measurement date was developed from an actuarial valuation as of July 1, 2015 and rolled forward to the OPEB plan's fiscal year-end.

<u>Measurement Date</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Valuation Date	July 1, 2015	July 1, 2015
Discount Rate	3.58%	2.85%
Actives	\$ 33,828,717	\$ 39,789,331
Retirees, Covered Spouses and Survivors	36,872,776	40,893,747
Total OPEB Liability	<u>\$ 70,701,493</u>	<u>\$ 80,683,078</u>

The Service Cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached the age at which the probability of retirement is 100% incur a service cost.

Service Cost	\$ 3,050,744	\$ 3,862,802
Expected Benefit Payments		
Current retirees	\$ 1,675,644	\$ 1,675,644
Future retirees	137,262	137,262
Total	<u>\$ 1,812,906</u>	<u>\$ 1,812,906</u>

The Total OPEB Liability as of the fiscal year-end, or measurement date, is developed through the use of update procedures to roll forward the results of the valuation as of the beginning of the measurement period.

<u>Measurement Date:</u>	<u>June 30, 2017</u>	<u>June 30, 2016</u>
Discount Rate	3.58%	2.85%
Actives	\$ 40,998,213	\$ 44,757,001
Retirees, Covered Spouses and Survivors	37,521,670	40,359,697
Total OPEB Liability	<u>\$ 78,519,883</u>	<u>\$ 85,116,698</u>

The Total OPEB Liability changed due to:

<u>Change in Total OPEB Liability:</u>		
Assumption changes	\$	(11,146,618)
Benefit changes	\$	-

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.3 - Development of Annual Required Contributions

The Town does not currently have a formal funding policy.

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, 2016, the ARC, calculated under the parameters of this actuarial valuation, would be:

	Pay-as-you-go	Full Funding
<b>Discount Rate</b>	<b>4.00%</b>	<b>7.5%</b>
1. Normal Cost	\$2,096,530	\$724,428
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$75,282,260	\$42,339,672
b. Actuarial Value of Plan Assets	\$50,232	\$50,232
c. Unfunded Actuarial Accrued Liability	\$75,232,028	\$42,289,440
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$75,232,028	\$42,289,440
b. Amortization Period in years	30	30
c. Payroll Growth Rate	0.0%	0.0%
d. Amortization Factor	17.98	12.70
e. Amortization Amount (3.a. / 3.d.)	\$4,184,206	\$3,329,877
4. Interest on 1. and 3.e.	\$251,229	\$304,073
5. Annual Required Contribution (1. + 3.e. + 4.)	\$6,531,965	\$4,358,378
6. Actual Employer Contribution to OPEB Trust	\$75,000	\$75,000
7. Expected Benefit Payments	\$1,934,575	\$1,934,575
8. Total Contribution (6.+ 7.)	\$2,009,575	\$2,009,575

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## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.1 - Plan Description

*Plan administration:*

The Town of Winthrop administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees.

*Plan membership:*

At June 30, 2017, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments <sup>1</sup>	273
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	439
	<hr/>
	712
	<hr/>

<sup>1</sup>Per paragraph 34a of GASB 74 and further clarified by Question 4.67 of the 2017-2 GASB 74 Implementation Guide, the total shown for inactive plan members or beneficiaries currently receiving benefit payments does not include covered spouses or other dependents.

*Benefits provided:*

The Town provides health care benefits for retirees and their dependents. Benefits are provided through the GIC, and the full cost of benefits is shared between the Town and retirees.

*Contributions:*

The Town does not currently have a formal funding policy.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2017, were as follows:

Total OPEB liability	\$ 78,519,883
Fiduciary net position	(175,778)
Net OPEB liability	<u>\$ 78,344,105</u>

Fiduciary net position as a percentage of the total OPEB liability 0.22%

#### *Actuarial assumptions:*

The total OPEB liability was determined by an actuarial valuation as of July 1, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.6 percent
Investment rate of return	7.5%, net of investment expenses, including inflation
Discount rate	3.58%, net of investment expenses, including inflation
Healthcare cost trend rate	8 percent for 2015, decreasing 0.5 percent per year to an ultimate rate of 5 percent for 2021 and later years.
Pre-Retirement Mortality - General and Public Safety employees:	RP-2000 Employees Mortality Table, base year 2009, projected with generational mortality improvement using scale BB.
Post-Retirement Mortality - General and Public Safety employees:	RP-2000 Healthy Annuitant Mortality Table, base year 2009, projected with generational mortality improvement using scale BB.
Pre-Retirement Mortality - Teachers:	RP-2014 Employees Mortality Table, base year 2014, projected with generational mortality improvement using scale BB.
Post-Retirement Mortality - Teachers:	RP-2014 Healthy Annuitant Mortality Table, base year 2014, projected with generational mortality improvement using scale BB.

