



TOWN OF OXFORD, MASSACHUSETTS

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

FINANCIAL REPORTING AND DISCLOSURES Governmental Accounting Standards Board Statements 74 and 75

**Disclosures as of
June 30, 2018**

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

November, 2018



November 26, 2018

Ms. Claire Wilson
Treasurer/Collector
Town of Oxford
325 Main Street
Oxford, MA 01540

Dear Claire:

We are pleased to present the enclosed report of the July 1, 2016 actuarial valuation of the retiree health care benefits for the Town of Oxford, Massachusetts. The valuation was prepared in accordance with, and for the purpose of financial reporting and disclosures as of June 30, 2018, under the following Government Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

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 75 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 Oxford, Massachusetts as well as health plan rates provided by the Town. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a discount rate of 3.93%, a long-term investment return rate of 7.5% and a municipal bond rate of 3.87%. The long-term investment return rate is based on expected long-term investment return rates provided by the Trust's investment consultant, Bartholomew & Company.

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

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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 Worcester Regional and Massachusetts Teachers Retirement Systems' 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 Oxford, Massachusetts 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.

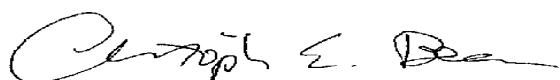
Respectfully submitted,



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

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
SECTION 1 PRINCIPAL VALUATION RESULTS	5
Exhibit 1.1 - OPEB Trust Assets	
Exhibit 1.2 - Total OPEB Liability	
Exhibit 1.3 - Development of Actuarially Determined Employer Contributions	
SECTION 2 NOTES TO THE FINANCIAL STATEMENTS	8
Exhibit 2.1 - Plan Description	
Exhibit 2.2 - Net OPEB Liability	
SECTION 3 SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION	11
Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios	
Exhibit 3.2 - Investment Returns	
Exhibit 3.3 - Schedule of Employer Contributions	
SECTION 4 EMPLOYER REPORTING AMOUNTS UNDER GASB 75	15
Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources	
Exhibit 4.2 - OPEB Expense	
SECTION 5 SUMMARY OF PLAN PROVISIONS	16
SECTION 6 ACTUARIAL ASSUMPTIONS AND METHODS	18
SECTION 7 PLAN MEMBER INFORMATION	26
Exhibit 7.1 - Active Members by Age and Years of Service	
Exhibit 7.2 - Retired Members, Covered Spouses and Survivors	
SECTION 8 GLOSSARY OF TERMS	28
SECTION 9 BREAKOUT OF RESULTS BY DEPARTMENT	30
Appendix A CALCULATION OF SINGLE DISCOUNT RATE	
Appendix B SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES and DEFERRED INFLOWS OF RESOURCES	

EXECUTIVE SUMMARY

This report presents the results of the actuarial valuation of the Town of Oxford, Massachusetts's retiree health care benefits as of July 1, 2016. The valuation was prepared in accordance with, and for the purpose of financial reporting and disclosures as of June 30, 2018, under the following Government Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

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 Oxford, Massachusetts 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 Oxford, Massachusetts. 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 Oxford, Massachusetts.

Summary of Results

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

Measurement Date	<u>June 30, 2018</u>	<u>June 30, 2017</u>	<u>Increase/ (Decrease)</u>
Valuation Date	July 1, 2016	July 1, 2016	
Membership Data			
Active Plan Members	334	312	7.1%
Inactive Plan Members	172	188	(8.5%)
Total Plan Members	506	500	1.2%
 Covered Payroll	 22,414,238	 22,036,578	 1.7%
 Valuation Results (GASB 74)			
Discount rate	3.93%	3.63%	
Total OPEB Liability	\$50,022,034	\$49,929,623	0.2%
Fiduciary Net Position	\$3,944,995	\$3,698,005	6.7%
Net OPEB Liability	\$46,077,039	\$46,231,618	(0.3%)
Funded Ratio	7.9%	7.4%	6.8%
 Valuation Results (GASB 75)			
OPEB Expense	\$3,310,641	N/A	
Deferred Outflows	\$78,238	N/A	
Deferred Inflows	\$2,169,138	N/A	
 Valuation Results (GASB 45)			
Actuarial Accrued Liability	N/A	44,519,869	
Market Value of Assets	N/A	3,698,005	
Unfunded Actuarial Accrued Liability	N/A	40,821,864	
Funded Ratio	N/A	8.3%	
 Annual Required Contribution	 N/A	 \$4,269,222	
Net OPEB Obligation	N/A	\$19,117,602	

EXECUTIVE SUMMARY

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 3.63% as of June 30, 2017 to 3.93% as of June 30, 2018. All other assumptions were the same as those used in the previous measurement. The Actuarial Assumptions and Methods used in the valuation are summarized in Section 6.

Changes of Benefit Terms

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. Previously, the tax was effective beginning in 2020. All other benefit terms are the same as those used in the prior valuation. A Summary of the Principal Plan Provisions is provided in Section 5.

Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2018, is \$50,022,034. The Total OPEB Liability as of the prior measurement date, June 30, 2017, was \$49,929,623. The development of the Total OPEB Liability for the current measurement date is shown in Section 1, Exhibit 1.2.

Fiduciary Net Position

The Fiduciary Net Position is equal to the market value of assets and as of the current measurement date, June 30, 2018, is \$3,944,995. The Fiduciary Net Position as of the prior measurement date, June 30, 2017, was \$3,698,005. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

Employer Future Period Contributions

The Town does not currently have a formal funding policy and is assumed not to make future contributions to the OPEB trust.

Discount Rate

As of the June 30, 2018 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 long-term expected rate of return on OPEB plan investments was applied to the first 6 periods of projected future benefit payments and, the 3.87% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability.