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## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2017 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rates of Return</u>
Cash and Equivalents	100%	0.00%
Total	100%	

*Discount rate:*

The discount rate used to measure the total OPEB liability was 3.58%. The projection of cash flows used to determine the discount rate assumed that contributions from the Town will be made in accordance with the plan's funding policy. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the 3.58% municipal bond rate was applied to all periods to determine the total OPEB liability.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

*Sensitivity of the net OPEB liability to changes in the discount rate:*

The following presents the net OPEB liability calculated using the current discount rate of 3.58 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (2.58 percent) or 1-percentage point higher (4.58 percent) than the current rate:

	<b>1% Decrease (2.58%)</b>	<b>Discount Rate (3.58%)</b>	<b>1% Increase (4.58%)</b>
Net OPEB Liability	\$ 94,253,354	\$ 78,344,105	\$ 66,086,075

*Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates:*

The following presents the net OPEB liability calculated using the current healthcare cost trend rates as well as what the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage point lower (7% year 1 decreasing to 4%) or 1-percentage point higher (9% year 1 decreasing to 6%) than the current healthcare cost trend rates:

	<b>1% Decrease 7% Year 1 Decreasing to 4%</b>	<b>Healthcare Cost Trend Rates 8% Year 1 Decreasing to 5%</b>	<b>1% Increase 9% Year 1 Decreasing to 6%</b>
Net OPEB Liability	\$ 63,962,993	\$ 78,344,105	\$ 97,662,481

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	<u>2017</u>	<u>2016</u>
<b>Total OPEB Liability</b>		
Service cost	\$ 3,972,892	
Interest	2,511,486	
Changes of benefit terms	-	
Differences between expected and actual experience	-	
Changes of assumptions	(11,146,618)	
Benefit payments	(1,934,575)	
<b>Net change in total OPEB liability</b>	<u>\$ (6,596,815)</u>	
<b>Total OPEB liability—beginning</b>	<u>\$ 85,116,698</u>	
<b>Total OPEB liability—ending (a)</b>	<u>\$ 78,519,883</u>	<u>\$ 85,116,698</u>
<b>Plan fiduciary net position</b>		
Contributions—employer	\$ 2,059,575	
Net investment income	546	
Benefit payments	(1,934,575)	
Administrative expenses	-	
Other	-	
<b>Net change in plan fiduciary net position</b>	<u>\$ 125,546</u>	
<b>Plan fiduciary net position—beginning</b>	<u>\$ 50,232</u>	
<b>Plan fiduciary net position—ending (b)</b>	<u>\$ 175,778</u>	<u>\$ 50,232</u>
<b>Net OPEB liability—ending (a) – (b)</b>	<u>\$ 78,344,105</u>	<u>\$ 85,066,466</u>
Plan fiduciary net position as a percentage of the total OPEB liability	0.22%	0.06%
Covered payroll	\$ 23,956,755	
Net OPEB liability as a percentage of covered payroll	327.02%	

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## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	<u>2017</u>
Annual money-weighted rate of return, net of investment expenses	0.44%

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of OPEB plan investments by the proportion of time they are available to earn a return during that period. The rate of return is then calculated by solving, through an iterative process, for the rate that equates the sum of the weighted external cash flows into and out of the OPEB plan investments to the ending fair value of OPEB plan investments.

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.2 - Investment Returns

#### Calculation of Money-Weighted Rate of Return

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r <sub>mw</sub> ) <sup>(c)</sup>
Beginning value - July 1, 2016	\$ 50,232	12	1.00	\$ 50,455
Monthly net external cash flows:				
July	-	11	0.92	-
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	125,000	7	0.58	125,323
December	-	6	0.50	-
January	-	5	0.42	-
February	-	4	0.33	-
March	-	3	0.25	-
April	-	2	0.17	-
May	-	1	0.08	-
June	-	0	0.00	-
Ending value - June 30, 2017				\$ 175,778
			Money-weighted rate of return:	0.44%

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## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	<u>2017</u>
Actuarially determined contribution	\$ 6,531,965
Contributions in relation to the actuarially determined contribution	<u>2,059,575</u>
Contribution deficiency (excess)	<u>\$ 4,472,390</u>
Covered payroll	\$ 23,956,755
Contributions as a percentage of covered payroll	8.60%

#### Notes to Schedule

##### *Valuation date:*

Actuarially determined contributions are determined as of July 1, one year prior to the end of the fiscal year in which contributions are reported.

##### *Methods and assumptions used in calculations of actuarially determined contributions:*

Actuarial cost method	Projected Unit Credit
Amortization method	Level dollar amount over 30 years on an open amortization period
Amortization period	30 years
Asset valuation method	Market value
Inflation	2.6 percent
Healthcare cost trend rates	8 percent initial, decreasing 0.5 percent per year to an ultimate rate of 5 percent
Investment rate of return	4 percent, net of OPEB plan investment expense, including inflation

## SECTION 4 - EMPLOYER REPORTING AMOUNTS

### Exhibit 4.1 - Accounting Disclosures under GASB 45

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 5, respectively.

<b>Annual OPEB Cost and Net OPEB Obligation</b>			
Fiscal Year Ending	<u>6/30/2017</u>	<u>6/30/2016</u>	<u>6/30/2015</u>
Discount rate	4.00%	4.00%	4.00%
Annual Required Contribution	\$6,531,965	\$6,010,571	\$5,799,917
Interest on Net OPEB Obligation	880,182	755,496	628,646
Adjustment to annual required contribution	<u>(1,272,675)</u>	<u>(1,092,388)</u>	<u>(908,974)</u>
Annual OPEB cost	\$6,139,472	\$5,673,679	\$5,519,589
Employer contributions made	(\$1,934,575)	(\$2,506,511)	(\$2,348,352)
OPEB Trust contributions	<u>(75,000)</u>	<u>(50,000)</u>	<u>-</u>
Total Employer contributions	(2,009,575)	(2,556,511)	(2,348,352)
Change in Net OPEB Obligation	\$4,129,897	\$3,117,168	\$3,171,237
Net OPEB Obligation - beginning of year	\$22,004,557	\$18,887,389	\$15,716,152
Net OPEB Obligation - end of year	\$26,134,454	\$22,004,557	\$18,887,389
* Entries for fiscal years 2015 and 2016 from Town's audited financial statements.			

<b>Plan History</b>				
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation	
6/30/2017	6,139,472	32.7%	26,134,454	
6/30/2016	5,673,679	45.1%	22,004,557	
6/30/2015	5,519,589	42.5%	18,887,389	

<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)
7/1/2015	50,116	65,750,806	65,700,690	0.08%	Not Available	Not Available
7/1/2013	0	62,958,152	62,958,152	0.00%	19,953,536	315.5%
7/1/2010	0	50,004,256	50,004,256	0.00%	Not Available	Not Available

Town of Winthrop Postemployment Benefits Other Than Pensions  
Financial Reporting and Disclosures Under GASB 45 and GASB 74 as of June 30, 2017

## SECTION 5 - SUMMARY OF 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

**Ordinary Disability Eligibility:** Any member who is unable to perform his or her duties due to a non-occupational disability and has ten or more years of creditable service.

**Accidental Disability Eligibility:** Any member who is unable to perform his or her duties due to a job-related disability.

**Medical Premium Rates:** The total monthly costs by plan are shown below:

<u>Non-Medicare Plans - July 1, 2016</u>	<u>Individual</u>	<u>Family</u>
Fallon Direct Care	\$519.74	\$1,247.40
Fallon Select Care	\$690.66	\$1,657.54
HP Independence Plan	\$816.43	\$1,992.07
HP Primary Choice	\$610.40	\$1,489.38
Health New England	\$534.87	\$1,326.04
NHP Care (Neighborhood Health Plan)	\$512.21	\$1,357.32
Tufts Health Plan Navigator	\$686.34	\$1,674.68
Tufts Health Plan Spirit	\$515.32	\$1,240.52
UniCare Basic with CIC*	\$1,002.41	\$2,346.44
UniCare Basic without CIC	\$959.09	\$2,245.96
UniCare Community Choice	\$487.63	\$1,170.35
UniCare PLUS	\$655.32	\$1,566.13
* Retiree pays full cost of CIC		
 <u>Medicare Plans - July 1, 2016</u>		
Fallon Senior**	\$311.54	
HP Medicare Enhanced	\$439.17	
Health NE MedPlus	\$410.96	
Tufts Medicare Complement	\$398.39	
Tufts Medicare Preferred**	\$276.46	
UniCare OME w/CIC	\$374.63	
UniCare OME w/o CIC	\$363.94	