OPEB Expense

The OPEB Expense as of the current measurement date, June 30, 2018, is \$3,310,641. The development of the OPEB expense for the current measurement date is shown in Section 4, Exhibit 4.2.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.1 - OPEB Trust Assets

The Town has established an irrevocable trust pursuant to Section 20 of Chapter 32B of the Massachusetts General Laws for the purpose of accumulating assets to prefund the OPEB liabilities. 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 the Town and is presented below:

Fiscal Year Ended June 30	2018	2017
Trust Fund Composition at Fiscal Year-End		
Domestic Equities	\$1,092,875	\$1,073,960
Domestic Bonds	887,494	824,093
Alternatives	621,366	630,346
International Equities	687,993	596,608
International Bonds	220,100	205,105
Cash and Equivalents	435,167	367,893
Total Market Value of Assets	<hr/> \$3,944,995	<hr/> \$3,698,005
Asset Activity		
Market value, beginning of year	\$3,698,005	\$3,450,794 *
Employer Premiums	1,309,320	1,196,195
OPEB Trust Contributions	65,000	52,500
Benefit Payments	(1,309,320)	(1,196,195)
Administrative Expenses	-	-
Investment Return	<hr/> 181,990	<hr/> 194,711
Market value, end of year	<hr/> \$3,944,995	<hr/> \$3,698,005
* Balance as of July 1, 2016 revised from that shown in prior report to match the Town's 2017 financial statements.		
Money-Weighted Rate of Return	4.91%	5.63%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$279,788	\$260,778
Actual earnings	181,990	194,711
(Gain) / Loss on OPEB plan investments	<hr/> \$97,798	<hr/> \$66,067

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, 2018 measurement date was developed from an actuarial valuation as of July 1, 2016 and rolled forward to the OPEB plan's fiscal year-end.

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.

Actuarial gains and losses arise from the difference between estimates and actual experience, excluding amounts related to benefit changes and changes in assumptions or other inputs.

The development of the Total OPEB Liability from the beginning of the measurement period, June 30, 2017 to the end of the measurement period, June 30, 2018 is shown below:

<u>Measurement Date</u>	<u>June 30, 2018</u>
1. Total OPEB Liability, beginning of year:	
a. Actives	\$26,407,230
b. Retirees, Covered Spouses and Survivors	23,522,393
c. Total OPEB Liability at 3.63% (a. + b.)	\$49,929,623
2. Service Cost	\$2,102,507
3. Expected Benefit Payments	
a. Current retirees	(\$1,113,615)
b. Future retirees	(195,705)
c. Total (a. + b.)	(\$1,309,320)
4. Interest [3.63% x (1.c. + 2. + .5 x 3.c)]	\$1,865,002
5. Changes of benefit terms	(\$20,706)
6. Differences between expected and actual experience	\$0
7. Changes of assumptions or other inputs	(\$2,545,072)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$27,584,758
b. Retirees, Covered Spouses and Survivors	22,437,276
c. Total OPEB Liability at 3.93% (a. + b.)	\$50,022,034

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The Town does not currently have a formal funding policy and is assumed not to make future contributions to the OPEB trust.

The Actuarially Determined Employer Contribution (ADEC) equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed level dollar amortization over an amortization period of 30 years.

Fiscal Year Ending	June 30, 2018
Discount Rate	3.63%
1. Normal Cost	\$2,102,507
2. Unfunded Actuarial Accrued Liability	
a. Actuarial Accrued Liability	\$49,929,623
b. Actuarial Value of Plan Assets	\$3,698,005
c. Unfunded Actuarial Accrued Liability	\$46,231,618
3. Amortization of Unfunded Actuarial Accrued Liability	
a. Unfunded Actuarial Accrued Liability	\$46,231,618
b. Amortization Period in years	30
c. Payroll Growth Rate	0.0%
d. Amortization Factor	18.75
e. Amortization Amount (3.a. / 3.d.)	\$2,465,686
4. Interest on 1. and 3.e.	\$165,825
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$4,734,018
6. Actual Employer Contribution to OPEB Trust	\$65,000
7. Expected Benefit Payments	\$1,309,320
8. Total Contribution (6. + 7.)	\$1,374,320

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan administration:

The Town of Oxford, Massachusetts 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, 2018, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments ¹	172
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	334
	<hr/> <hr/> <hr/> <hr/>
	506

¹Per 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 Town, and the full cost of benefits is shared between the Town and retirees.

Contributions:

The Town does not currently have a formal funding policy and is assumed not to make future contributions to the OPEB trust.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2018, were as follows:

Total OPEB liability	\$ 50,022,034
Fiduciary net position	(3,944,995)
Net OPEB liability	\$ 46,077,039

Fiduciary net position as a percentage of the total OPEB liability 7.89%

Actuarial assumptions:

The total OPEB liability was determined by an actuarial valuation as of July 1, 2016, rolled forward to the measurement date and using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.6 percent
Discount rate	3.93%, net of investment expenses, including inflation
Healthcare cost trend rate	8 percent for 2016, decreasing 0.5 percent per year to an ultimate rate of 5 percent.
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.

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, 2018 are summarized in the following table:

Asset Class	Target Allocation ¹	Long-Term Expected Real Rates of Return ¹
Domestic Equities	30%	6.11%
Domestic Bonds	25%	3.82%
Alternatives	20%	3.67%
International Equities	15%	2.78%
International Bonds	10%	3.94%
Cash and Equivalents	0%	0.00%
Total	100%	

¹ provided by the Trust's investment consultant, Bartholomew & Company.

Discount rate:

The discount rate used to measure the total OPEB liability was 3.93%. 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 long-term expected rate of return on OPEB plan investments was applied to the first 6 periods of projected future benefit payments and, the 3.87% municipal bond rate was applied to all periods thereafter 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 3.93 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (2.93 percent) or 1-percentage point higher (4.93 percent) than the current rate:

	1% Decrease (2.93%)	Discount Rate (3.93%)	1% Increase (4.93%)
Net OPEB Liability	\$ 55,354,994	\$ 46,077,039	\$ 38,805,668

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:

	Healthcare Cost Trend		
	1% Decrease 7% Year 1 Decreasing to 4%	Rates 8% Year 1 Decreasing to 5%	1% Increase 9% Year 1 Decreasing to 6%
Net OPEB Liability	\$ 36,881,213	\$ 46,077,039	\$ 58,920,115

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2018	2017
Total OPEB Liability		
Service cost	\$ 2,102,507	\$ 2,506,859
Interest	1,865,002	1,615,467
Changes of benefit terms	(20,706)	-
Differences between expected and actual experience	-	-
Changes of assumptions	(2,545,072)	(6,602,086)
Benefit payments	(1,309,320)	(1,196,195)
Net change in total OPEB liability	\$ 92,411	\$ (3,675,955)
 Total OPEB liability—beginning	 \$ 49,929,623	 \$ 53,605,578
Total OPEB liability—ending (a)	\$ 50,022,034	\$ 49,929,623
 Plan fiduciary net position		
Contributions—employer	\$ 1,374,320	\$ 1,248,695 *
Net investment income	181,990	194,711
Benefit payments	(1,309,320)	(1,196,195)
Administrative expenses	-	-
Other	-	-
Net change in plan fiduciary net position	\$ 246,990	\$ 247,211
 Plan fiduciary net position—beginning	 \$ 3,698,005	 \$ 3,450,794
Plan fiduciary net position—ending (b)	\$ 3,944,995	\$ 3,698,005
 Net OPEB liability—ending (a) – (b)	 \$ 46,077,039	 \$ 46,231,618
 Plan fiduciary net position as a percentage of the total OPEB liability	7.89%	7.41%
 Covered payroll	\$ 22,414,238	\$ 22,036,578
 Net OPEB liability as a percentage of covered payroll	205.57%	209.79%

* revised from prior report to reflect amounts shown in the Town's 2017 Financial Statements.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2018	2017
Annual money-weighted rate of return, net of investment expenses	4.91%	5.63% *

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.