\*\* rates effective January 1, 2016

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## SECTION 5 - SUMMARY OF 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%.  
Retirees, and Teachers who retired on or after July 1, 2008, 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 the 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:** Retirees contribute \$1.61 per month for life insurance.

**PPACA Excise Tax:** The Patient Protection and Affordable Care Act (PPACA) applies a 40% excise tax, commonly referred to as the "Cadillac Tax", to the cost of plan benefits in excess of statutory thresholds beginning in 2022. The 2018 thresholds are assumed to be \$10,200 for individual and \$27,500 for family coverage, increasing by chained CPI plus one percentage point in 2019 and by chained CPI thereafter. The annual limits are increased by \$1,650 for individual and \$3,450 for family coverage for retirees not eligible for Medicare benefits.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

**Valuation Date:** July 1, 2015

**GASB 74 Disclosure Date:** June 30, 2017

**Discount Rate (GASB 74):** 3.58%, compounded annually, for the measurement as of June 30, 2017 and 2.85%, compounded annually, for the measurement as of June 30, 2016.

**Discount Rate (GASB 45):** 4%, compounded annually, for development of the Annual Required Contribution (ARC) as of June 30, 2017.

Investment returns:  
 Plan assets (long-term rate of return): 7.5%  
 Employer assets (short-term rate of return): 4%

The development of the discount rate used in the valuation is based on the percentage of the Annual Required Contribution (ARC) funded and is shown below:

1. ARC under fully funded plan	4,358,378
2. Pay-as-you-go (PAYG)	1,934,575
3. GAP between ARC and PAYG	2,423,803
(1. - 2.)	
4. OPEB Trust contribution	75,000
5. Percent of GAP funded	3%
6. Multiplied by long-term rate	0.23%
7. Percent of GAP not funded	97%
8. Multiplied by short-term rate	3.88%
9. Discount rate (6. + 8.)	4.11%

Based on the methodology above, the Town has selected a discount rate of 4%.

**Amortization Method:** Level dollar amount over thirty (30) years on an open amortization period for partial pre-funding.

**Health Care Cost Trend Rates:**

Year	Trend
1	8.00%
2	7.50%
3	7.00%
4	6.50%
5	6.00%
6	5.50%
Ultimate	5.00%

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

- Inflation** 2.6% per year, based on the 2017 Social Security Trustees Report.
- Chained Consumer Price Index:** 2.35% per year, based on assumed CPI of 2.6% and historical data trends of chained CPI approximately 0.25% lower than standard CPI.
- 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 is used.
- Medical Per Capita Costs:** Annual per capita costs for the fiscal year beginning July 1, 2015 are as follows:

<u>Age</u>	<u>Male</u>	<u>Female</u>
Under 20	\$2,765	\$3,246
20-24	\$2,179	\$3,456
25-29	\$2,267	\$5,098
30-34	\$2,848	\$6,442
35-39	\$3,572	\$6,636
40-44	\$4,451	\$6,796
45-49	\$5,618	\$7,459
50-54	\$7,404	\$8,775
55-59	\$9,621	\$10,147
60-64	\$12,348	\$12,077
65-69	\$3,242	\$3,157
70-74	\$3,885	\$3,724
75-79	\$4,588	\$4,321
80-84	\$5,273	\$4,956
85-89	\$5,874	\$5,540
90-94	\$6,395	\$5,912
95+	\$6,797	\$5,718

**Retiree Contributions:** Annual per capita participant contributions for the fiscal year beginning July 1, 2015 are as follows:

<u>Plan</u>	<u>10%</u>	<u>15%</u>	<u>35%</u>
Non-Medicare	\$ 891	\$ 1,337	\$ 3,120
Medicare	\$ 396	\$ 594	\$ 1,386