* revised from the prior report to reflect the beginning of year asset balance as shown in the Town's 2017 Financial Statements.

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 _{mw}) ^(c)
Beginning value - July 1, 2017	\$ 3,698,005	12	1.00	\$ 3,879,474
Monthly net external cash flows:				
July	-	11	0.92	-
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	-	7	0.58	-
December	-	6	0.50	-
January	-	5	0.42	-
February	-	4	0.33	-
March	-	3	0.25	-
April	65,000	2	0.17	65,521
May	-	1	0.08	-
June	-	0	0.00	-
Ending value - June 30, 2018				\$ 3,944,995
			Money-weighted rate of return:	4.91%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2018	2017
Actuarially determined contribution	\$ 4,734,018	\$ 4,269,222
Contributions in relation to the actuarially determined contribution	<u>1,374,320</u>	<u>1,248,695</u>
Contribution deficiency (excess)	<u>\$ 3,359,698</u>	<u>\$ 3,020,527</u>
Covered payroll	\$ 22,414,238	\$ 22,036,578
Contributions as a percentage of covered payroll	6.13%	5.67%
Discount rate	3.63%	4.00%

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	Entry Age Normal
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 for 2016, decreasing 0.5 percent per year to an ultimate rate of 5 percent.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between expected and actual experience are recognized in OPEB Expense over the average expected remaining service life of all active and inactive participants.

Year	Balances at June 30, 2018				
	Amounts Recognized in OPEB Expense			Deferred Outflows of Resources	Deferred Inflows of Resources
	Experience Losses (a)	Experience Gains (b)	through June 30, 2018 (c)	(a) - (c)	(b) - (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
Total				<u>\$ -</u>	<u>\$ -</u>

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes of assumptions are recognized in OPEB Expense over the average expected remaining service life of all active and inactive participants.

Year	Balances at June 30, 2018				
	Amounts Recognized in OPEB Expense			Deferred Outflows of Resources	Deferred Inflows of Resources
	Increases in the Total OPEB Liability (a)	Decreases in the Total OPEB Liability (b)	through June 30, 2018 (c)	(a) - (c)	(b) - (c)
2018	\$ -	\$ 2,545,072	\$ (375,934)	\$ -	\$ 2,169,138
Total				<u>\$ -</u>	<u>\$ 2,169,138</u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between projected and actual earnings on OPEB Plan investments are recognized in OPEB Expense over five years.

Year	(a)	(b)	(c)	Balances at June 30, 2018	
				Deferred Outflows of Resources	Deferred Inflows of Resources
2018	\$ 97,798	\$ -	\$ 19,560	\$ 78,238	\$ -
Total				\$ 78,238	\$ -
Net				\$ 78,238	\$ -

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in OPEB expense as follows:

Year ended June 30		
2019	\$	(356,374)
2020	\$	(356,374)
2021	\$	(356,375)
2022	\$	(356,375)
2023	\$	(375,934)
Thereafter		(289,468)

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.2 - OPEB Expense

The OPEB Expense and deferred outflows and inflows of resources primarily result from changes in the components of the net OPEB liability (NOL). Most changes in the NOL are included in the OPEB Expense in the period of the change, including service cost, interest on total OPEB liability, changes in benefit terms and projected earnings on the OPEB plan's investments. Other changes in the net OPEB liability are included in OPEB Expense over the current and future periods. These include the effects on the total OPEB liability of changes of economic and demographic assumptions and differences between expected and actual experience. In addition, the effect on the net OPEB liability of differences between the projected earnings on OPEB plan investments and actual experience with regard to those earnings are included in OPEB expense over the current and future periods. The OPEB Expense for the reporting period ending June 30, 2018 is presented below:

Fiscal Year Ended June 30	2018
Measurement date	6/30/2018
1. Service cost	\$ 2,102,507
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	49,929,623
b. Service cost, beginning of year	2,102,507
c. Benefit payments	<u>(1,309,320)</u>
d. Interest on total OPEB liability = 3.63% times (a. + b. + .5 times c.)	1,865,002
3. Differences between expected and actual experience	-
4. Changes of benefit terms	(20,706)
5. Changes of assumptions	(375,934)
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	3,698,005
b. Contributions - Employer	1,374,320
c. Benefit payments	(1,309,320)
d. Administrative expenses and other	-
e. Total projected earnings = 7.5% times (a. + .5 times (b. + c. + d.))	(279,788)
7. Differences between projected and actual earnings on OPEB plan investments	<u>19,560</u>
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense	\$ 3,310,641

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Eligibility for Postemployment Benefits:	Employees of the Town and their dependents are eligible for postemployment medical and life insurance based on the eligibility requirements under the Worcester Regional and Massachusetts Teachers Retirement Systems.															
Retirement Eligibility:	General 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 General employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service Public Safety employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service Public Safety employees hired after April 1, 2012: retire after attaining age 55															
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 Premiums:	The total monthly premiums by plan are shown below:															
	<table><thead><tr><th><u>Non-Medicare Plans - July 1, 2017</u></th><th><u>Individual</u></th><th><u>Family</u></th></tr></thead><tbody><tr><td>Fallon Direct</td><td>\$611.77</td><td>\$1,590.55</td></tr><tr><td>Fallon Select</td><td>\$679.75</td><td>\$1,767.25</td></tr><tr><td>Fallon PPO</td><td>\$1,143.56</td><td>\$2,973.27</td></tr><tr><td>Tufts HMO</td><td>\$1,095.21</td><td>\$2,827.73</td></tr></tbody></table>	<u>Non-Medicare Plans - July 1, 2017</u>	<u>Individual</u>	<u>Family</u>	Fallon Direct	\$611.77	\$1,590.55	Fallon Select	\$679.75	\$1,767.25	Fallon PPO	\$1,143.56	\$2,973.27	Tufts HMO	\$1,095.21	\$2,827.73
<u>Non-Medicare Plans - July 1, 2017</u>	<u>Individual</u>	<u>Family</u>														
Fallon Direct	\$611.77	\$1,590.55														
Fallon Select	\$679.75	\$1,767.25														
Fallon PPO	\$1,143.56	\$2,973.27														
Tufts HMO	\$1,095.21	\$2,827.73														
	<table><thead><tr><th><u>Medicare Plans - January 1, 2017</u></th><th></th></tr></thead><tbody><tr><td>Medex 2</td><td>\$324.06</td></tr><tr><td>Managed Blue</td><td>\$299.70</td></tr><tr><td>Fallon Senior Premier</td><td>\$405.00</td></tr><tr><td>Tufts Medicare Preferred</td><td>\$310.00</td></tr><tr><td>Tufts Medicare Complement</td><td>\$599.00</td></tr></tbody></table>	<u>Medicare Plans - January 1, 2017</u>		Medex 2	\$324.06	Managed Blue	\$299.70	Fallon Senior Premier	\$405.00	Tufts Medicare Preferred	\$310.00	Tufts Medicare Complement	\$599.00			
<u>Medicare Plans - January 1, 2017</u>																
Medex 2	\$324.06															
Managed Blue	\$299.70															
Fallon Senior Premier	\$405.00															
Tufts Medicare Preferred	\$310.00															
Tufts Medicare Complement	\$599.00															