Town of Winthrop Postemployment Benefits Other Than Pensions  
 Financial Reporting and Disclosures Under GASB 45 and GASB 74 as of June 30, 2017

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## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

- 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 2022, a 40% excise tax is applied on the excess of the plan costs over the thresholds, which increase annually by chained CPI.
- Actuarial Cost Method:** Entry Age Normal. The costs of each employee's postemployment benefits are allocated as a level basis over the earnings of the employee between the employee's date of hire and the assumed exit ages. Previously, Projected Unit Credit.
- Employee Data:** Employee and retiree data were submitted by the Town. We made reasonable adjustments for missing or invalid data.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

**Post-Retirement Mortality:** Post-retirement mortality rates for General and Public Safety employees are based on the RP-2000 Healthy Annuitant Mortality Table, base year 2009, projected with generational mortality improvement using scale BB.

**Pre-Retirement Mortality:** Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2000 Employees Mortality Table, base year 2009, projected with generational mortality improvement using scale BB.

**Turnover Rates:** Turnover rates for General and Public Safety employees are as follows:

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%		

**Disability Rates:** Disability rates for General and Public Safety employees are as follows:

Groups 1 and 2		Group 4	
Age	Rate	Age	Rate
25	0.02%	25	0.20%
30	0.03%	30	0.30%
35	0.06%	35	0.30%
40	0.10%	40	0.30%
45	0.15%	45	1.00%
50	0.19%	50	1.25%
55	0.24%	55	1.20%
60	0.28%	60	0.85%

55% of the General employee disabilities are job-related.

90% of the Public Safety employee disabilities are job-related.

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## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates:**

Retirement rates for General and Public Safety employees are as follows:

<u>Age</u>	<u>Groups 1 and 2</u>		<u>Group 4</u>
	Male	Female	All
45-49	0.00%	0.00%	1.00%
50-54	0.00%	0.00%	2.00%
55-59	2.00%	5.50%	15.00%
60-61	12.00%	5.00%	20.00%
62-64	30.00%	15.00%	25.00%
65-68	40.00%	15.00%	100.00%
69	50.00%	20.00%	
70	100.00%	100.00%	

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

**Post-Retirement Mortality:** Post-retirement mortality rates for Teachers are based on the RP-2014 Healthy Annuitant Mortality Table, base year 2014, projected with generational mortality improvement using scale BB.

**Pre-Retirement Mortality:** Pre-retirement mortality rates for Teachers are based on the RP-2014 Employees Mortality Table, base year 2014, projected with generational mortality improvement using scale BB.

**Turnover Rates:** Turnover rates for Teachers are as follows:

<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	13.0%	10.0%	5.5%	7.0%	1.5%	5.0%
30	15.0%	15.0%	5.4%	8.8%	1.5%	4.5%
40	13.3%	10.5%	5.2%	5.0%	1.7%	2.2%
50	16.2%	9.8%	7.0%	5.0%	2.3%	2.0%

**Disability Rates:** Disability rates for Teachers are as follows:

<u>Age</u>	<u>Rate</u>
20	0.004%
30	0.006%
40	0.010%
50	0.050%
60	0.070%

35% of the disabilities are job-related.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

**Retirement Rates:**

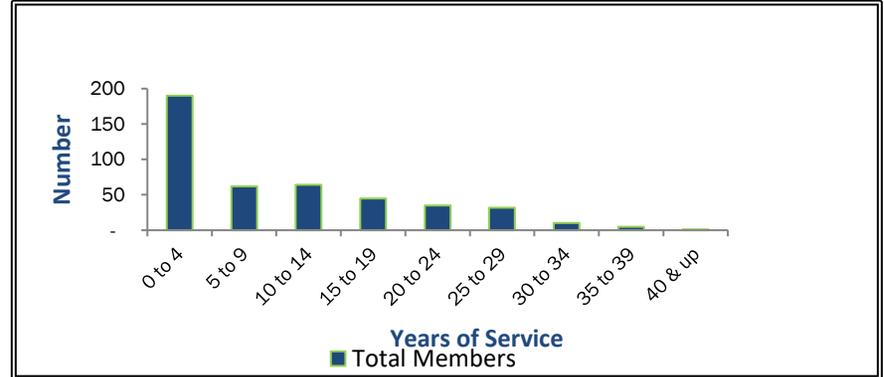
Retirement rates for Teachers are as follows:

<u>Age</u>	<u>Years of Service</u>					
	<u>Less than 20</u>		<u>20-30</u>		<u>30+</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
50	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
51	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
52	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
53	0.0%	0.0%	1.5%	1.0%	2.0%	1.5%
54	0.0%	0.0%	2.5%	1.0%	2.0%	2.0%
55	5.0%	3.0%	3.0%	3.0%	6.0%	5.0%
56	5.0%	3.0%	6.0%	5.0%	20.0%	15.0%
57	5.0%	4.0%	10.0%	8.0%	40.0%	35.0%
58	5.0%	8.0%	15.0%	10.0%	50.0%	35.0%
59	10.0%	8.0%	20.0%	15.0%	50.0%	35.0%
60	10.0%	10.0%	25.0%	20.0%	40.0%	35.0%
61	20.0%	12.0%	30.0%	25.0%	40.0%	35.0%
62	20.0%	12.0%	35.0%	30.0%	35.0%	35.0%
63	25.0%	15.0%	40.0%	30.0%	35.0%	35.0%
64	25.0%	20.0%	40.0%	30.0%	35.0%	35.0%
65	25.0%	25.0%	40.0%	40.0%	35.0%	35.0%
66	30.0%	25.0%	30.0%	30.0%	40.0%	35.0%
67	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
68	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
69	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
70	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## SECTION 7 - PLAN MEMBER INFORMATION

**TABLE 7.1 - ACTIVE MEMBERS BY AGE and YEARS OF SERVICE AS OF JULY 1, 2015**

Age	Years of Service									Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 20	-	-	-	-	-	-	-	-	-	-	
20 to 24	32	1	-	-	-	-	-	-	-	33	
25 to 29	55	4	2	-	-	-	-	-	-	61	
30 to 34	29	10	5	1	-	-	-	-	-	45	
35 to 39	23	11	6	3	-	-	-	-	-	43	
40 to 44	18	6	13	7	-	-	-	-	-	44	
45 to 49	11	13	7	9	10	4	-	-	-	54	
50 to 54	8	10	14	7	9	9	1	-	-	58	
55 to 59	11	5	11	10	6	7	4	1	-	55	
60 to 64	2	1	3	7	9	8	2	4	-	36	
65 to 69	1	1	3	1	-	2	2	-	1	11	
70 & up	-	-	-	-	1	2	1	-	-	4	
<b>Total</b>	<b>190</b>	<b>62</b>	<b>64</b>	<b>45</b>	<b>35</b>	<b>32</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>444</b>	
Average Age:							43.82		Average Service:		10.23



## SECTION 7 - PLAN MEMBER INFORMATION

**TABLE 7.2 - RETIRED MEMBERS, COVERED SPOUSES and SURVIVORS AS OF JULY 1, 2015**

Non-Medicare Plans														
Age	Fallon Direct Care	Fallon Select Care	HP Independence Plan	HP Primary Choice	Health New England	NHP Care (Neighborhood Health Plan)	Tufts Health Plan Navigator	Tufts Health Plan Spirit	UniCare Basic with CIC	UniCare Basic without CIC	UniCare Community Choice	UniCare PLUS	Total	
Under 40	1	0	0	0	0	0	0	0	0	0	0	0	0	1
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 to 54	3	0	1	0	0	0	0	0	0	0	0	0	0	4
55 to 59	4	0	5	2	0	0	0	0	0	0	0	0	0	11
60 to 64	11	0	12	1	0	0	1	0	2	0	0	0	0	27
65 to 69	5	1	8	1	0	0	0	0	4	0	0	0	0	19
70 to 74	0	0	2	2	0	0	1	0	1	0	0	0	0	6
75 to 79	1	0	0	0	0	0	0	0	3	0	0	0	0	4
80 to 84	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 to 89	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>25</b>	<b>1</b>	<b>28</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>72</b>
<b>Covered Spouses</b>	<b>8</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>

In addition, there are 15 retiree(s), survivor(s) and covered spouse(s) that are not covered under any medical plan but are covered under a life insurance policy which the Town contributes to.