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Participant Contributions: Retired employees contribute 50% of the total medical premium.

Continuation of Coverage to Spouse After Death of Retiree: Surviving spouse may continue coverage for lifetime by paying the required medical premium.

Dental Coverage: Dental coverage is not offered to retirees.

Life Insurance Coverage: Retirees are eligible for a \$1,000 life insurance benefit. The total monthly cost is \$.60. Retirees contribute \$.30 towards the monthly premiums.

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, 2016
Disclosure Date:	June 30, 2018
GASB 75 Reporting Date:	June 30, 2018
Long-Term Expected Rate of Return:	7.5%, compounded annually, net of fees. A long-term assumption based on capital market expectations by asset class, historical returns and professional judgment. A building block approach was used that considered the target asset allocation, expected returns by asset class and risk analysis to determine a long-term expected average annual rate of return.
Municipal Bond Rate:	3.87%, based on the Bond Buyer 20-Bond GO Index published on June 28, 2018.
Discount Rate (GASB):	3.93%, compounded annually, for the measurement as of June 30, 2018. 3.63%, compounded annually, for the measurement as of June 30, 2017. The single rate that reflects the long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's assets, which are expected to be invested using a strategy to achieve that return, are sufficient to pay benefits, and 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.
Discount Rate (ADEC):	3.63%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2018.
Amortization Method:	Level dollar amount over 30 years on an open amortization period for partial pre-funding.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Trend Rates:

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

Health care trend assumptions begin at current levels and grade down over a period of years to a lower level equal to some real rate plus inflation. The principal components of health trend are medical inflation, deductible erosion, cost shifting, utilization, technology and catastrophic claims. The overall effect of these components are expected to decline year by year.

Dental Trend Rates: Not applicable (no dental coverage).

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.

Payroll Growth: 4% per year.

Participation Rates: Medical - 75% of eligible retired employees will elect to participate.
Dental - Not offered to retired employees.
Life - 75% of eligible retirees will elect to participate.
Medicare - all retired employees are assumed to enroll in Medicare at age 65.

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.

65% of employees are assumed to retire with a covered spouse.

For current retirees, the actual census information is used.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Per Capita Costs:

The following annual per capita costs are for the fiscal year beginning July 1, 2016 and are applicable to retirees, survivors and spouses. Annual costs for current and future retirees are based on the blended curve shown below, developed using the plan coverages elected by current retirees and survivors and premium rates currently in effect. Future years' costs are based on the first year cost adjusted with trend.

Age	Medicare-Eligible		Medicare-Ineligible	
	Male	Female	Male	Female
Under 20	\$3,629	\$4,260	\$3,629	\$4,260
20-24	2,860	4,536	2,860	4,536
25-29	2,976	6,692	2,976	6,692
30-34	3,738	8,456	3,738	8,456
35-39	4,689	8,710	4,689	8,710
40-44	5,843	8,920	5,843	8,920
45-49	7,374	9,791	7,374	9,791
50-54	9,718	11,518	9,718	11,518
55-59	12,629	13,318	12,629	13,318
60-64	16,207	15,852	16,207	15,852
65-69	3,155	3,073	20,221	19,002
70-74	3,781	3,625	24,227	22,406
75-79	4,465	4,205	28,608	25,996
80-84	5,132	4,823	32,884	29,815
85-89	5,717	5,392	36,631	33,328
90-94	6,224	5,754	39,877	35,569
95+	6,615	5,565	42,385	34,398

Retiree Contributions:

Annual per capita participant contributions for the fiscal year beginning July 1, 2016 are as follows:

Plan	Contribution
Non-Medicare	\$ 5,726
Medicare	1,911

PPACA Excise Tax:

For purposes of estimating the Patient Protection and Affordable Care Act (PPACA) 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 PPACA. Beginning in 2022, a 40% excise tax is applied on the excess of the plan costs over the thresholds. The thresholds increase annually by chained CPI.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

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.

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:

General Employees		Public Safety	
Service	Rate	Service	Rate
0	15.00%	0	1.50%
1	12.00%	1	1.50%
2	10.00%	2	1.50%
3	9.00%	3	1.50%
4	8.00%	4	1.50%
5	7.60%	5	1.50%
10	5.40%	10	1.50%
15	3.30%	15	0.00%
20	2.00%	20	0.00%
25	1.00%	25	0.00%
30	0.00%	30	0.00%

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

General Employees		Public Safety	
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.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Retirement Rates:

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

<u>Age</u>	<u>General Employees</u>		<u>Public Safety</u>
	Male	Female	All
45	0.00%	0.00%	1.00%
50	1.00%	1.50%	2.00%
55	2.00%	5.50%	15.00%
60	12.00%	5.00%	20.00%
62	30.00%	15.00%	25.00%
65	40.00%	15.00%	100.00%
69	30.00%	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>	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:

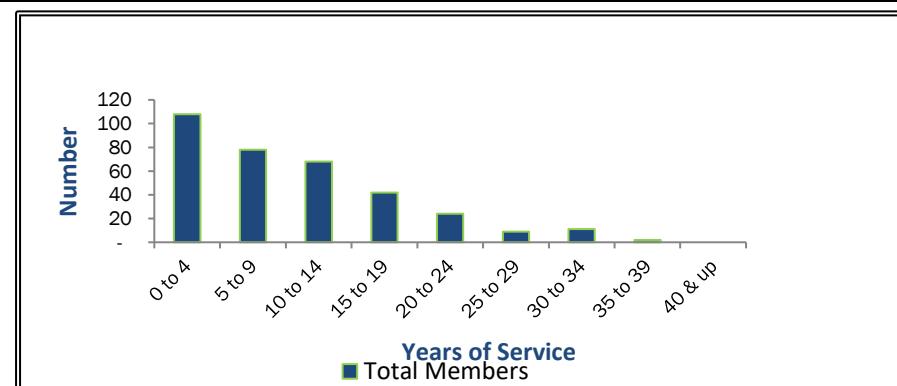
<u>Age</u>	<u>Years of Service</u>					
	Less than 20		20-29		30+	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
50	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
51	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
52	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
53	0.0%	0.0%	1.5%	1.0%	2.0%	1.5%
54	0.0%	0.0%	2.5%	1.0%	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, 2016

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	2	-	-	-	-	-	-	-	-	-	2
20 to 24	7	-	-	-	-	-	-	-	-	-	7
25 to 29	19	6	-	-	-	-	-	-	-	-	25
30 to 34	22	9	1	1	-	-	-	-	-	-	33
35 to 39	14	7	14	4	-	-	-	-	-	-	39
40 to 44	7	10	9	5	-	-	-	-	-	-	31
45 to 49	16	12	4	7	4	1	-	-	-	-	44
50 to 54	10	15	17	6	5	4	1	-	-	-	58
55 to 59	6	14	16	10	4	-	8	1	-	-	59
60 to 64	4	4	4	4	10	3	2	1	-	-	32
65 to 69	1	1	2	1	1	1	-	-	-	-	7
70 & up	-	-	1	4	-	-	-	-	-	-	5
Total	108	78	68	42	24	9	11	2	-	-	342

Average Age: 47.0 Average Service: 10.5



SECTION 7 - PLAN MEMBER INFORMATION

TABLE 7.2 - RETIRED MEMBERS, COVERED SPOUSES and SURVIVORS AS OF JULY 1, 2016

Age	Non-Medicare Plans					Medicare Plans					Total
	Fallon Direct	Fallon Select	Fallon PPO	Tufts HMO	Medex 2	Managed Blue	Fallon Senior Premier	Tufts Medicare Preferred	Tufts Medicare Complement		
Under 40	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
45 to 49	0	0	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	1	0	0	0	0	0	0	1
55 to 59	1	2	0	0	0	0	0	0	0	0	3
60 to 64	0	7	0	9	4	0	0	0	1	21	
65 to 69	0	6	0	10	26	2	3	2	10	59	
70 to 74	1	0	0	5	18	4	3	4	3	38	
75 to 79	0	3	0	1	16	1	0	1	0	22	
80 to 84	0	0	0	0	9	4	0	0	1	14	
85 to 89	0	0	0	1	4	1	0	0	0	6	
90+	0	0	0	0	3	1	1	0	0	5	
Total	2	18	0	27	80	13	7	7	15	169	
Covered Spouses	0	7	1	6	37	6	2	5	6	70	
Average Age: 72.2											

In addition, there are 30 retirees, survivors and covered spouses that are not covered under any medical plan but are covered under either a life insurance policy and/or a dental plan which the Town contributes to and/or receive a reimbursement from the Town for a Medicare late-enrollment penalty.

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.

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 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Town	School	Total
Summary of Member Data Used in Valuation			
Active Members	96	246	342
Average Age	45.3	47.7	47.0
Average Service	11.4	10.1	10.5
Retired Members and Survivors	41	158	199
Average Age	70.5	72.6	72.2
Covered Spouses	14	56	70
Expected Benefit Payments	260,382	1,048,938	1,309,320
OPEB Trust contributions	40,160	24,840	65,000
Total Employer Contributions	300,542	1,073,778	1,374,320
Beginning Net OPEB Liability - June 30, 2017			
Total OPEB Liability	10,918,322	39,011,301	49,929,623
Fiduciary Net Position	786,566	2,911,439	3,698,005
Net OPEB Liability	10,131,756	36,099,862	46,231,618
Ending Net OPEB Liability - June 30, 2018			
Total OPEB Liability	11,132,606	38,889,428	50,022,034
Fiduciary Net Position	839,101	3,105,894	3,944,995
Net OPEB Liability	10,293,505	35,783,534	46,077,039
Total Deferred Outflows of Resources			
Differences between Expected and Actual Experience	0	0	0
Changes in Assumptions	0	0	0
Differences between Expected and Actual Earnings on OPEB			
Plan Investments	16,641	61,597	78,238
Total Deferred Outflows of Resources	16,641	61,597	78,238
Total Deferred Inflows of Resources			
Differences between Expected and Actual Experience	0	0	0
Changes in Assumptions	474,335	1,694,803	2,169,138
Differences between Expected and Actual Earnings on OPEB			
Plan Investments	0	0	0
Total Deferred Inflows of Resources	474,335	1,694,803	2,169,138
Total OPEB Expense	919,985	2,390,656	3,310,641

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Town	School	Total
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate			
Current Discount Rate: 3.93%			
1% Decrease in the Discount Rate: 2.93%	10,293,505	35,783,534	46,077,039
1% Increase in the Discount Rate: 4.93%	12,366,179	42,988,815	55,354,994
	8,669,097	30,136,571	38,805,668
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates			
Current Trend Rates			
1% Decrease in Trend Rates	10,293,505	35,783,534	46,077,039
1% Increase in Trend Rates	8,239,179	28,642,034	36,881,213
	13,162,619	45,757,496	58,920,115
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense			
2018	(78,009)	(278,365)	(356,374)
2019	(78,009)	(278,365)	(356,374)
2020	(78,010)	(278,365)	(356,375)
2021	(78,010)	(278,365)	(356,375)
2022	(82,291)	(293,643)	(375,934)
Thereafter	(63,364)	(226,104)	(289,468)

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 3.87%, based on the Bond Buyer 20-Bond GO Index published on June 28, 2018. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 6 periods of projected future benefit payments and, the 3.87% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability.