## SECTION 7 - PLAN MEMBER INFORMATION

**TABLE 7.2 - RETIRED MEMBERS, COVERED SPOUSES and SURVIVORS AS OF JULY 1, 2015**

Medicare Plans:

Age	Fallon Senior	HP Medicare Enhanced	Health NE MedPlus	Tufts Medicare Complement	Tufts Medicare Preferred	UniCare OME w/CIC	UniCare OME w/o CIC	Total
Under 40	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0
55 to 59	1	0	0	0	0	0	0	1
60 to 64	8	0	0	1	0	2	0	11
65 to 69	25	15	0	1	1	11	0	53
70 to 74	20	5	3	0	0	19	0	47
75 to 79	26	0	0	1	0	8	0	35
80 to 84	13	0	0	0	1	6	0	20
85 to 89	9	0	0	0	0	2	0	11
90+	6	0	0	0	0	5	0	11
<b>Total</b>	<b>108</b>	<b>20</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>53</b>	<b>0</b>	<b>189</b>
<b>Covered Spouses</b>	<b>32</b>	<b>18</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>16</b>	<b>0</b>	<b>68</b>

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## SECTION 8 - GLOSSARY OF TERMS

**Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, disability and retirement; changes in compensation and OPEB 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 Cost Method (or Funding Method)** – A procedure for allocating the Actuarial Present Value of projected benefit payments to the current year (Service Cost) and the past (Total OPEB Liability).

**Actuarial Gain or Loss (or Experience Gain or Loss)** – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions during the period between the valuation date and the most recent immediately preceding valuation date.

**Actuarial Present Value of Projected Benefit Payments** – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

**Actuarially Determined Contribution** – A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

**Actuarial Valuation Date** – The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

**Deferred Inflow of Resources** – Acquisition of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total OPEB Liability and investment gains that are recognized in future reporting periods.

**Deferred Outflow of Resources** – Consumption of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total OPEB Liability and investment losses that are recognized in future reporting periods.

**Entry Age Normal Actuarial Cost Method** – A method under which the actuarial present value of the projected benefits of each individual in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age.

**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.

**Fiduciary Net Position** – The fair market value of assets as of the measurement date.

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

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## SECTION 8 - GLOSSARY OF TERMS

**GASB** – Governmental Accounting Standards Board.

**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.

**Measurement Date** – The date as of which the Total OPEB Liability and Fiduciary Net Position are measured.

**Net OPEB Liability** – The liability of the employer for benefits provided through an OPEB plan. It is calculated as the Total OPEB Liability less the Fiduciary Net Position.

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

**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.

**Reporting Date** – The last day of the Plan or employer's fiscal year.

**Service Cost** – The portion of the actuarial present value of projected benefit amounts that is attributed to a valuation year.

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

**Total OPEB Liability** – The portion of the actuarial present value of projected benefit amounts that is attributed to past periods of employee service.

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

## SECTION 9 - RESULTS BY SUBGROUP

Unit	Town	School	Water	Sewer	Recreation	Rink	Harbor	Total
<b>Summary of Member Data</b>								
Active Members	122	299	7	9	2	4	1	444
Average Age	48.0	41.6	50.5	49.3	51.7	56.9	29.4	43.8
Average Service	13.6	8.9	8.4	14.8	15.0	4.0	0.0	10.2
Retired Members and Survivors	119	157	0	0	0	0	0	276
Average Age	73.7	70.2	0.0	0.0	0.0	0.0	0.0	71.7
Covered Spouses	30	64	0	0	0	0	0	94
<b>Actuarial Accrued Liability - July 1, 2016</b>	26,809,488	46,691,843	451,137	859,449	305,478	159,688	5,177	75,282,260
<b>Actuarial Value of Plan Assets - July 1, 2016</b>	17,888	31,154	301	573	206	105	5	50,232
<b>Unfunded Actuarial Accrued Liability</b>	26,791,600	46,660,689	450,836	858,876	305,272	159,583	5,172	75,232,028
<b>Annual Required Contribution (ARC) - June 30, 2017</b>								
Normal Cost	553,853	1,462,573	23,363	31,032	8,518	15,357	1,834	2,096,530
Amortization of UAL	1,490,078	2,595,144	25,074	47,768	16,978	8,876	288	4,184,206
Interest	81,757	162,309	1,937	3,152	1,020	969	85	251,229
Total	2,125,688	4,220,026	50,374	81,952	26,516	25,202	2,207	6,531,965
<b>Annual OPEB Cost (AOC) - June 30, 2017</b>								
Annual Required Contribution	2,125,688	4,220,026	50,374	81,952	26,516	25,202	2,207	6,531,965
Interest on Net OPEB Obligation	313,450	545,909	5,275	10,048	3,572	1,867	61	880,182
Adjustment to annual required contribution	(453,225)	(789,342)	(7,627)	(14,529)	(5,164)	(2,700)	(88)	(1,272,675)
Annual OPEB cost	1,985,913	3,976,593	48,022	77,471	24,924	24,369	2,180	6,139,472
Employer contributions made	(751,243)	(1,172,085)	(2,604)	(4,497)	(1,427)	(2,718)	(1)	(1,934,575)
OPEB Trust contributions	(26,708)	(46,513)	(450)	(855)	(308)	(158)	(8)	(75,000)
Employer contributions	(777,951)	(1,218,598)	(3,054)	(5,352)	(1,735)	(2,876)	(9)	(2,009,575)
Change in Net OPEB Obligation	1,207,962	2,757,995	44,968	72,119	23,189	21,493	2,171	4,129,897
Net OPEB Obligation - beginning of year	7,836,254	13,647,748	131,865	251,212	89,289	46,676	1,513	22,004,557
Net OPEB Obligation - end of year	9,044,216	16,405,743	176,833	323,331	112,478	68,169	3,684	26,134,454

Town of Winthrop Postemployment Benefits Other Than Pensions  
 Financial Reporting and Disclosures Under GASB 45 and GASB 74 as of June 30, 2017

## SECTION 9 - RESULTS BY SUBGROUP

Unit	Town	School	Water	Sewer	Recreation	Rink	Harbor	Total
<b>Beginning Net OPEB Liability - June 30, 2016</b>								
Total OPEB Liability	28,914,113	54,281,088	508,737	936,674	322,216	153,870	0	85,116,698
Fiduciary Net Position	17,888	31,154	301	573	206	105	5	50,232
Net OPEB Liability	28,896,225	54,249,934	508,436	936,101	322,010	153,765	(5)	85,066,466
<b>Ending Net OPEB Liability - June 30, 2017</b>								
Total OPEB Liability	26,506,232	50,080,257	524,851	904,244	298,862	192,298	13,138	78,519,883
Fiduciary Net Position	59,338	112,113	1,175	2,024	669	430	29	175,778
Net OPEB Liability	26,446,894	49,968,144	523,676	902,220	298,193	191,868	13,109	78,344,105
<b>Sensitivity of the Net OPEB Liability to Changes in the Discount Rate</b>								
Current Discount Rate: 3.58%	26,446,894	49,968,144	523,676	902,220	298,193	191,868	13,109	78,344,105
1% Decrease in the Discount Rate: 2.58%	31,817,435	60,115,119	630,019	1,085,433	358,746	230,831	15,771	94,253,354
1% Increase in the Discount Rate: 4.58%	22,308,908	42,149,930	441,740	761,055	251,536	161,848	11,058	66,086,075
<b>Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates</b>								
Current Trend Rates	26,446,894	49,968,144	523,676	902,220	298,193	191,868	13,109	78,344,105
1% Decrease in Trend Rates	21,592,212	40,795,821	427,549	736,605	243,455	156,648	10,703	63,962,993
1% Increase in Trend Rates	32,968,266	62,289,472	652,806	1,124,693	371,722	239,180	16,342	97,662,481

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## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 74, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total OPEB Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and OPEB plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, to the extent that the conditions for use of the long-term expected rate of return are not met.

Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. The OPEB plan's projected fiduciary net position at the beginning of each period is compared to the amount of benefit payments projected to occur in that period.

It is assumed that the OPEB plan's fiduciary net position is expected to always be invested using a strategy to achieve the long-term expected rate of return on OPEB plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on OPEB plan investments if the amount of the OPEB plan's beginning fiduciary net position is projected to be sufficient to make the benefit payments in that period. In periods in which benefit payments are projected to be greater than the amount of the OPEB plan's fiduciary net position, they are discounted using a municipal bond rate as required by GASB 74.

For purposes of this valuation, the long-term expected rate of return on OPEB plan investments is 7.5%; the municipal bond rate is 3.58%, based on the Bond Buyer 20-Bond GO Index published on June 29, 2017. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the 3.58% municipal bond rate was applied to all periods to determine the total OPEB liability.