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 9.38%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2018	22,414,238	-	22,414,238	1,309,320	65,000	-	1,374,320
2019	21,190,484	2,120,324	23,310,808	1,457,047	-	198,841	1,258,206
2020	20,163,613	4,079,627	24,243,240	1,564,176	-	382,581	1,181,595
2021	19,194,642	6,018,328	25,212,970	1,664,036	-	564,390	1,099,646
2022	18,256,304	7,965,185	26,221,489	1,793,105	-	746,963	1,046,142
2023	17,416,033	9,854,316	27,270,349	1,961,958	-	924,123	1,037,835
2024	16,516,066	11,845,097	28,361,163	2,056,535	-	1,110,815	945,720
2025	15,716,784	13,778,826	29,495,610	2,154,563	-	1,292,157	862,406
2026	14,911,750	15,763,684	30,675,434	2,290,815	-	1,478,294	812,521
2027	14,157,049	17,745,402	31,902,451	2,317,039	-	1,664,137	652,902
2028	13,372,392	19,806,157	33,178,549	2,441,881	-	1,857,391	584,490
2029	12,624,288	21,881,403	34,505,691	2,533,538	-	2,052,005	481,533
2030	11,918,770	23,967,149	35,885,919	2,641,022	-	2,247,603	393,419
2031	11,219,526	26,101,830	37,321,356	2,755,989	-	2,447,790	308,199
2032	10,581,752	28,232,458	38,814,210	2,914,911	-	2,647,597	267,314
2033	9,913,077	30,453,701	40,366,778	3,012,958	-	2,855,902	157,056
2034	9,321,574	32,659,875	41,981,449	3,134,428	-	3,062,793	71,635
2035	8,714,458	34,946,249	43,660,707	3,268,334	-	3,277,206	-
2036	8,048,089	37,359,046	45,407,135	3,385,877	-	3,503,474	-
2037	7,339,013	39,884,407	47,223,420	3,528,156	-	3,740,299	-
2038	6,676,879	42,435,478	49,112,357	3,621,275	-	3,979,534	-
2039	6,111,184	44,965,667	51,076,851	3,696,443	-	4,216,812	-
2040	5,605,736	47,514,189	53,119,925	3,805,108	-	4,455,808	-
2041	5,113,986	50,130,736	55,244,722	3,803,876	-	4,701,184	-
2042	4,675,602	52,778,909	57,454,511	3,804,075	-	4,949,525	-
2043	4,258,067	55,494,624	59,752,691	3,875,466	-	5,204,201	-
2044	3,846,335	58,296,464	62,142,799	3,858,022	-	5,466,953	-
2045	3,434,004	61,194,507	64,628,511	3,890,219	-	5,738,727	-
2046	3,033,567	64,180,084	67,213,651	3,861,610	-	6,018,710	-
2047	2,614,204	67,287,993	69,902,197	3,892,445	-	6,310,165	-
2048	2,330,491	70,367,794	72,698,285	3,929,848	-	6,598,984	-
2049	2,059,954	73,546,262	75,606,216	3,744,539	-	6,897,056	-
2050	1,771,784	76,858,681	78,630,465	3,661,343	-	7,207,690	-
2051	1,500,207	80,275,477	81,775,684	3,660,886	-	7,528,112	-

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 9.38%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2052	1,241,759	83,804,952	85,046,711	3,546,640	-	7,859,100	-
2053	1,036,695	87,411,884	88,448,579	3,401,109	-	8,197,353	-
2054	880,680	91,105,842	91,986,522	3,485,241	-	8,543,767	-
2055	672,349	94,993,634	95,665,983	3,455,814	-	8,908,358	-
2056	509,317	98,983,305	99,492,622	3,448,825	-	9,282,503	-
2057	407,808	103,064,519	103,472,327	3,429,493	-	9,665,233	-
2058	289,561	107,321,659	107,611,220	3,391,308	-	10,064,461	-
2059	209,995	111,705,674	111,915,669	3,432,701	-	10,475,587	-
2060	161,356	116,230,940	116,392,296	3,387,226	-	10,899,960	-
2061	111,189	120,936,799	121,047,988	3,424,966	-	11,341,268	-
2062	72,707	125,817,201	125,889,908	3,446,591	-	11,798,945	-
2063	47,660	130,877,844	130,925,504	3,466,723	-	12,273,524	-
2064	25,197	136,137,327	136,162,524	3,477,839	-	12,766,751	-
2065	16,196	141,592,829	141,609,025	3,472,952	-	13,278,359	-
2066	11,344	147,262,042	147,273,386	3,474,817	-	13,810,009	-
2067	8,410	153,155,911	153,164,321	3,454,812	-	14,362,727	-
2068	3,642	159,287,252	159,290,894	3,429,658	-	14,937,715	-
2069	-	165,662,530	165,662,530	3,404,192	-	15,535,579	-
2070	-	172,289,031	172,289,031	3,366,808	-	16,157,002	-
2071	-	179,180,592	179,180,592	3,307,356	-	16,803,282	-
2072	-	186,347,816	186,347,816	3,239,999	-	17,475,414	-
2073	-	193,801,729	193,801,729	3,153,950	-	18,174,430	-
2074	-	201,553,798	201,553,798	3,044,269	-	18,901,407	-
2075	-	209,615,950	209,615,950	2,936,664	-	19,657,464	-
2076	-	218,000,588	218,000,588	2,807,469	-	20,443,762	-
2077	-	226,720,612	226,720,612	2,673,300	-	21,261,513	-
2078	-	235,789,436	235,789,436	2,527,894	-	22,111,973	-
2079	-	245,221,013	245,221,013	2,351,998	-	22,996,452	-
2080	-	255,029,854	255,029,854	2,192,229	-	23,916,310	-
2081	-	265,231,048	265,231,048	2,009,901	-	24,872,963	-
2082	-	275,840,290	275,840,290	1,829,729	-	25,867,881	-
2083	-	286,873,902	286,873,902	1,651,222	-	26,902,596	-
2084	-	298,348,858	298,348,858	1,472,471	-	27,978,700	-
2085	-	310,282,812	310,282,812	1,309,084	-	29,097,848	-

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2018	3,698,005	1,374,320	1,309,320	-	181,990	3,944,995
2019	3,944,995	1,258,206	1,457,047	-	288,418	4,034,572
2020	4,034,572	1,181,595	1,564,176	-	288,246	3,940,237
2021	3,940,237	1,099,646	1,664,036	-	274,353	3,650,200
2022	3,650,200	1,046,142	1,793,105	-	245,754	3,148,991
2023	3,148,991	1,037,835	1,961,958	-	201,520	2,426,388
2024	2,426,388	945,720	2,056,535	-	140,324	1,455,897
2025	1,455,897	862,406	2,154,563	-	60,736	224,476
2026	224,476	812,521	2,290,815	-	-	-
2027	-	652,902	2,317,039	-	-	-
2028	-	584,490	2,441,881	-	-	-
2029	-	481,533	2,533,538	-	-	-
2030	-	393,419	2,641,022	-	-	-
2031	-	308,199	2,755,989	-	-	-
2032	-	267,314	2,914,911	-	-	-
2033	-	157,056	3,012,958	-	-	-
2034	-	71,635	3,134,428	-	-	-
2035	-	-	3,268,334	-	-	-
2036	-	-	3,385,877	-	-	-
2037	-	-	3,528,156	-	-	-
2038	-	-	3,621,275	-	-	-
2039	-	-	3,696,443	-	-	-
2040	-	-	3,805,108	-	-	-
2041	-	-	3,803,876	-	-	-
2042	-	-	3,804,075	-	-	-
2043	-	-	3,875,466	-	-	-
2044	-	-	3,858,022	-	-	-
2045	-	-	3,890,219	-	-	-
2046	-	-	3,861,610	-	-	-
2047	-	-	3,892,445	-	-	-
2048	-	-	3,929,848	-	-	-
2049	-	-	3,744,539	-	-	-
2050	-	-	3,661,343	-	-	-
2051	-	-	3,660,886	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2052	-	-	3,546,640	-	-	-
2053	-	-	3,401,109	-	-	-
2054	-	-	3,485,241	-	-	-
2055	-	-	3,455,814	-	-	-
2056	-	-	3,448,825	-	-	-
2057	-	-	3,429,493	-	-	-
2058	-	-	3,391,308	-	-	-
2059	-	-	3,432,701	-	-	-
2060	-	-	3,387,226	-	-	-
2061	-	-	3,424,966	-	-	-
2062	-	-	3,446,591	-	-	-
2063	-	-	3,466,723	-	-	-
2064	-	-	3,477,839	-	-	-
2065	-	-	3,472,952	-	-	-
2066	-	-	3,474,817	-	-	-
2067	-	-	3,454,812	-	-	-
2068	-	-	3,429,658	-	-	-
2069	-	-	3,404,192	-	-	-
2070	-	-	3,366,808	-	-	-
2071	-	-	3,307,356	-	-	-
2072	-	-	3,239,999	-	-	-
2073	-	-	3,153,950	-	-	-
2074	-	-	3,044,269	-	-	-
2075	-	-	2,936,664	-	-	-
2076	-	-	2,807,469	-	-	-
2077	-	-	2,673,300	-	-	-
2078	-	-	2,527,894	-	-	-
2079	-	-	2,351,998	-	-	-
2080	-	-	2,192,229	-	-	-
2081	-	-	2,009,901	-	-	-
2082	-	-	1,829,729	-	-	-
2083	-	-	1,651,222	-	-	-
2084	-	-	1,472,471	-	-	-
2085	-	-	1,309,084	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2086	-	-	1,143,786	-	-	-
2087	-	-	1,000,503	-	-	-
2088	-	-	856,301	-	-	-
2089	-	-	728,338	-	-	-
2090	-	-	608,982	-	-	-
2091	-	-	504,610	-	-	-
2092	-	-	415,286	-	-	-
2093	-	-	336,071	-	-	-
2094	-	-	269,927	-	-	-
2095	-	-	213,007	-	-	-
2096	-	-	167,065	-	-	-
2097	-	-	128,664	-	-	-
2098	-	-	98,924	-	-	-
2099	-	-	74,961	-	-	-
2100	-	-	56,504	-	-	-
2101	-	-	42,122	-	-	-
2102	-	-	31,204	-	-	-
2103	-	-	23,049	-	-	-
2104	-	-	16,882	-	-	-
2105	-	-	12,302	-	-	-
2106	-	-	8,809	-	-	-
2107	-	-	6,278	-	-	-
2108	-	-	4,353	-	-	-
2109	-	-	2,984	-	-	-
2110	-	-	2,026	-	-	-
2111	-	-	1,349	-	-	-
2112	-	-	888	-	-	-
2113	-	-	578	-	-	-
2114	-	-	364	-	-	-
2115	-	-	233	-	-	-
2116	-	-	133	-	-	-
2117	-	-	82	-	-	-
2118	-	-	51	-	-	-
2119	-	-	32	-	-	-
2120	-	-	20	-	-	-

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period

Year	Projected Benefit Payments			Actuarial Present Value of Projected Benefit Payments			Present Value of Benefit Payments Using the Single Discount Rate
	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments	Present Value of "Unfunded" Benefit Payments	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	
2019	3,944,995	1,457,047	1,457,047	-	1,405,301	-	1,429,237
2020	4,034,572	1,564,176	1,564,176	-	1,403,372	-	1,476,311
2021	3,940,237	1,664,036	1,664,036	-	1,388,806	-	1,511,180
2022	3,650,200	1,793,105	1,793,105	-	1,392,118	-	1,566,826
2023	3,148,991	1,961,958	1,961,958	-	1,416,941	-	1,649,552
2024	2,426,388	2,056,535	2,056,535	-	1,381,623	-	1,663,696
2025	1,455,897	2,154,563	-	2,154,563	-	1,683,346	1,677,098
2026	224,476	2,290,815	-	2,290,815	-	1,723,114	1,715,737
2027	-	2,317,039	-	2,317,039	-	1,677,904	1,669,765
2028	-	2,441,881	-	2,441,881	-	1,702,426	1,693,199
2029	-	2,533,538	-	2,533,538	-	1,700,517	1,690,333
2030	-	2,641,022	-	2,641,022	-	1,706,615	1,695,424
2031	-	2,755,989	-	2,755,989	-	1,714,553	1,702,336
2032	-	2,914,911	-	2,914,911	-	1,745,856	1,732,425
2033	-	3,012,958	-	3,012,958	-	1,737,345	1,722,994
2034	-	3,134,428	-	3,134,428	-	1,740,048	1,724,687
2035	-	3,268,334	-	3,268,334	-	1,746,784	1,730,374
2036	-	3,385,877	-	3,385,877	-	1,742,183	1,724,829
2037	-	3,528,156	-	3,528,156	-	1,747,754	1,729,355
2038	-	3,621,275	-	3,621,275	-	1,727,046	1,707,888
2039	-	3,696,443	-	3,696,443	-	1,697,213	1,677,425
2040	-	3,805,108	-	3,805,108	-	1,682,012	1,661,451
2041	-	3,803,876	-	3,803,876	-	1,618,819	1,598,116
2042	-	3,804,075	-	3,804,075	-	1,558,587	1,537,774
2043	-	3,875,466	-	3,875,466	-	1,528,677	1,507,401
2044	-	3,858,022	-	3,858,022	-	1,465,097	1,443,880
2045	-	3,890,219	-	3,890,219	-	1,422,282	1,400,883
2046	-	3,861,610	-	3,861,610	-	1,359,220	1,338,004
2047	-	3,892,445	-	3,892,445	-	1,319,027	1,297,696
2048	-	3,929,848	-	3,929,848	-	1,282,085	1,260,630
2049	-	3,744,539	-	3,744,539	-	1,176,114	1,155,771
2050	-	3,661,343	-	3,661,343	-	1,107,137	1,087,365
2051	-	3,660,886	-	3,660,886	-	1,065,754	1,046,122
2052	-	3,546,640	-	3,546,640	-	994,026	975,158

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
 Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments			Actuarial Present Value of Projected Benefit Payments		
		Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g)
2053	-	3,401,109	-	3,401,109	-	917,722	899,787
2054	-	3,485,241	-	3,485,241	-	905,385	887,183
2055	-	3,455,814	-	3,455,814	-	864,292	846,432
2056	-	3,448,825	-	3,448,825	-	830,407	812,783
2057	-	3,429,493	-	3,429,493	-	794,987	777,669
2058	-	3,391,308	-	3,391,308	-	756,845	739,935
2059	-	3,432,701	-	3,432,701	-	737,540	720,649
2060	-	3,387,226	-	3,387,226	-	700,654	684,216
2061	-	3,424,966	-	3,424,966	-	682,065	665,682
2062	-	3,446,591	-	3,446,591	-	660,798	644,558
2063	-	3,466,723	-	3,466,723	-	639,894	623,810
2064	-	3,477,839	-	3,477,839	-	618,028	602,149
2065	-	3,472,952	-	3,472,952	-	594,166	578,569
2066	-	3,474,817	-	3,474,817	-	572,336	556,993
2067	-	3,454,812	-	3,454,812	-	547,839	532,848
2068	-	3,429,658	-	3,429,658	-	523,588	508,969
2069	-	3,404,192	-	3,404,192	-	500,337	486,089
2070	-	3,366,808	-	3,366,808	-	476,405	462,574
2071	-	3,307,356	-	3,307,356	-	450,556	437,226
2072	-	3,239,999	-	3,239,999	-	424,935	412,127
2073	-	3,153,950	-	3,153,950	-	398,238	386,013
2074	-	3,044,269	-	3,044,269	-	370,067	358,502
2075	-	2,936,664	-	2,936,664	-	343,686	332,755
2076	-	2,807,469	-	2,807,469	-	316,324	306,088
2077	-	2,673,300	-	2,673,300	-	289,985	280,441
2078	-	2,527,894	-	2,527,894	-	263,995	255,161
2079	-	2,351,998	-	2,351,998	-	236,474	228,430
2080	-	2,192,229	-	2,192,229	-	212,199	204,863
2081	-	2,009,901	-	2,009,901	-	187,302	180,723
2082	-	1,829,729	-	1,829,729	-	164,159	158,302
2083	-	1,651,222	-	1,651,222	-	142,624	137,457
2084	-	1,472,471	-	1,472,471	-	122,446	117,942
2085	-	1,309,084	-	1,309,084	-	104,803	100,891
2086	-	1,143,786	-	1,143,786	-	88,158	84,819

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period

Year	Projected Benefit Payments				Actuarial Present Value of Projected Benefit Payments		
	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments	Present Value of "Unfunded" Benefit Payments	Present Value of Benefit Payments Using the Single Discount Rate
(a)	(b)	(c)	(d)	(e)	(f)	(g)	
2087	-	1,000,503	-	1,000,503	-	74,241	71,388
2088	-	856,301	-	856,301	-	61,173	58,789
2089	-	728,338	-	728,338	-	50,093	48,113
2090	-	608,982	-	608,982	-	40,324	38,708
2091	-	504,610	-	504,610	-	32,168	30,861
2092	-	415,286	-	415,286	-	25,487	24,438
2093	-	336,071	-	336,071	-	19,857	19,029
2094	-	269,927	-	269,927	-	15,355	14,706
2095	-	213,007	-	213,007	-	11,665	11,166
2096	-	167,065	-	167,065	-	8,808	8,426
2097	-	128,664	-	128,664	-	6,531	6,244
2098	-	98,924	-	98,924	-	4,834	4,619
2099	-	74,961	-	74,961	-	3,527	3,368
2100	-	56,504	-	56,504	-	2,559	2,443
2101	-	42,122	-	42,122	-	1,837	1,752
2102	-	31,204	-	31,204	-	1,310	1,249
2103	-	23,049	-	23,049	-	932	888
2104	-	16,882	-	16,882	-	657	626
2105	-	12,302	-	12,302	-	461	439
2106	-	8,809	-	8,809	-	318	302
2107	-	6,278	-	6,278	-	218	207
2108	-	4,353	-	4,353	-	146	138
2109	-	2,984	-	2,984	-	96	91
2110	-	2,026	-	2,026	-	63	60
2111	-	1,349	-	1,349	-	40	38
2112	-	888	-	888	-	26	24
2113	-	578	-	578	-	16	15
2114	-	364	-	364	-	10	9
2115	-	233	-	233	-	6	6
2116	-	133	-	133	-	3	3
2117	-	82	-	82	-	2	2
2118	-	51	-	51	-	1	1
2119	-	32	-	32	-	1	1
2120	-	20	-	20	-	-	-

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
 Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	\$	Differences		Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		Expected and Actual Experience	Recognition Period (Years)											
2018	\$	-	-	-	-	-	-	-	-	-	-	-	-	-

Net Increase (Decrease) in OPEB Expense

Year	\$	Changes of		Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		Assumptions	Period (Years)											
2018	\$	(2,545,072)	6.77		(375,934)	(375,934)	(375,934)	(375,934)	(375,934)	(375,934)	(375,934)	(289,468)	-	-
		Net Increase (Decrease) in OPEB Expense			(375,934)	(375,934)	(375,934)	(375,934)	(375,934)	(375,934)	(375,934)	(289,468)	-	-

Net Increase (Decrease) in OPEB Expense

Year	\$	Differences		Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		Projected and Actual Earnings on OPEB Plan	Investments											
2018	\$	97,798	5		19,560	19,560	19,560	19,559	19,559	-	-	-	-	-
		Net Increase (Decrease) in OPEB Expense			19,560	19,560	19,560	19,559	19,559	-	-	-	-	-

Town of Oxford, Massachusetts Postemployment Benefits Other Than Pensions
Financial Reporting and Disclosures Under GASB 74 and GASB 75 as of June 30, 2018